

Measurement and Reporting of Water Diversion Emergency Regulations Digest

March 1, 2016

Amend California Code of Regulations, Title 23, Division 3, Chapter 2.7 and adopt Title 23, Division 3, Chapter 2.8 to read:

California Code of Regulations

Title 23. Waters

Division 3. State Water Resources Control Board and Regional Water Quality Control Boards

CH 2.7 WATER DIVERSION AND USE REPORTS

§ 907. Definitions. The following definitions apply to the terms as they are used in this chapter.

- (a) “Board” when used in this chapter means the State Water Resources Control Board.
- (b) “Board’s website” means www.waterboards.ca.gov.
- (c) “Diverter” means:
 - (1) Any person authorized to divert water under a permit or license; or
 - (2) Any person required under Water Code, Division 2, Part 5.1 to file a Statement of Water Diversions and Use; or
 - (3) Any person authorized to divert under a registration or certificate; or
 - (4) To the extent authorized by federal law, the federal government for rights claimed under permits, licenses, registrations, certificates, statements of water diversion and use, and non-reserved and reserved rights on file with the board.
- (d) “Reports” when used in this chapter refers to the following documents:
 - (1) Supplemental Statement of Water Diversion and Use Forms, Pursuant to Water Code section 5104, supplemental statements of water diversion and use shall be filed at three year intervals, prior to July 1 of the year succeeding the end of each three-year interval.
 - (2) Reports of Permittee and Licensee, Pursuant to sections 847 925 and 929 of this title, prior to issuance of license, annual progress reports shall be filed promptly by the permittee upon forms provided by the board. After issuance of a license, reports shall be made when requested by the board upon forms provided by the board.
 - (3) Reports of Registration and Certificate Holders pursuant to section 924 of this title.

~~(34)~~ Notices of Extraction and Diversion of Water. Pursuant to Part 5 of Division 2 of the Water Code, Each person in the counties of Riverside, San Bernardino, Los Angeles and Ventura who, after 1959, extracts ground water in excess of 25 acre-feet in any year shall file with the board, within six months of the succeeding calendar year, a “Notice of Extraction and Diversion of Water” on a form provided by the board.

~~(45)~~ Forms indicating a change of name, address or ownership.

(e) “Twelve month reporting period” means a calendar year beginning January 1 and ending the succeeding December 31.

~~(e) “Website” when used in this chapter means www.waterboards.ca.gov.~~

Authority: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Sections 1003.5, 1395, 1396, 1397, 4999, 5001, 5105 and 12261, Water Code.

§ 908. Compliance.

Failure to meet the requirements of this chapter is a violation subject to civil liability of up to \$500 per day pursuant to Water Code section 1846.

Authority: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Sections 348, subdivision (a), and 1846, Water Code.

§ 910. Purpose.

The regulations contained in this chapter are adopted for the purpose of implementing and carrying out provisions of Chapter 2.7 of Division 1 of the Water Code and Parts 2, 5 and 5.1 of Division 2 of the Water Code. The regulations identify requirements for the mandatory electronic filing of reports on the board's ~~internet~~ website. Reports subject to mandatory electronic filing include: supplemental statements of water diversion and use, Water Right Progress Reports by Permittees, Reports of Licensees, Reports of Registration and Certificate Holders, Notices of Groundwater Extraction and Diversion, and reports filed by watermasters pursuant to Water Code section 5101, subdivisions (d) and (e).

Authority: Sections 348, subdivision (a), 1058, 1840, and 1841 Water Code.

Reference: Sections 348, subdivision (a), 5101, 5103, and 5104, Water Code.

§ 911. Construction.

(a) To the extent authorized by federal law, this chapter applies to the federal government and any reports filed by the federal government for rights claimed under permits, licenses, registrations, statements of water diversion and use, stockpond certificates, and non-reserved and reserved rights on file with the board.

(b) Nothing in this chapter shall be construed to limit or modify the board's authority to obtain information under any other lawful authority.

Authority cited: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Sections 348, subdivision (a), 1846, 5101, 5103, and 5104, Water Code.

§ 912. No Conflicts with Other Reporting Requirements.

(a) Any person with a water right identified in or subject to a statute, order, policy, regulation, decision, judgment or probationary designation of the board, a Regional Water Quality Control Board, or a court is responsible for meeting the terms and conditions of the statute, order, policy, regulation, decision or judgment and the requirements of this chapter. If there is any conflict or inconsistency between the water use reporting requirements subject to the statute, order, policy, regulation, decision, judgment or probationary designation and the requirements of this chapter, the more stringent requirement or requirements shall control in each instance.

(b) A permit, license, registration, or certificate holder is responsible for meeting the conditions of the permit, license, registration, or certificate and the requirements of this chapter. If there is any conflict or inconsistency between the permit, license, or registration condition for water use reporting and the requirements of this chapter, the more stringent requirement or requirements shall control in each instance.

Authority: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Sections 348, subdivision (a), and 1846, Water Code.

§ 915. Changes in Name, Address or Ownership.

Pursuant to sections 691, 830, 831, and 1074 of this title, changes in name, address or ownership shall be immediately reported to the board electronically using a change of name, address or ownership form or the supplemental statement of change form available on the board's website.

Authority cited: Sections 348, subdivision (a), ~~1058, 1840,~~ and ~~1841~~1058, Water Code.

Reference: Section 348, subdivision (a), Water Code.

§ 916. Request for Additional Time

A diverter may submit a request for additional time to comply with the provisions of this chapter on a form available on the board's website. The Deputy Director for the Division of Water Rights may grant such requests upon a showing of good cause.

Authority cited: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Section 348, subdivision (a), Water Code.

§ 917. Reporting – Insufficient Flows to Support All Diversions.

(a) When flows or projected available supplies in a watershed or subwatershed are sufficient to support some but not all projected diversion demand, the Deputy Director for the Division of Water Rights may require water diverters located within the watershed or subwatershed to electronically submit monthly or more frequent reports of water diversion.

(b) Reports of water diversion shall be submitted in accordance with a schedule approved by the Deputy Director for the Division of Water Rights. The schedule may require monthly, daily, or more frequent reporting. In determining the frequency of reporting, the Deputy Director for the Division of Water Rights shall not exceed the frequency of recording required under section 933, subdivision (b)(1), of this title.

(c) Water right diversion demand projections made under this section may be based on reported diversion and use data, including but not limited to data submitted with Progress Reports by Permittees, Reports of Licensees, Reports of Registration and Certificate Holders, Supplemental Statements of Water Diversion and Use, and reports filed by watermasters pursuant to Water Code section 5101, subdivisions (d) and (e).

(d) Water availability projections made under this section may be based on:

- (1) Projections from the Department of Water Resources or its successor;
- (2) Projections from the National Weather Service, California Nevada River Forecast Center, and similar sources;
- (3) Stream gage data; and
- (4) Other data the Deputy Director for the Division of Water Rights determines is appropriate, given data availability, data reliability, and staff resources.

(e) The failure to electronically submit diversion reports requested in accordance with the applicable schedule approved by the Deputy Director for the Division of Water Rights, even when no diversions are made, is a violation subject to civil liability of up to \$500 per day pursuant to Water Code section 1846.

Authority: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Sections 348, subdivision (a), 1846, 5101, 5103, and 5104, Water Code.

§ 920. Supplemental Statements of Water Diversion and Use.

(a) Supplemental statements of water diversion and use shall be filed on forms available at the board's website. A supplemental statement shall be filed annually by July 1 after the close of the twelve month reporting period ~~triennially~~, or promptly if there is a change in the name or address

of the person diverting water, or more frequently as directed under section 917. Notice to the board of changes in name, address or ownership must also be reported electronically on the ~~change of name, address or ownership~~ supplemental statement of change form on the board's website. Filing the ~~change of name, address or ownership~~ supplemental statement of change form does not eliminate the requirement to file a supplemental statement of water diversion and use.

(b) After the board has received an initial statement of water diversion and use as required by Water Code section 5101, the board will provide a user name and password to the person required to file supplemental statements of water diversion and use. The electronic supplemental statement form will be pre-populated with current ownership information made available to the board. Failure to receive a notice providing a user name and password does not exempt the filer from the requirement to file a supplemental statement of ~~change water diversion and use~~. Persons required to file a supplemental statement should notify the board prior to the ~~annual/~~ annual/ ~~triennial~~ reporting date to request a user name and password if the board has not already provided such information.

(c) The completed supplemental statement form shall include the following information:

(1) ~~Changes to~~ The name(s), address(es), or and other ownership information for the diverter record with the board;

(2) The type of water right being claimed for the water diverted under the statement;

(3) The maximum rate of diversion achieved at any time during each month ~~of the year~~, if available;

(4) The amount of water directly diverted and collected to storage in each month and the total annual amount diverted. Each month must contain an entry. If no diversion occurred, a "0" should be entered;

(5) A description of the diversion works, including type of diversion and capacity of direct diversion and/or storage facility.

(6) Information on the device or method used to calculate the amount of water diverted.

~~(5) On or after January 1, 2012, the~~ (7) The amount of water beneficially used in each month and the total annual amount beneficially used. Each month must contain an entry. If no beneficial use occurred in a given month, a "0" should be entered;

~~(68)~~ The purpose(s) for which the water was diverted and used; Use information to be provided includes:

(A) irrigation, including crop type and acreage;

(B) frost protection, including acres covered;

(C) heat control, including acres covered;

(D) industrial, including type of activity;

- (E) stock watering, including number and type of animals;
- (F) municipal, including approximate population served, and seven digit public water system number or other identifier;
- (G) domestic, including number of persons served, lawn or garden area, and seven digit public water system number or other identifier, if applicable;
- (H) power generation, including installed capacity in kilowatts, megawatts or horsepower;
- (I) recreational, including boating, fishing or other water sports;
- (J) any additional uses not named above, including environmental use.

(79) Any changes in the other information contained in the preceding statement;

(10) Report of water transfers during the twelve month reporting period including transfer dates and approving agency;

(11) Report of transferred contract water including contract agency, contract number, source, amount of contract water in acre-feet and projected water use in the upcoming year.

(d) Water diversion measurement, either direct diversion or diversion to storage including the type of device(s) used, additional technology used, who installed the device(s) and any alternative method(s) used in measuring the water diversion.

~~(d)~~(e) If a substitute or alternative water supply, such as groundwater, contract water, or recycled water, is being used in lieu of surface water to be reported under a statement, the report should indicate the source and amount of substitute or alternative water used and the amount of surface water offset, on a monthly basis.

~~(e)~~(f) If the use of an alternative supply of water or any water conservation efforts have resulted in a cessation or reduction in use, the report should include a description of the conservation efforts employed and indicate the extent and monthly amount of the reduction in water use due to these water conservation efforts.

Authority: Sections 348, subdivision (a), 1058, 1840, and ~~1058~~1841, Water Code.

Reference: Sections 348, subdivision (a), 1010, 1011, 1011.5, 5100, 5101, 5103 and 5104, Water Code.

§ 921. Watermaster Reports Filed with the Board.

(a) Watermasters that elect to file annual reports with the board shall file the reports in an electronic format acceptable to the board.

(b) Reports filed with the board by a watermaster pursuant to Water Code section 5101(d) shall include the following information:

- (1) Identity of the person(s) diverting water

- (2) Description of the general purposes of use
- (3) Description of the place of use
- (4) The type of use
- (5) The quantity of water diverted from each source.

(c) Reports filed with the board by a watermaster pursuant to Water Code section 5101(e) shall include the following information:

- (1) Identity of the person(s) diverting water
- (2) Description of the place of use
- (3) The quantity of water diverted from each source.

(d) Reports filed with the board by a watermaster pursuant to Water Code section 5001 shall include the following information:

- (1) Identity of the persons who have extracted or diverted water
- (2) Description of the general place of use
- (3) Quantity of water extracted or diverted from each source.

(e) Additional reporting criteria may be included if such criteria are included pursuant to an agreement between the board and the watermaster. Additional requirements may include: the diverter's mailing address, assessors parcel number(s), tract number, monthly diversion amounts, and total diversion amounts.

Authority: Sections 348, subdivision (a), 1058, Water Code.

Reference: Sections 348, subdivision (a), 5001, 5101(d), 5101(e), Water Code.

§ 922. Diverters in a Watermaster Service Area.

(a) Pursuant to section 5101 of the Water Code, any person who diverts water in a watermaster service area that is not included in reports filed by the watermaster with the board or a court shall report such diversions by filing a Supplemental Statement of Water Diversion and Use pursuant to section 920 of this chapter.

(b) Any person who diverts pursuant to a permit, license, registration, or certificate in a watermaster service area shall file reports pursuant to sections 924, 925 and 929 of this chapter, as applicable, even if the diversion is reported by the watermaster.

Authority: Sections 348, subdivision (a), 1058, 1840, 1841, and 5103, Water Code.

Reference: Sections 348, subdivision (a) 5101(d) and 5101(e), Water Code.

§ 924. Water Use Reports of Registration and Certificate Holders.

(a) Reports of registration and certificate holders shall be filed annually by April 1 after the close of the twelve month reporting period. Provisional streamflow data may be used in preparing the water use report if final streamflow data are not available by the reporting deadline. If provisional streamflow data are used in the water use report, an amended report based on final streamflow data shall be filed within one month of the date the final streamflow data is available. The board may rely upon any report, including a report based on provisional data, until and unless a revised report is filed. The report shall be filed electronically on a form available at the board's website. Compliance with the requirement to file a water use report is a condition of every registration or certificate. A failure to file a report under this section is a violation of registration and certificate terms, as applicable.

(b) The annual reports shall include the following information:

- (1) A statement of compliance or of non-compliance with the terms and conditions of the registration or certificate;
- (2) The purpose(s) for which water is diverted and used;
- (3) The quantity of water diverted from each point of diversion by month (or shorter timeframe if otherwise required); and
- (4) For direct diversion, the maximum rate of diversion achieved at any time during each month, if available.

(c) The first reports of registration and certificate holders shall be filed for the diversion and use of water made during calendar year 2016. The report for 2016 shall be filed prior to April 1, 2017.

(d) The requirement to file annual reports of registration and certificate holders is in addition to and does not modify the five year renewal period for registrations under section 1228.5 of the Water Code.

Authority: Sections 348, subdivision (a), 1058, 1228.6, 1840, and 1841, Water Code.

Reference: Sections 348, subdivision (a), 1226.1, 1226.2, 1228.2, 1228.3, and 1846, Water Code.

§ 925. Progress Reports by Permittee.

(a) As specified in section 847 of this title, water right permit holders are required to file annual progress reports. Section 846 of this title provides that permittees may also be required to submit a written statement of the quantities of water beneficially used. Annual reports required under this section are in addition to any specific reporting requirements in a water right permit.

(b) Annual progress reports by permittees shall be filed by April 1 after the close of the twelve month reporting period ~~no later than July of the next year succeeding the year of diversion on~~

forms available at the board's website. Provisional data and information may be used in the progress report if final data are not available by the reporting deadline. If provisional streamflow data are used in the water use report, an amended report based on final streamflow data shall be filed within one month of the date the final streamflow data is available. The board may rely upon any report, including a report based on provisional data, until and unless a revised report is filed. A failure to file a progress report is a violation of permit terms.

(c) The annual reports shall include the following information:

(1) A statement affirming compliance or non-compliance with permit terms and conditions;

(2) The construction status of the permitted project and status of current water use;

(3) The purpose(s) for which water is diverted and used. Use information to be provided includes:

(A) irrigation, including crop type and acreage;

(B) frost protection, including acres covered;

(C) heat control, including acres covered;

(D) industrial, including type of activity;

(E) stock watering, including number and type of animals;

(F) municipal, including approximate population served, and seven digit public water system number or other identifier;

(G) domestic, including number of persons served, lawn or garden area, etc., and seven digit public water system number or other identifier, if applicable;

(H) power generation, including installed capacity in kilowatts, megawatts or horsepower;

(I) recreational, including boating, fishing or other water sports;

(J) additional uses not named above, including environmental use;-

(4) Information on the device or method used to calculate the amount of water diverted.

(45) The amount of water taken from each point of diversion in each month (or shorter period if otherwise required) from the source, including amount directly diverted, and the amount collected to storage, and the total annual amount of water diverted during the twelve month reporting period. Each month must contain an entry. If no diversion occurred in a given month, a "0" should be entered;

(56) The maximum rate of diversion achieved at any time during each month (or shorter period if otherwise required), if available ~~of the year, if available~~;

~~(67) For permits, the annual report shall also include the measurement data required to be collected in section 933 of this chapter. For permits that authorize collection of water to storage, permittees shall also report the maximum and minimum water surface elevations for each reservoir.~~

(d) If a substitute or alternative water supply, such as groundwater, contract water, or recycled water, is being used in lieu of surface water that is required to be reported under this section report, the report should indicate the source and amount of substitute or alternative water used and the amount of surface water offset on a monthly basis.

~~(e) If the use of an alternative supply of water or any water conservation efforts have resulted in a cessation or reduction in use, the report should include a description of the conservation efforts employed and indicate the extent and monthly amount of the reduction in water use due to these water conservation efforts.~~

Authority: Sections 348, subdivision (a), 1058, 1840, and ~~1841~~1058, Water Code.

Reference: Sections 348, subdivision (a), 1010, 1011, ~~and 1011.5,~~ and 1846, Water Code.

§ 929. Reports of Licensee.

(a) As specified in section 847 of this title, water rights license holders are required to file reports when requested by the board. Annual reports required under this section are in addition to any specific reporting requirements in a water right license.

(b) Reports of licensee shall be filed annually by April 1 after the close of the twelve month reporting period and not later than July of the next year succeeding the year of diversion on forms available at the board's website. Provisional data and information may be used in the report of licensee if final data are not available by the reporting deadline. If provisional streamflow data are used in the water use report, an amended report based on final streamflow data shall be filed within one month of the date the final streamflow data is available. The board may rely upon any report, including a report based on provisional data, until and unless a revised report is filed. A failure to file a licensee report is a violation of license terms.

(c) The annual reports shall include the following information:

(1) A statement affirming compliance or non-compliance with license terms and conditions;

(2) The amount of water diverted;

(3) The purpose(s) for which water is diverted and used. Use information to be provided includes:

- (A) irrigation, including crop type and acreage;
- (B) frost protection, including acres covered;
- (C) heat control, including acres covered;
- (D) industrial, including type of activity;
- (E) stock watering, including number and type(s) of animals;
- (F) municipal, including approximate population served, and seven digit public water system number or other identifier;
- (G) domestic, including number of persons served, lawn or garden area, etc., and seven digit public water system number or other identifier, if applicable;
- (H) power generation, including installed capacity in kilowatts, megawatts or horsepower;
- (I) recreational, including boating, fishing or other water sports;
- (J) additional uses not named above, including environmental use.

(4) Information on the device or method used to calculate the amount of water diverted.

(45) The amount of water taken from the source from each point of diversion in each month (or shorter period if otherwise required), including direct diversion amount, and amount collected to storage, and the total annual-amount of water diverted during the twelve month reporting period. Each month must contain an entry. If no diversion occurred in a given month, a "0" should be entered.

(56) The maximum rate of diversion achieved at any time during each month (or shorter period if otherwise required), if available-of the year, if available;

(67) For licenses, the annual report shall also include the measurement data required to be collected pursuant to section 933 of this chapter. For licenses that authorize collection of water to storage, licensees shall also report the maximum and minimum water surface elevations for each reservoir.

(d) If a substitute or alternative water supply, such as groundwater, contract water, or recycled water, is being used in lieu of surface water that is required to be reported under this report, the report should indicate the source and amount of substitute or alternative water used and the amount of surface water offset on a monthly basis.

(e) If ~~the use of an alternative supply of water or any~~ water conservation efforts have resulted in a cessation or reduction in use of surface water, the report should include a description of the conservation efforts employed and indicate the extent and monthly amount of the reduction in water use due to these water conservation efforts.

Authority: Sections 348, subdivision (a), 1011, 1058, 1840, and 1841~~1058~~, Water Code.

Reference: Sections 348, subdivision (a), 1010, 1011, ~~and~~ 1011.5, and 1846, Water Code.

§ 930. Notices of Extraction and Diversion.

(a) Annual notices of groundwater extraction and diversion required pursuant to Part 5 of Division 2 of the Water Code shall be submitted to the board electronically, within six months after the close of the succeeding calendar year, on the forms available at the board's website. A failure to file an annual notice of groundwater extraction and diversion is considered non-use of water.

(b) The report shall include the following information:

- (1) Type of diversion;
- (2) Amount of groundwater extracted during the calendar year;
- (3) Amount of surface water diverted and used, if applicable;
- (4) Method of measurement;
- (5) Supplemental information, if applicable.

(c) Electronic reporting of groundwater extraction and diversion does not apply to those persons reporting to local oversight agencies pursuant to section 5009 of the Water Code.

(d) As specified in Section 1070 of this title, a filing fee is required. The fee must be submitted separately from the electronic report. Filing is not complete until the board receives the filing fee.

(e) If the use of an alternative supply of water or any water conservation efforts have resulted in a cessation or reduction in use, the report should indicate the extent and amount of the reduction in water use due to water conservation efforts.

Authority: Sections 348, subdivision (a), 1058, and 1529, Water Code.

Reference: Sections 1005.1, 1005.2, 1005.3, 1005.4, 1011, 1011.5, 1530, 4999, 5000, 5001, 5002, 5003 and 5004, Water Code.

CH 2.8 MEASURING AND MONITORING

§931 Definitions. The following definitions apply to the terms as they are used in this Chapter.

(a) “Accuracy” means the measured volume relative to the actual volume, expressed as a percent, and determined at the same frequency as is specified for monitoring in section 933, subdivision (b) of this title. The percent shall be calculated as $100 \times (\text{measured value} - \text{actual value}) / \text{actual value}$.

(1) “Measured value” is the value indicated by the device or measurement method or determined through calculations, such as flow rate combined with duration of flow.

(2) “Actual value” is the value as determined through laboratory, design, or field testing protocols.

(b) “Board” means the State Water Resource Control Board.

(c) “Delta” means the Delta as defined in section 12220 of the Water Code and the Suisun Marsh as defined in section 29101 of the Public Resources Code.

(d) “Deputy director” means the Deputy Director for the Division of Water Rights.

(e) “Diverter” means:

(1) Any person authorized to divert water under a permit or license; or

(2) Any person required under Water Code, Division 2, Part 5.1 to file a Statement of Water Diversions and Use; or

(3) Any person authorized to divert under a registration; or

(4) To the extent authorized by federal law, the federal government for rights claimed under permits, licenses, registrations, statements of water diversion and use, and non-reserved and reserved rights on file with the board.

(f) “Diverter with multiple claimed rights” means a diverter who diverts water under more than one of the following: permits, licenses, registrations, stockpond certificates, or statements of water diversion and use.

(g) “Executive director” means the Executive Director of the board.

(h) “Measurement method” means a method capable of accounting for the rate of direct diversion, rate of collection to storage, and rate of withdrawal or release from storage where the method is likely to achieve accuracy standards comparable to those of individual measuring devices as described in section 933 subdivision (d) of this chapter.

(i) “Measuring device” means a device by which a diverter determines and records the numeric value of flow rate, velocity or volume of the water passing a designated and calibrated observation point during a specific time period. A measuring device may be a manufactured device, an on-site built device, or an in-house built device.

(j) “Place of use” means the legal location where water is used under the water right or claimed water right, subject to the following clarifications:

(1) For livestock stockpond registrations, as defined in section 1228.1, subdivision (b)(3) of the Water Code, and for stockpond certificates, as described in section 1226.1 of the Water Code, the place of use is the stockpond.

(2) For single purpose recreational ponds, the place of use is the pond.

(3) For other ponds or reservoirs, the deputy director may designate the pond or reservoir as the place of use for the purposes of compliance with this chapter.

(4) For instream flow beneficial uses and wetland preservation and enhancement dedications, the place of use is the designated reach of the stream or the wetland area where the water is applied to beneficial use.

(k) “Point of diversion” means the legal location where water is diverted from its source.

(l) “Qualified individual” means:

(1) For diversions greater than or equal to 100 acre-feet per year:

(A) A California-registered Professional Engineer; or

(B) A California-licensed contractor authorized by the State License Board for C-57 well drilling or C-61 Limited Specialty/D-21 Machinery and Pumps; or

(C) A person under the supervision of a California-registered Professional Engineer and employed to install, operate, and maintain water measurement and reporting devices or methods; or

(D) In the case of a right or a claimed right to divert by an agency of the federal government, a hydrologist or professional engineer experienced and trained in water measurement who is employed by the federal agency in that capacity.

(2) For diversions less than 100 acre-feet per year, a person trained and experienced in water measurement and reporting. This may include the diverter or the diverter’s agent.

(m) “Threatened, endangered, or fully protected fish” means a population of fish that belong to a species listed as threatened or endangered pursuant to the Endangered Species Act, (16 U.S.C. §§ 1531-1544), or the California Endangered Species Act, (Fish & Game Code, §§ 2050-2097) or fully protected pursuant to Fish & Game Code, § 5515.

(n) “Twelve month reporting period” has the same meaning as in section 907, subdivision (e) of this title.

(o) “Type of measuring device” means a class of measuring devices manufactured or built to perform similar functions. For example, inline flow meters, submerged orifice gates, and rectangular, v-notch, and broad crested weirs are types of measuring devices.

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 13 and 5103, Water Code.

§931.5 Authority of the Delta Watermaster.

The Delta Watermaster may exercise all powers assigned to the deputy director under this chapter for any point of diversion located within the Delta. The deputy director may exercise these powers within the Delta during a vacancy in the position of Delta Watermaster or as authorized by the Delta Watermaster.

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 85230, Water Code.

§932 Applicability.

(a) Except as provided in subdivision (d), the following diverters shall install and maintain a measuring device or employ a measurement method capable of measuring the rate of diversion, rate of collection to storage, the rate of withdrawal or release from storage, and the total volume of water diverted or collected to storage:

(1) Any person authorized to divert greater than 10 acre-feet of water per year under a permit or license.

(2) Any person who has previously diverted or intends to divert greater than 10 acre-feet of water per year and is required under Water Code Part 5.1 to file a Statement of Water Diversions and Use.

(3) Any person authorized to divert greater than 10 acre-feet of water per year or to have a storage facility with a capacity greater than 10 acre-feet under a registration.

(b) A diverter with multiple claimed rights shall install and maintain a measuring device or employ a measurement method for all water rights to divert from the same point of diversion or serving the same place of use if the sum of the diverter’s multiple claimed rights serving the place of use exceeds 10 acre-feet per year, or exceeds such other measurement threshold as the deputy director may establish under subdivision (d) of this section. Measurement methods employed by a diverter with multiple claimed rights shall be capable of measuring the rate of diversion, rate of collection to storage, the rate of withdrawal or release from storage, and the total volume of water diverted or collected to storage.

(c) Effective Dates.

(1) The deadlines for the installation and certification of measuring devices or the adoption of a measurement method shall be:

(A) On or before January 1, 2017, for a diverter with a right or a claimed right to divert 1000 acre-feet of water per year or more.

(B) On or before July 1, 2017, for a diverter with a right or a claimed right to divert 100 acre-feet of water per year or more.

(C) On or before January 1, 2018, for a diverter with a right or a claimed right to divert greater than 10 acre-feet of water per year.

(2) For a diverter with multiple claimed rights, the deadlines for the installation and certification of measuring devices or methods shall be as follows for each point of diversion or place of use shared by multiple claimed rights:

(A) On or before January 1, 2017, where the sum of all the multiple claimed rights to divert from the same point of diversion or to serve the same place of use is 1000 acre-feet of water per year or more.

(B) On or before July 1, 2017, where the sum of all the multiple claimed rights to divert from the same point of diversion or to serve the same place of use is 100 acre-feet of water per year or more.

(C) On or before January 1, 2018, where the sum of all the multiple claimed rights to divert from the same point of diversion or to serve the same place of use is greater than 10 acre-feet of water per year.

(D) In the event of any conflict between deadlines for a diverter with multiple claimed rights, the more stringent requirement shall control.

(d) Increasing the Measurement Threshold.

(1) Beginning January 1, 2017, the deputy director may issue orders to increase the 10 acre-feet measurement threshold of subdivision (a) in a watershed or subwatershed incrementally to or above 25 acre-feet. The deputy director may authorize an increased measurement threshold after:

(A) Considering the total monthly quantities of water diverted in relation to the monthly quantity of water available within the watershed or subwatershed; the requirements of any policy, decision or order of the board or a court; and the need for diversion and bypass information to evaluate impacts from the diversions of water to public trust resources. The deputy director may require submission of documentation on the nature and scope of diversions in the watershed prior to issuing the order; and

(B) Reviewing any relevant information submitted by affected diverters, federal, state, local, or tribal governments, or other interested parties regarding a proposed increase in reporting threshold; and

(C) Determining that the benefits of the additional reporting information at a specific measurement threshold are substantially outweighed by the cost of installing measuring devices, or employing measurement methods, or employing alternative compliance plans; and

(D) Determining that increasing the measurement threshold will not injure public trust resources or any threatened, endangered, or fully protected fish.

(2) The deputy director shall not increase the measurement threshold in a watershed or subwatershed above those established in any other regulation, policy, decision, order or other legal requirement adopted by the board, a Regional Water Quality Control Board, or a court, unless the change is authorized by such previous requirements.

(3) The deputy director may review each proposal to increase the reporting threshold on a case-by-case basis.

(4) The deputy director may authorize an increased measurement threshold for a period not to exceed five years. If changing conditions warrant, the deputy director may modify or cancel any such authorization.

(5) The deputy director shall maintain and post on the board's website a list of measurement thresholds for watersheds or subwatersheds where the measurement threshold is greater than 10 acre-feet.

(6) A decision or order issued under this section by the deputy director is subject to reconsideration under article 2 (commencing with section 1122) of chapter 4 of part 1 of division 2 of the Water Code, and all applicable sections of this title.

(e) Other Measurement and Monitoring Requirements.

(1) Any person with a water right identified in or subject to a statute, order, policy, regulation, decision, judgment or probationary designation of the board, a Regional Water Quality Control Board, or a court is responsible for meeting the terms and conditions of the statute, order, policy, regulation, decision or judgment and the requirements of this chapter. If there is any conflict or inconsistency between the measurement and monitoring requirements subject to the statute, order, policy, regulation, decision, judgment or probationary designation and the requirements of this chapter, the more stringent requirement or requirements shall control in each instance.

(2) A permit, license, or registration holder is responsible for meeting the conditions of the permit, license, or registration and the requirements of this chapter. If there is any conflict or inconsistency between the permit, license, or registration condition for measurement and monitoring and the requirements of this chapter, the more stringent requirement or requirements shall control in each instance.

(f) Failure to maintain a measuring device, employ a measurement method, or implement an alternative compliance plan in accordance with the requirements of this chapter is a violation subject to civil liability of up to \$500 per day pursuant to Water Code section 1846.

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1122, 1123, 1846, and 5103, Water Code.

§933 Measuring Device Requirements.

(a) Measurement Options. A diverter may choose any measuring device, or combination of devices, that meet the requirements of this section.

(b) Data

(1) Data Recording. The measuring device shall be capable of recording the date, time, and at least one of the following: total volume of water diverted, flow rate, water velocity, or water elevation. The data shall be recorded in a format retrievable and viewable using Microsoft Excel, Microsoft Access, or other software program authorized by the deputy director. The measuring device shall be capable of recording the required information as follows:

(A) For direct diversion:

(i) On an hourly or more frequent basis for a diverter with a right or a claimed right to divert 1000 acre-feet of water per year or more.

(ii) On a daily or more frequent basis for a diverter with a right or a claimed right to divert 100 acre-feet of water per year or more.

(iii) On a weekly or more frequent basis for a diverter with a right or a claimed right to divert more than 10 acre-feet of water per year.

(B) For direct diversion by a diverter with multiple claimed rights:

(i) On an hourly or more frequent basis, where the sum of the diversions made under the claimed rights from the same point of diversion or to serve the same place of use is 1000 acre-feet of water per year or more.

(ii) On a daily or more frequent basis, where the sum of the diversions made under the claimed rights from the same point of diversion or to serve the same place of use is 100 acre-feet of water per year or more.

(iii) On a weekly or more frequent basis, where the sum of the diversions made under the claimed rights from the same point of diversion or to serve the same place of use is greater than 10 acre-feet of water per year.

(iv) In the event of any conflict between recording requirements for a diverter with multiple claimed rights from the same point of diversion or to serve the same place of use, the more stringent requirement shall control.

(C) For storage in a reservoir or pond:

(i) On an hourly or more frequent basis for a reservoir or pond with a storage capacity of 1000 acre-feet or more.

(ii) On a daily or more frequent basis for a reservoir or pond with a storage capacity of 200 acre-feet or more.

(iii) On a weekly or more frequent basis for a reservoir or pond with a storage capacity of 50 acre-feet or more and less than 200 acre-feet.

(iv) On a monthly or more frequent basis for a reservoir or pond with a storage capacity of greater than 10 acre-feet and less than 50 acre-feet.

(v) In the event of any conflict between recording requirements for a diverter with multiple claimed rights to divert to storage in a reservoir or pond, the more stringent requirement shall control.

(2) Data Submittal.

(A) Each diverter to which a measurement requirement applies shall submit the data from each measuring device to the board as required by chapter 2.7 of division 3 of this title, and within 30 days of any request or order by the board.

(B) For a reservoir subject to drawdown and refill during the collection to storage season, or that is otherwise operated in a cyclical manner, the maximum and minimum water surface elevations, the corresponding reservoir volume, and the monitoring dates shall be measured and the resulting data maintained.

(C) For each reservoir, if water is diverted or flows into the reservoir under more than one bases of right, including groundwater or water purchased under a contract, the amounts reported to the board shall be limited to the amounts covered by the water right being reported. A record of the alternative supplies entering the reservoir throughout the year shall be maintained to demonstrate that water stored is under a separate basis of right or contract.

(3) Data Retention. Each diverter shall keep records of the data from each measuring device for a period of no less than 10 years.

(4) Telemetry Requirements.

(A) This paragraph applies to any diverter who:

(i) Diverts more than 10,000 acre-feet annually; or

(ii) Owns or operates a reservoir or pond with a storage capacity of 10,000 acre-feet or more; or

(iii) Diverts during the period from June 1 through September 30, and directly diverts more than 30 cubic feet per second at any time; or

(iv) Diverts during the period from June 1 through September 30, and has claimed water right(s) to more than 20 percent of historic calculated mean monthly stream flow as measured by a stream gage with publically available records maintained by the U.S. Geological Survey, the California Department of Water Resources, the U.S. Army Corps of Engineers, or the board, or such other percentage as the deputy director shall determine; and any of the following conditions apply:

(a) Threatened, endangered, or fully protected fish species are present or have historically been present; or

(b) The diversion is made from a stream that is part of the board's North Coast Instream Flow Policy area; or

(c) The diversion is made from the Deer Creek, Mill Creek, or Antelope Creek watersheds of the Sacramento River watershed; or

(d) The diversion is made from the Mark West Creek, Green Valley Creek, Mill Creek, or Dutch Bill Creek watersheds of the Russian River watershed; or

(B) This paragraph applies to all rights, claimed rights, or combinations of rights and claimed rights to divert from a single or shared point of diversion if the sum of such rights or claimed rights meets the criteria of subparagraphs (A)(i), (A)(iii), and (A)(iv) of this paragraph.

(C) By January 1, 2020, diverters subject to subparagraphs (A)(i), (A)(ii), or (A)(iii) of this paragraph shall provide telemetered diversion data via a public website that displays the data on at least a daily basis, and that is updated weekly, at minimum. For diverters subject to subparagraph (A)(iv), the deputy director may establish the appropriate date and percentage of stream flow for telemetering after notice and opportunity for comment. The data shall be provided to the board upon the request of the deputy director in a format retrievable and viewable using Microsoft Excel, Microsoft Access, or other software program authorized by the deputy director. The deputy director shall not require telemetering of any diverter who diverts less than 10 percent of the calculated stream flow.

(D) The board may adjust the percent threshold of historic calculated mean monthly stream flow below 10 percent on an individual stream after notice and opportunity for comment and following a board meeting.

(c) Calculating Volume from Recorded Data. If a measuring device measures the flow rate, water velocity, or water elevation, and does not report the total volume of water diverted or delivered, the diverter shall report the conversion method used to convert the measured value to volume. The conversion method shall be approved by a qualified individual.

(1) For a measuring device that measures flow-rate, the report shall describe protocols used to record the duration of operation where volume is derived by the following formula: $\text{Volume} = (\text{flow rate}) \times (\text{duration})$.

(2) For a measuring device that measures flow velocity only, the report shall describe protocols used to determine the cross-sectional area of flow and the duration of operation, where volume is derived by the following formula: $\text{Volume} = (\text{velocity}) \times (\text{cross-section flow area}) \times (\text{duration})$.

(3) For a measuring device that measures water elevation at the device (e.g. flow over a weir or differential elevation on either side of a device), the report shall describe protocols used to derive flow rate at the measuring device and the method or formula used to derive volume from the measured elevation value(s).

(d) Required Accuracy. The accuracy for each measuring device applies to the volume diverted or stored.

(1) A measuring device installed on or before January 1, 2016, shall be certified to be accurate to within ± 15 percent by volume based on periodic testing of the installed device.

(2) A measuring device installed or replaced after January 1, 2016 that is used to measure the diversion of water shall be certified to be accurate to within:

(A) ± 5 percent by volume in the laboratory if using a laboratory certification.

(B) ± 10 percent by volume based on periodic testing of the installed device if using a non-laboratory certification for a diverter with a right or a claimed right greater than or equal to 100 acre-feet per year.

(C) ± 15 percent by volume based on periodic testing of the installed device if using a non-laboratory certification for a diverter with a right or a claimed right greater than or equal to 10 acre-feet per year.

(3) A measuring device installed or replaced after January 1, 2016 that is used to measure the water stored in a reservoir or pond shall be certified to be accurate to within:

(A) ± 10 percent by volume in based on periodic testing of the installed device for a reservoir or pond with a storage capacity of 200 acre-feet or more.

(B) ± 15 percent by volume in based on periodic testing of the installed device for a reservoir or pond with a storage capacity greater than 10 acre-feet and less than 200 acre-feet.

(e) Certification of Accuracy. The accuracy of a measuring device shall be initially certified and documented as follows:

(1) For a measuring device installed prior to January 1, 2016, the accuracy required shall be initially certified and documented by field-testing performed by an individual trained in the use of relevant field-testing equipment. The results from the field testing shall be documented in a report approved by a qualified individual and shall be filed with the next subsequent water use report. Stream gages installed and maintained by the U.S. Geological Survey or the U.S. Army Corps of Engineers do not require additional certification of the stream gage device accuracy pursuant to this section.

(2) For a measuring device installed or replaced after January 1, 2016, the accuracy shall be initially certified and documented by either:

(A) Laboratory certification prior to installation of a measuring device as documented by the manufacturer or an entity, institution or individual that tested the device following relevant industry-established protocols. Documentation shall include the manufacturer's literature or the results of laboratory testing of an individual measuring device or type of measuring device; or

(B) Non-laboratory certification after the installation of a measuring device based on periodic testing of the installed device, as documented by either:

(i) The affidavit or declaration of a qualified individual documenting the design and installation of the measuring device at a specified location; or

(ii) A report approved by a qualified individual documenting the field-testing performed on the installed measuring device by an individual trained in the use of field testing equipment.

(f) Protocols for Field-Testing and Field-Inspection and Analysis. Field-testing shall be performed for a measuring device according to the manufacturer's recommendations or design specifications and be overseen by a qualified individual. Field inspection and analysis protocols shall be performed and the results shall be approved by a qualified individual for each measuring device to demonstrate the following:

(1) The design and installation standards used for each measuring device meets the accuracy standards of subdivision (d) of this section; and

(2) The operation and maintenance protocols will ensure compliance with the accuracy standards of subdivision (d) of this section.

(g) Installation, Maintenance and Performance Requirements. A measuring device shall be installed, maintained, operated, inspected, and monitored to ensure the accuracy standards of subdivision (d) of this section are met. The installation of a measuring device shall be performed by a qualified individual.

(h) Calibration. The measuring device shall be calibrated by a qualified individual upon installation and at least once every five years thereafter. The diverter shall be responsible for more frequent calibration of measuring device(s) as necessary to ensure the accuracy requirements of subdivision (d) of this section are met.

(i) Measuring Device Location. No delivery or use of water shall occur between the point of diversion and the location of the measuring device, unless otherwise measured.

(j) Accessibility. The measuring device shall be installed in a manner such that it is readily accessible for reading, inspection, testing, repair or replacement. The diverter shall make the measurement device reasonably available for inspection by an authorized representative of the board upon request. The diverter shall provide the board's representative with reasonable access to inspect the measuring device. Failure to provide such reasonable access is a violation of this regulation.

(k) Verification of Measuring Device. The board may conduct a field inspection or request additional information from the diverter to determine if the measuring device has been properly installed and meets the requirements of this section. Failure to timely install a measuring device or verify its accuracy is a violation of this regulation.

(l) Inadequate Measuring Device. If a measuring device fails to meet the accuracy requirements of subdivision (d) of this section, the diverter shall repair or replace the measuring device at their own expense to meet such requirements.

(1) Notification. A diverter shall timely notify the board in writing upon detecting that the holder's measuring device does not comply with the accuracy requirements of subdivision (d) of this section. The notification shall include the diverter's plan to take appropriate, timely corrective action to comply with the accuracy requirements of subdivision (d) of this section.

(2) Enforcement. Failure to timely repair or replace a measuring device that does not comply with the accuracy requirements of subdivision (d) of this section is a violation of this regulation.

(m) Lawful authority. Nothing in this section shall be construed to limit or modify the board's authority to obtain information under any other lawful authority.

Authority: Sections 183, 1051, 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1846, and 5103, Water Code.

§934 Measurement Method.

(a) A measurement method is a protocol for measuring water diversions, other than through a measuring device at each authorized point of diversion, where the method achieves the accuracy requirements of subdivision (e) of this section. The board encourages diverters on a local or regional basis to cooperate and establish a measurement method or methods to measure direct diversion, diversion to storage, and withdrawal or release from storage in an efficient and cost effective manner which meets the accuracy requirements of subdivision (e) of this section. Any measurement method shall be able to quantify the amount of water diverted under all separate priorities of rights being exercised. If the claimed water rights included in a measurement method have different requirements under section 933, the more stringent requirement shall control for all of the claimed water rights covered by the measurement method.

(b) Minimum Standards for Measurement Method.

(1) Form and Content. A measurement method shall be prepared by a qualified individual and shall include, at a minimum, a written description that includes the following information:

(A) Name and contact information of all participants, including designation of an agent to serve as the primary contact person.

(B) Topographic or aerial map(s) showing location of participants and covered lands (including all assessor parcel numbers). The map shall conform to the mapping requirements of article 7 of chapter 2 of division 3 of this title.

(C) Description of how the measurement method is implemented to meet the requirements of this chapter.

(D) Documentation required under subdivision (f) of this section verifying the accuracy of the measurement method.

(E) Description of the permits, licenses, registrations, certificates and water right claims covered by the measurement method including for each individual right: file number, owner name, water right type, priority of diversion, monthly and annual diversion amounts, place of use, purpose of use, and alternative sources of water.

(F) Description of how the measurement method will account for each priority of right during periods of insufficient supply.

(2) Action by the deputy director. The deputy director may review measurement methods at the deputy director's discretion, and may reject measurement methods that fail to meet the requirements of this section. A measurement method shall not be authorized where any requirement of any contract, policy, order, decision, judgment, determination, or other regulatory requirement of the board, a Regional Water Quality Control Board, other state or federal agency, or a court requires that diversions be measured by a measuring device at each point of diversion.

(3) Initial Term and Renewal. The deadlines for the adoption of a measurement method shall be in accordance with subdivision (c) of section 932 of this title.

(c) Shared Measurement Point Upstream of the Delivery Point or Farm Headgate. A group of diverters may measure water diverted at a location upstream of their respective delivery points or farm headgates or at shared points of diversion if a written agreement is in place for the diverters to share a measuring device located at the shared point of diversion. Diverters using a shared measuring device under this subdivision shall report the following additional information to the board on an annual basis:

(1) The methodology used to apportion the volume of water delivered from the shared point of diversion to each downstream diverter, including how water will be apportioned among the diverters participating in the agreement during periods of insufficient supply while preventing injury to any other legal user of water or to public trust resources.

(2) The field or flow condition at each individual diverter's delivery point downstream of the point of measurement including the duration of water delivery to the individual diverter, annual water use patterns, irrigated acreage (including GIS map showing assessor's parcel number and USDA field identification number), crops planted, on-farm irrigation system, and other relevant distinctions in beneficial uses and water management practices.

(3) Consumptive use of water for each individual diverter, if available.

(d) Data

(1) Data Recording. The measurement method shall be capable of reporting the date, time, and total amount of water diverted in accordance with the requirements of subdivision (b) of section 933 of this title. The data shall be recorded in a format retrievable and viewable using Microsoft Excel, Microsoft Access, or other software program authorized by the deputy director.

(2) Data Submittal. Each diverter or claimant shall submit data from the measurement method to the board pursuant to chapter 2.7 of division 3 of this title, or within 30 days of request of the deputy director. Water use data for each twelve month reporting period shall be submitted on a form available on the board's website with the appropriate water use report including a Progress Report by Permittee, Report of Licensee, Supplemental Statement of Water Diversion and Use, and Water Use Reports of Registration and Certificate Holders.

(e) Required Accuracy. The accuracy of the measurement method to determine the volumes of water diverted, diverted to storage, and withdrawn or released from storage shall reasonably achieve accuracy standards comparable to the standards listed in subdivision (d) of section 933 of this title for individual measuring devices. The accuracy of the measurement method shall be determined by a qualified individual.

(f) Certification of Measurement Method Accuracy. The accuracy of a measurement method shall initially be certified and documented by field-testing performed by an individual trained in the use of relevant field-testing equipment. The results from the field testing shall be documented in a report approved by a qualified individual and shall be filed with the subsequent water use report. When the measurement method applies to water diverted for agricultural use, the certification shall be based on a statistically significant number of sampling points based on crop type and field size, include field testing and measurement during multiple phases of the crop-growth cycle, include all factors which influence consumptive use of water, and include any estimated tailwater return flows and percolation losses, where applicable. Field notes, calculations, and other materials used in the certification shall be included in the report.

(g) Operation and Performance Requirements. A measurement method shall be operated and maintained to meet the accuracy standards of subdivision (e) of this section. Field testing and re-analysis that the measurement method meets the requirements of this section shall be performed by a qualified individual upon installation, and at least once every five years thereafter.

(h) Inadequate Measurement Method. If a measurement method fails to meet the accuracy standards of subdivision (e) of this section, the measurement method shall be corrected to comply with such standards.

(1) Notification. The diverters employing a measurement method shall notify the board in writing within 30 days of finding a measurement method does not comply with the accuracy standards of subdivision (e) of this section. The notification shall include a plan to take appropriate, timely corrective action.

(2) Enforcement. Failure to correct defects or to ensure the measurement method complies with the accuracy standards of subdivision (e) of this section is a violation of this regulation.

(3) Measuring Devices Required. If defects in the measurement method are not timely corrected, measuring devices shall be installed at each point of diversion previously covered by a measurement method within 90 days.

(i) Measurement Method Duration and Renewal.

(1) A measurement method may remain in effect for a period of not more than five years, commencing from the effective date applicable to diversions subject to the plan pursuant to subdivision (c) of section 932 of this title.

(2) A diverter may renew a measurement method by resubmitting it, with or without amendment, before the method expires.

(3) The deputy director may reject a measurement method renewal for failure of the diverter(s) to implement a previous measurement method or for failure to achieve the required accuracy. Incomplete measurement method documentation, documentation that do not meet the minimum standards of this section, and lapses in measurement methods shall not relieve a diverter of the requirement to fully comply with sections 933 and 934 of this chapter.

(j) Measurement methods submitted in accordance with the provisions of this section shall be timely implemented.

Authority: Sections 183, 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1846, and 5103, Water Code.

§935 Alternative Compliance for a Measuring Device or Measurement Method Requirement.

(a) Alternative Compliance – Generally. In circumstances where strict compliance with sections 933 or 934 of this title is not feasible, would be unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water, a diverter may submit an alternative compliance plan.

(b) Minimum Standards – an alternative compliance plan under subdivision (a) shall meet the following minimum standards:

(1) The plan shall include the following information:

- (A) The name and contact information for all diverters covered by the plan;
- (B) The name and contact information for the person designated to represent all diverters covered by the plan in matters before the board;
- (C) Identification of each individual water right type and priority covered by the plan;
- (D) A detailed description of the area served by the plan, including all points of diversion whether used or not used, all methods of diversion, any conveyance systems, all beneficial uses of water, and all acreage served;
- (E) The assessor's parcel numbers and ownership within the area covered by the plan;
- (F) Identification of the proposed measurement frequency;
- (G) Identification of the proposed measurement methodology;
- (H) Topographic map(s) or aerial photograph(s) of the area covered by the plan that show the separate places of use authorized to be served by claimed water rights covered by the plan and showing the acreage served;
- (I) An implementation schedule, including date-specific, objective milestones of plan implementation from date of filing through final implementation, including the estimated milestones for acquiring permits required for plan implementation and the estimated milestones for compliance with the California Environmental Quality Act, if required;
- (J) Budget for implementation of the plan and the source(s) of financing for the plan;
- (K) A list of any permits required for plan implementation, the agencies that will issue the permits, and expected dates for issuance;
- (L) An affirmation, signed by all diverters covered by the plan, that the plan will be implemented in accordance with the schedule contained therein and that all claimed water rights covered by the plan will not be exercised outside the scope of the plan.

(2) The plan shall include an explanation and substantiating documentation of alternative compliance for each of the requirements of sections 933 and 934 of this title. Absent substantiation of the specific basis for reduced performance standards, the plan shall state how compliance with sections 933 and 934 of this title will be achieved.

(3) The plan shall provide detailed documentation establishing and supporting the specific basis for claiming that strict compliance with sections 934 and 935 of this title is not feasible, would be unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water. Any claim that strict compliance is unreasonable expensive shall be accompanied by a cost analysis.

(4) The plan shall include a certification by a qualified individual that the plan is in compliance with this chapter.

(c) Filing of Alternative Compliance Plan.

(1) The alternative compliance plan shall be filed no later than the compliance deadline applicable to the diverter(s)' claim(s) of right under subdivisions (b) and (c) of section 932 of this title.

(2) The alternative compliance plan shall be filed electronically on a form available on the board's website.

(3) The alternative compliance plan shall be filed under penalty of perjury.

(d) Diverters under an alternative compliance plan shall report on plan implementation. Documentation of compliance with the timelines and other elements of the alternative compliance plan shall be filed with the applicable annual report under chapter 2.7 of this title.

(e) All plans submitted in accordance with the provisions of this section shall be timely implemented in accordance with the schedule contained therein.

(f) The deputy director may make such determinations for a plan, group of substantially similar plans, or group of plans for substantially similar projects.

(g) Alternative compliance plans received pursuant to this section will be posted on the board's website. The deputy director shall provide opportunity for comment by any interested parties.

(h) The deputy director may:

(1) Review any plan, request additional information to support a plan, and confer informally with a plan's sponsor to suggest modification in the plan;

(2) Audit any plan or any element of a plan for compliance with this chapter;

(3) Require submission of evidence of plan implementation in accordance with the schedule therein;

(4) Require changes or modification to any plan or plan component necessary to achieve compliance with this chapter,

(5) Require that any defect in a plan be corrected within a reasonable time; and

(6) Reject any plan that fails to meet the requirements of this chapter.

(j) A decision or order issued under subdivision (h) of this section is subject to reconsideration under article 2 (commencing with section 1122) of chapter 4 of part 1 of division 2 of the California Water Code, and all applicable sections of this title.

(k) Plan Duration and Renewal.

(1) An alternative compliance plan may remain in effect for a period of not more than five years, commencing from the effective date applicable to diversions subject to the plan pursuant to subdivision (c) of section 932 of this title.

(2) A diverter may renew an alternative compliance plan by resubmitting it, with or without amendment, before the plan expires.

(3) The deputy director may reject a plan renewal for failure of the diverter to implement a previous plan according to its schedule, or for failure of a previous plan to achieve the required accuracy. Incomplete plans, plans that do not meet the minimum standards of this section, and lapses in plans shall not relieve a diverter of the requirement to fully comply with sections 933 and 934 of this chapter.

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1846, and 5103, Water Code.

§936 Request for Additional Time.

(a) A diverter may submit a request for additional time to comply with the provisions of this Chapter on a form available on the board's website. The additional time granted by the deputy director shall not exceed 24 months per extension.

(b) Approval of a time extension request is contingent on the following:

(1) Financial considerations shall be considered only in cases where the diverter has requested agency funding, and is awaiting grant or loan award.

(2) Extensions based on other considerations are limited to:

(A) minimum time needed to access site due to weather conditions; or

(B) minimum time needed to obtain other agency permits; or

(C) minimum time needed to comply with construction time periods set in other agency permits; or

(D) unforeseen circumstances.

(c) All time extension requests shall be accompanied by documentation of grant or loan request or agency permit requests, as applicable. Funding and/or permit approval documents shall be submitted to the deputy director within 30 days of receipt. Time extension requests based on unforeseen circumstances shall be accompanied by a showing of good cause and a showing that all reasonable efforts have been made to comply with the timelines established in the subdivision (c) of section 932 of this chapter.

(d) All time extension requests shall be accompanied by a plan documenting the additional time needed to comply with the provisions of this chapter. The plan shall describe the interim

measurement practices the diverter will implement while diligently pursuing compliance with this chapter.

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1846, and 5103, Water Code.

§937 Report of Water Measuring Device.

(a) Report - Filing Requirements. A report of water measuring device shall be filed electronically on a form available on the board's website.

(1) For measuring devices installed on or before January 1, 2016, a diverter shall submit a report of water measuring device to the board with the first water use report filed after January 1, 2017.

(2) For measuring devices installed after January 1, 2016, a diverter shall submit a report of water measuring device to the board with the first water use report submitted after installation of the device.

(3) After the initial report has been submitted, the diverter shall provide the board with a report of water measuring device at five year intervals.

(4) The diverter shall submit a report of water measuring device to the board within 30 days of installation or calibration of a new or replacement measuring device.

(5) The diverter shall submit a report of water measuring device to the board within 30 days of request from the board.

(b) Form - Content. The report of water measuring device shall contain the following information, as applicable:

(1) Name of diverter.

(2) Contact information for the person testing the performance of the device, including email address.

(3) Water right identification number, if assigned.

(4) Type of measuring device.

(5) Make, model number and serial number of the measuring device.

(6) Type of recording device.

(7) Make, model number and serial number of the recording device.

(8) Units of measurement.

(9) The date of installation.

(10) Certification of accuracy.

(11) Name of the person who installed the measuring device.

(12) Date of most recent calibration or recalibration of the measuring device.

(13) Maintenance schedule for the measuring device and the recording device.

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1846, and 5103, Water Code.

§938 Compliance.

Failure to meet the requirements of this Chapter is violation subject to civil liability of up to \$500 per day pursuant to Water Code section 1846.

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 1846, Water Code.

Emergency Defined

Governor Edmund G. Brown Jr. signed Senate Bill (SB) 88 on June 24, 2015 (appendix 2). The bill enacts Water Code sections 1840 and 1841 and amends sections 5103 and 5104, all of which establish measurement and reporting requirements for a substantial number of diverters.

Section 1841 of the Water Code authorizes the State Water Resources Control Board (State Water Board or Board) to adopt an emergency regulation requiring measuring and reporting of water diversion. Specifically, the Board may regulate measurement and reporting of diversions by persons authorized to appropriate water under a permit, license, registration for small domestic, small irrigation, or livestock stockpond use, or certification for livestock stockpond use. (Wat. Code, 1841, subd. (a)(1).) The Board may also regulate measurement and reporting of diversions by persons required to file a statement of diversion and use. (*Id.*, §§ 1841, subd. (a)(2), 5103, subd. (e)(1)(B).)

Subdivision (b) of section 1841 specifies that the Board's initial measurement and reporting regulation shall be adopted as an emergency regulation in accordance with Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code. The adoption of the initial regulation is an emergency and shall be considered by the Office of Administrative Law as necessary for the immediate preservation of the public peace, health, safety, and general welfare. (Wat. Code, § 1841, subd. (b).) The Board's initial measurement and reporting regulation shall remain in effect until revised by the Board. (*Ibid.*) The adoption of the initial regulation is exempt from Division 13 (commencing with Section 21000) of the Public Resources Code. (*Id.*, subd. (c).)

In this document, the Board is providing the necessary specific facts demonstrating compliance with Government Code section 11346.1, subdivision (b)(2) and Water Code section 1841.

Government Code section 11346.1, subdivision (a)(2) requires that, at least five working days prior to submission of the proposed emergency action to the Office of Administrative Law, the adopting agency provide a notice of the proposed emergency action to every person who has filed a request for notice of regulatory action with the agency. After submission of the proposed emergency to the Office of Administrative Law, the Office of Administrative Law shall allow interested persons five calendar days to submit comments on the proposed emergency regulations as set forth in Government Code Section 11349.6.

The information contained within this finding of emergency provides the information necessary to support the Board's emergency rulemaking under Water Code section 1841 and also meets the emergency regulation criteria of Government Code section 11346.1 and the applicable requirements of section 11346.5.

Evidence of Emergency and Need for the Regulation

The Board finds that an emergency exists due to the requirements of section 1841, subdivision (b) of the Water Code. The adoption of the proposed emergency regulation is necessary to

address the emergency and to specifically allow for the provisions and requirements of Water Code section 1840, 1841, 5103, and 5104 to be effectively and efficiently administered and enforced. The proposed emergency regulation will implement these new provisions and provide guidance to water users.

The new measurement requirements affect all water right holders diverting more than 10 acre-feet of water per year (approximately 12,000 water right holders). The annual reporting requirement will affect all water users required to file statements of diversion and use (including those claiming a riparian or pre-1914 appropriative water right) and persons authorized to appropriate under a permit, license, registration (small domestic, small irrigation, or livestock stock pond), or certificate for livestock stock pond use.

The Board anticipated that the new measurement requirements could present challenges to some water users. The Board held meetings and workshops in affected areas around the state to receive input on key issues to be addressed in the emergency regulation. The Board used the input from the meetings and workshops to shape a draft regulation which was broadly circulated in early-December, 2016.

The draft regulation was presented for discussion at a Board Workshop on December 17, 2015. During the comment period associated with the workshop, the Board solicited feedback on the approach reflected in the draft regulation, as well as comments on the specific regulatory language.

The draft regulation was further refined based on comments received from the workshop. The emergency regulation was presented to the Board for adoption at its board meeting on January 19, 2016.

Current Problem

California's recent extended drought has highlighted the need for more current and accurate information on how much water is being diverted in the various watersheds throughout the State. Even during years with more normal precipitation, rainfall and snow accumulation patterns vary widely across the State. Even though water supply may be adequate in one region, a critical water shortage can occur in another region.

More accurate data on water diversions is needed on a timely basis for all users of water in the State to evaluate how far their water supplies can be expected to stretch. As a user of water in the State, this diversion information together with an understanding of the priority of right to use a limited water supply, will allow for better water use planning decisions. This information is critical to ensure that priority water needs are met, that water rights holders have access to the information indicating whether sufficient water is likely to be available for their beneficial uses, and to ensure that adequate flows remain instream for more senior downstream beneficial uses.

During the 2015 drought, the Board called upon the water use community to provide predictions of expected surface water diversion, and to report back on the amounts that were actually

diverted. This more current information shows that the historic reporting standard does not provide accurate or timely water demand data sufficient for drought response. The new law and proposed implementing regulation is expected to address this problem.

Current Issues

- The Governor recently signed into law a bill which adds measurement requirements to water rights that are 10 acre-feet or more in size.
- The law requires that water diverters begin measuring as soon as January 1, 2016.
- The law requires that all diverters report their diversions annually.
- Currently, only permit and license holders submit their water diversion reports each year. All others submit their information on a less frequent basis.
- During times of water shortage, more frequent reporting may be required.

Benefits of Measurement

The Board is the agency with primary responsibility for the administration and regulation of water rights in California. The Board allocates surface water through a system of permits, licenses, and registrations that grant and condition the right to directly divert water and/or to divert water to storage for reasonable beneficial use. In addition, the Board maintains records of water use under riparian and pre-1914 claims of right.

The implementation of improved measurement and reporting of water rights as required under Senate Bill 88 and a proposed emergency regulation to implement the new law will improve water right administration and transparency of diversion records. More accurate and current diversion records together with their transparency allow the Board and all water users to more effectively:

- Understand and plan ahead for limited water supplies;
- Identify water losses in a diversion system and take corrective actions to conserve water and stretch limited water supplies;
- Assure compliance with the quantity and season limitations of existing water rights;
- Protect the senior rights of diverters in accordance with their relative priorities;
- Provide for efficient management and use of water during times of shortage; and
- Improve water planning and near-term forecasting of water demand.
- Increase understanding of water use through more accurate measurement
- Improve water rights administration and transparency of records
- Provide more accurate data on available water supplies
- Assure compliance with the quantity and season limitations of existing water rights
- Protect senior rights in accordance with priorities
- Provide for efficient management and use of water during times of shortage
- Improve forecasting of water demand

Summary of Public Outreach

On October 6, 2015, the Board held an initial stakeholder meeting. The meeting brought together a small group of over 20 experts in water rights and water resources management to discuss key concepts that should be considered in the emergency regulation. The notes from this meeting are contained in appendix 3.

On October 8, 2015, the Board held a stakeholder meeting in Stockton to discuss how Delta-specific issues may be affected by additional measurement and reporting requirements.

On October 16, 2015, the Board held a technical workshop with experts primarily from federal and state agencies to discuss issues related to regulating, installing, operating, and maintaining water measurement devices or methods.

On October 26, 2015, the Board mailed a letter to approximately 7500 diverters affected by the new measurement requirements (appendix 4) to inform the diverters of the new measurement and reporting requirements.

Five public outreach meetings were conducted throughout California during the first two weeks of November. The draft regulation reflects the stakeholder input. Documents related to the public meetings are contained in appendices 5 through 9.

On December 17, 2015, the Board held a public workshop at the CalEPA Headquarters Building in Sacramento to hear public comments on the draft emergency regulation. The Board solicited feedback on the approach reflected in the draft regulation, as well as on the specific regulatory language. The draft regulation was further refined based on comments received. Documents related to the Board workshop are contained in appendices 10 through 14.

On January 19, 2016, The Board adopted the emergency regulation at its Board Meeting. The Board solicited feedback during the meeting and changes were made to the regulation at the Board Meeting based on comments received. Documents related to the Board meeting are contained in appendices 15 and 16.

TIMELINE

Measurement and Reporting Emergency Regulation

OCTOBER

- Early: October 6 - Held stakeholder meeting to review initial concepts related to measurement and reporting
- October 8 – Held stakeholder meeting to discuss Delta specific issues to measurement and reporting
- Mid: October 16 - Held technical workshop to review concerns related to measurement and reporting
- Reviewed recommendations from stakeholder groups and technical workgroup

Late: Released draft of regulatory concepts and recommendations

NOVEMBER

Early/Mid: Held public meetings on Senate Bill 88 and the regulatory concepts and recommendations

- November 2 – Los Angeles
- November 4 – Redding
- November 5 – Stockton
- November 9 – Sacramento
- November 12 – Santa Rosa

DECEMBER

Early: Released draft regulation for public review

Mid: December 17 – Presented draft emergency regulation at Board Workshop

JANUARY

Early: Organized public comments – updated draft of the emergency regulation

Mid: January 19 - Emergency regulation adopted by the Board

SUMMARY OF REQUIREMENTS OF SENATE BILL 88

Reporting Requirements Established under Senate Bill 88:

- Permit, license, and statement holders shall maintain a record of all diversion monitoring and the total amount of water diverted and submit these records to the state board. The records shall include date, time, and diversion rate at time intervals of one hour or less, with certain exceptions.
- A person who diverts under a registration, permit, or license shall submit a water use report to the board at least annually.
- Supplemental statements of diversion and use shall be filed annually prior to July 1. The filing of supplemental statements on an annual basis will affect approximately 19,546 claimed water rights.
- The legislation also authorizes the Board to adopt a regulation requiring annual reporting from statement holders and persons authorized to appropriate under a permit, license, registration (small domestic, small irrigation, or livestock stockpond), or certificate for livestock stockpond use.

Summary of the Measurement Requirements Established under Senate Bill 88:

- A person who diverts 10 acre-feet of water per year or more under a permit, license, or statement shall install and maintain a device or employ a method capable of measuring the rate of direct diversion, rate of collection to storage, and rate of withdrawal or release from storage, as specified, and with certain exceptions. This requirement affects approximately 4,715 statement holders and 7,049 permit and license holders.

- The Board shall consider devices and methods that provide accurate measurements within an acceptable range of error.
- Water users may propose a measurement method which is a protocol for measuring water diversions other than through a measuring device at each point of diversion.
- The Board may modify the measurement requirements or increase the threshold limit above 10 acre-feet per annum for specific areas or when certain conditions are met.

Informative Digest

Discussion of updates and additions to Chapter 2.7, Water Diversion and Use Reports

Section 907. Definitions

Definitions were added and updated to clarify the regulation. The regulation defines “diverter” to include various water right holders and statement filers, and defines “twelve month reporting period” to mean the calendar year. The regulation shortened the definition of “reports” for clarity and added reports of registration and certificate holders.

Section 908. Compliance

A general section was added to inform the regulated community that failure to comply with the requirements of this chapter is a violation subject to civil liability of up to \$500 per day pursuant to Water Code section 1846. This section clarifies the Board’s enforcement authority.

Section 910. Purpose

This section was updated to include reports of registration and certificate holders to the types of reports that are required to be filed electronically.

Section 911. Construction

This is a new section added to clarify that to the extent authorized by federal law, the chapter applies to the federal government and any water use reports filed by the federal government. A general condition was also added stating that nothing in this chapter shall be construed to limit or modify the board’s authority to obtain information under any other lawful authority, to ensure consistency with other regulations.

Section 912. No Conflicts with Other Reporting Requirements

This new section was added to clarify that if there is any conflict or inconsistency between the water use reporting requirements of the Board or by statute, order, policy, regulation, decision, judgment, or probationary designation and the requirements of Chapter 2.7, the more stringent requirement or requirements shall control.

Section 915. Changes in Name, Address or Ownership

This section was updated to include the type of form statement holders file to submit a change of name, address, or ownership for an existing statement on file with the Board.

Section 916. Request for Additional Time

This new section was added to provide a standard method under which diverters may request an extension of time to comply with the reporting requirements of Chapter 2.7. All extension requests must be accompanied by supporting documentation.

Section 917. Reporting – Insufficient Flows to Support All Diversion

This new section was added to allow the Board to require diverters within a watershed or subwatershed to submit monthly or more frequent reports of water diversion when the available supply of water is insufficient to meet all projected diversion demand. The regulation identifies data that may serve as the basis of a water availability projection under the regulation. This information is critical during times of insufficient supply and allows the Board to administer the water right priority system during times of shortage with the latest information available. The draft regulation allows the Deputy Director for the Division of Water Rights (Deputy Director) to establish the deadline for when monthly reports are due.

Some commenters did not like the idea of monthly reporting. They wanted to make sure that the data submitted on a monthly basis would be useful. Division staff explained that the data was useful in times of shortage to balance available supply with demand.

Section 920. Supplemental Statements of Water Diversion and Use

This section was updated to require supplemental statements to be filed every year instead of every three years, per recent amendments to section 5104 of the Water Code. The report covers diversions during the preceding calendar year. This section was also updated to include additional information on the supplemental statement form to make the reporting requirements consistent with what is required on the Progress Reports by Permittee and the Reports of Licensee. To account for the new measurement requirements of Chapter 2.8, the diverter is also required to input how diversions are measured on their supplemental statement. The July 1 deadline is required by section 5104 of the Water Code.

There was general support from the people submitting comments for requiring all water right holders to submit water use reports on an annual basis. There were a number of comments suggesting water use reports should be based on the water year which would require changes to the Water Code.

Section 921. Watermaster Reports Filed with the Board

Because SB 88 does not address watermaster reports, the language of this section was not changed.

Section 922. Diverters in a Watermaster Service Area

This new section was added to inform diverters in a watermaster service area of when they are required to file reports with the Board. This section restates for clarity the existing obligation to comply with permit and license terms. Reports of registration and certificate holders, progress reports by permittee, and reports of licensee typically provide more detailed diversion and use information than a watermaster report, and the Board needs the additional information to

effectively administer the water rights system. This section also restates for clarity the existing obligation to file a statement of diversion and use for certain diverters in watermaster service areas under section 5101, subdivisions (d) and (e) of the Water Code. It does not add any new requirements for diverters.

Section 924. Water Use Reports of Registration and Certificate Holders

This new section was added as authorized under section 1841 of the Water Code. The section requires registration and certificate holders to file a report every year, covering diversions during the preceding calendar year. The annual report for these diverters contains information on water use and amount of water diverted. The diverter is required to file their report by April 1 of each year. To provide consistency with reporting under sections 925 and 929, the report may be filed based on provisional data and a final report shall be filed within one month of final data becoming available.

Section 925. Progress Reports by Permittee

This section was updated to require the report of diversions during the preceding calendar year to be filed by April 1 instead of July. The Board changed the filing date so that the data would be available earlier in the year and could be used in supply and demand forecasts. The report may be filed based on provisional data and a final report shall be filed within one month of final data being available. The ability to file an initial report based on provisional data was included to accommodate a number of stakeholders who commented in writing and at the Board Workshop and Board Meeting that they would not have final water use data available by April 1 of each year.

Section 929. Reports of Licensee

This section was updated to require the report of diversions during the preceding calendar year to be filed by April 1 instead of July. The Board changed the filing date so that the data would be available earlier in the year and could be used in supply and demand forecasts. The report may be filed based on provisional data and a final report shall be filed within one month of final data being available. The ability to file an initial report based on provisional data was included to accommodate a number of stakeholders who commented in writing and at the Board Workshop and Board Meeting that they would not have final water use data available by April 1 of each year.

Table of Reporting Deadlines Required Under Sections 920, 924, 925, and 929

All annual reports filed in accordance with sections 920, 924, 925, and 929 will continue to document diversions during the prior calendar year. The filing deadlines for submitting the water use reports for 2015 and 2016 are summarized in the table below:

DIVERSION/STORAGE PERIOD	ANNUAL REPORT DEADLINES				
	PERMITS	LICENSES	STATEMENTS	REGISTRATIONS	CERTIFICATES
2015	JULY 1, 2016	JULY 1, 2016	JULY 1, 2016	VARIES	NOT REQUIRED
2016	APRIL 1, 2017	APRIL 1, 2017	JULY 1, 2017	APRIL 1, 2017	APRIL 1, 2017

Section 930. Notices of Extraction and Diversion

No changes were made to this section. Reporting on groundwater extraction was not covered under SB 88.

Discussion of additions to Chapter 2.8, Measuring and Monitoring

Section 931. Definitions

This section defines terms as they are used in Chapter 2.8. The most noteworthy definitions are summarized here. “Accuracy” is defined because the accuracy of a measuring device is a key component of the regulation. “Accuracy” is the measured volume relative to the actual volume of water diverted. “Delta” is defined by reference to Water Code section 12220 and Public Resources Code 29101. “Delta” was defined for consistency with the Delta Reform Act and to show where the Delta Watermaster may exercise all powers assigned to the deputy director under Chapter 2.8. “Diverter” is defined to include various water right holders and statement filers. “Diverter with multiple claimed rights” is defined to describe diverters who hold more than one right or claimed right. For diverters with multiple claimed rights, the appropriate accuracy standards, implementation deadlines, and other requirements are generally determined by adding up the sum of all water rights or claimed rights that share a place of use or point of diversion. “Place of use” is defined to clarify how the term should apply to reservoirs, ponds, and instream beneficial uses when implementing subdivision (b) of section 932 and other provisions. Because livestock stockponds and single purpose recreational ponds use water at the pond itself, combining the pond with other water rights exercised elsewhere to determine accuracy standards, implementation deadlines, and other requirements would not be practicable. Likewise, because instream flow dedications are used in a particular designated reach, combining instream flow dedications with other water rights exercised elsewhere to determine accuracy standards, implementation deadlines, and other requirements would not be practicable. “Qualified individual” is defined to clarify who can install, design, calibrate, and maintain measuring devices or measurement methods. For diversions less than 100 acre-feet per year, a person trained and experienced in water measurement and reporting is a “qualified individual,” which may include the diverter or the diverter’s agent. This definition helps simplify compliance for diverters who divert a comparatively small amount of water.

Section 931.5 Authority of the Delta Watermaster

This section was added to inform diverters in the Delta that the Delta Watermaster may exercise all powers assigned to the Deputy Director for the Division of Water Rights in Chapter 2.8 for any point of diversion located within the Delta. This section restates for clarity an existing authority of the Delta Watermaster.

Section 932. Applicability

(a) This subdivision describes which diverters are required to measure their water use in accordance with the requirements of Chapter 2.8. This is consistent with sections 1840 and 5103, subdivision (e)(1)(B) of the Water Code, which require measurement by permittees,

licensees, and statement filers that divert 10 acre feet or more. Per section 1841 of the Water Code, the Board has discretion to adopt measurement requirements for registration holders and stockpond certificate holders. There were many comments recommending that the Water Board exempt registrations from the measurement requirement. The Water Board generally agreed with this recommendation because registrations and stockpond certificates are small diversions. Since most registration types have a maximum authorized diversion of 10 acre-feet per year (small irrigation registrations can divert up to 20 acre-feet per year), the Board set the diversion threshold for required measurement at greater than 10 acre-feet per year.

Measurement is not required for domestic registrations, small irrigation registrations, livestock registrations, or stock pond certificates provided that the maximum authorized diversion is 10 acre-feet per year or less under all water right serving the same place of use or diverting from the same point of diversion. This is consistent with the policy goals of articles 2.5 and 2.7 of chapter 1 of part 2 of division 2 of the Water Code, which contemplate a simplified application and administration process for these categories of small water rights.

(b) This subdivision describes how the requirements of Chapter 2.8 apply to a diverter with multiple claimed rights. This section was added based on public comments received about how the regulation would be applied to a diverter with multiple claimed rights associated with one point of diversion or one place of use. The threshold for measurement should be based on the total amount of water diverted under all bases of right for each place of use. This ensures that diversions of the same total size are subject to the same measurement accuracy requirements and technical specifications. For example, 20 statements of five acre feet each serving the same place of use, two permits to divert 50 acre feet from the same point of diversion, and one 100 acre foot license all divert 100 acre feet of water from their respective stream. Treating all such combinations of diversions the same ensures consistency and fairness for all water users.

(c) This subdivision describes the effective dates for when measuring devices shall be installed or measurement methods shall be adopted. There were numerous comments received about how much time it would take diverters to install and calibrate water measuring devices or implement measurement methods. For example, water users may need time to acquire permits from the U.S. Army Corps of Engineers or the California Department of Fish and Wildlife. Many people recommended the Board stagger the implementation of the measurement requirements and thought that staggered implementation could lead to increased compliance. Staggered implementation also staggers demand for the limited number of engineers and other technical experts available to assist diverters with installing measurement devices.

The regulation requires diverters who divert 1,000 acre-feet or more per year to be measured by January 1, 2017. During the public meetings, Board Workshop, and Board Meeting, many of the larger diverters stated that they were already measuring many of the points of diversion, but would need time to have their measuring devices calibrated. Diverters who divert less than 1,000 acre-feet per year must have measurement in place prior to July 1, 2017 or January 1, 2018, depending on the actual diversion size. The implementation dates were staggered to allow for more time for smaller diverters to comply with the requirements of Chapter 2.8.

There were many comments suggesting that the Water Board allow flexibility in implementing the measuring requirements. Where appropriate, the regulation allows for interim and multi-year plans to allow diverters to achieve full compliance. Diverters may also request additional time to comply with the measurement requirements under section 936 of the proposed regulation.

(d) This subdivision describes the process by which the Deputy Director may increase the 10 acre-feet measurement threshold in areas of the state where the additional benefits of reporting are substantially outweighed by the cost of measurement, per section 1840, subdivision (b)(2) of the Water Code. The regulation includes a framework that allows the Board to establish a higher diversion threshold in specific watersheds or under specific circumstances. The cost of measurement and the relative size of the diversions compared to the natural flow, overall diversion demand, and instream uses in the watershed are important factors in determining if a higher threshold may be established.

(e) This subdivision clarifies that if there is any conflict or inconsistency between the measurement requirements of the Board or by statute, order, policy, regulation, decision, judgment, or probationary designation and the requirements of Chapter 2.8, the more stringent requirement or requirements shall control.

(f) A general subdivision was added to inform the regulated community that failure to maintain a measuring device, employ a measurement method, or implement an alternative compliance plan in accordance with the requirements of Chapter 2.8 is a violation subject to civil liability of up to \$500 per day pursuant to Water Code section 1846. This subdivision is for clarity and does not add any new enforcement capability to the Board.

Section 933. Measuring Device Requirements

(a) This subdivision allows diverters to use any measuring device or combination of devices that meet the requirements of the regulation. The Board decided to use performance standards so that each diverter can use the best measurement technology for their specific point of diversion and place of use.

(b)(1) This subdivision describes the frequency the data must be recorded. There were numerous comments received during the public outreach process that the measurement requirements should be less stringent for smaller diversions and smaller reservoirs, in order to reduce cost of compliance for small diversions. The Water Board agreed with these comments, as larger diversions and reservoirs are much more likely to affect flow conditions in a waterway, and must record their diversion data on a more frequent basis. Smaller diversions and reservoirs must record their diversions on a weekly or monthly basis while diverters who divert over 1,000 acre-feet per year or store more than 1,000 acre-feet of water shall record their diversions on an hourly or more frequent basis. Multiple diversions that share a place of use or point of diversion must meet the same recording frequency as a large water right, consistent with the Board's intent to set the same requirements for diversions of adding up to the same size.

(b)(2) This subdivision describes the requirements for submitting the measurement information to the Board.

(b)(3) This subdivision states that each diverter shall keep records of the data from each measuring device for a period of no less than 10 years. Different time periods were discussed for this record retention requirement, from three years to indefinitely. It was determined 10 years was a reasonable amount of time to require records to be retained. It is expected most diverters will retain their diversion records indefinitely.

(b)(4) This subdivision establishes requirements for large diverters and some relatively large diverters in streams with vulnerable fisheries to provide telemetered diversion data. Telemetered diversion data is required for all diverters who divert more than 10,000 acre-feet annually, store 10,000 acre-feet or more, or divert more than 30 cubic feet per second during the period June 1 to September 30. This class of diverter accounts for over 90 percent of the surface water diverted in California. Their diversions have the potential to dramatically affect stream conditions from one moment to the next. Therefore the Board determined it was reasonable to require these larger diverters to provide telemetered diversion data, thereby enabling close monitoring of the effects of these large diversions.

Numerous comments were received with concerns that medium and small diverters can have significant impacts on stream systems with threatened, endangered, or fully protected fish species. To address these concerns, the regulation authorizes the Deputy Director to establish telemetry requirements for any diverter who diverts 10 percent or more of the calculated stream flow in a stream system where threatened, endangered, or fully protected fish species are present or have been present. This includes certain waterways in which the Board has fishery protection policies in place. The regulation also allows the Board to require telemetry for diversions taking less than 10 percent of the stream flow only after providing the public with notice and opportunity for comment as well as a public board meeting process.

(c) This subdivision provides guidance on how to calculate the volume of water diverted if the measuring device does not report the total volume of water diverted.

(d) This subdivision establishes measuring device accuracy requirements for different diversion sizes. Comments received during public information meetings generally supported using accuracy requirements instead of creating a list of acceptable measuring devices and measurement methods, although a few wanted to know what specific devices would be acceptable. There were numerous comments received during the public outreach process that the measurement requirements should be less stringent for smaller diversions and smaller reservoirs. The Water Board agreed with these comments. Smaller diversions and reservoirs shall meet an accuracy standard of $\pm 15\%$ while diverters who divert over 100 acre-feet per year or store more than 200 acre-feet of water shall meet an accuracy standard of $\pm 10\%$.

There was general agreement from the public during the meetings that the Water Board should grandfather in existing measurement devices as much as possible. Some agencies with existing measurement device requirements include:

- Department of Water Resources (agricultural water measurement)
- United States Bureau of Reclamation (Central Valley Project contractors)
- United States Geologic Survey (surface water gaging network)
- Federal Energy Regulatory Commission (federally licensed power facilities)
- Public Utility Commission (investor owned water utilities)
- State Water Board, Division of Drinking Water (publicly owned water utilities)

The accuracy standards adopted in the regulation were chosen to reasonably ensure that they could be met by existing devices that have been properly installed, operated, and maintained. The accuracy standard is $\pm 15\%$ for measuring devices installed on or before January 1, 2016.

(e) through (h) These subdivisions describe how the accuracy of a measuring device shall be certified and also how a measuring device shall be installed, maintained, and calibrated. There were numerous comments received during the public outreach process that the certification, installation, maintenance, and calibration process should be less stringent for smaller diversions and smaller reservoirs. Many people were concerned that the cost of installation, maintenance, and certification could be onerous.

To address this concern, the regulation stated that a “qualified individual” shall certify the accuracy of, install, maintain, and calibrate a water measurement device. The qualifications required for such an individual are more rigorous for diversions greater than or equal to 100 acre-feet per year. “Qualified Individual” is defined in Section 930 of Chapter 2.8 as:

- (1) For diversions greater than or equal to 100 acre-feet per year:
 - (A) A California-registered Professional Engineer; or
 - (B) A California-licensed contractor authorized by the State License Board for C-57 well drilling or C-61 Limited Specialty/D-21 Machinery and Pumps; or
 - (C) A person under the supervision of a California-registered Professional Engineer and employed to install, operate, and maintain water measurement and reporting devices or methods; or
 - (D) In the case of a right or a claimed right to divert by an agency of the federal government, a hydrologist or professional engineer experienced and trained in water measurement who is employed by the federal agency in that capacity.
- (2) For diversions less than 100 acre-feet per year, a person trained and experienced in water measurement and reporting. This may include the diverter or the diverter’s agent.

(i) through (k) These subdivisions provide additional requirements for the location, accessibility, and board verification of measuring devices.

(l) This subdivision describes requirements for repairing or replacing a measuring device that fails to meet the required accuracy standards.

(m) This subdivision clarifies that this section shall limit or modify the board's authority to obtain information under any other lawful authority. This language is necessary to prevent potential conflicts of authority.

Section 934. Measurement Method

This section describes the requirements for submitting and using a measurement method in lieu of a measurement device at each point of diversion. A measurement method is a method capable of accounting for the rate of direct diversion, rate of collection to storage, and rate of withdrawal or release from storage where the method is likely to achieve accuracy standards comparable to those of individual measuring devices. Allowing the use of measurement methods is consistent with subdivision (a)(1) of section 1841 of the Water Code, which states:

Except as provided in subdivision (b), a person who, on or after January 1, 2016, diverts 10 acre-feet of water per year or more under a permit or license shall install and maintain a device or employ a method capable of measuring the rate of direct diversion, rate of collection to storage, and rate of withdrawal or release from storage.

There were numerous comments received during the outreach process regarding measurement methods. Common situations where measurement methods would be employed include diverters who share a ditch and a diverter who has multiple points of diversion serving their place of use (a situation common in the Sacramento/San Joaquin Delta).

The regulation is flexible in the types of measurement methods water users may submit as long as the measurement method meets the regulation's accuracy standards for measurement. Water diverters are encouraged to establish collaborative measurement on a local or regional basis.

(a) This subdivision defines measurement methods. It also sets the requirement that, if different water rights under a measurement method have different requirements under section 933, the measurement method shall meet the most stringent requirement. This is necessary to prevent conflicts and ensure that the Board receives accurate diversion and use data.

(b) This subdivision establishes minimum standards for measurement methods, including the requirement that they be prepared by a qualified individual as defined in section 932. The compliance deadlines for measurement devices and measurement methods are the same. This subdivision also establishes a process for the Deputy Director to review measurement methods and reject those that fail to meet the requirements of section 934.

(c) This subdivision authorizes diverters who divert through a shared ditch system to employ a shared measurement method, and specifies additional requirements for implementing such measurement methods consistently with the water rights priority system.

(d) This subdivision specifies data recording and data submittal requirements for measurement methods. These match the data requirements for measurement devices, to ensure consistency.

(e) This subdivision specifies the accuracy requirements for measurement methods, which are the same as those for measurement devices.

(f) This subdivision specifies requirements for the initial accuracy certification of a measurement method, which must be certified and documented by field-testing performed by an individual trained in the use of relevant field-testing equipment. The results from the field testing shall be documented in a report approved by a qualified individual, as defined, and submitted to the board with the next subsequent water use report.

(g) This subdivision requires that measurement methods be re-tested every five years by a qualified individual, to ensure that they continue to meet applicable accuracy standards.

(h) This subdivision establishes a process for replacing a measurement method that fails to meet accuracy standards. Diverters are required to notify the Board in writing within 30 days of finding that a measurement method does not meet accuracy standards. Measurement devices must be installed within 90 days if defects in a measurement method are not timely corrected.

(i) This subdivision describes the process for renewing a measurement method at five year intervals. The Deputy Director may reject a measurement method renewal for failure to achieve the required accuracy, or for failure of the diverter or diverters to implement a previously-submitted measurement method.

(j) This subdivision clarifies that a diverter has an obligation to implement, in a timely manner, the measurement method submitted to the Board.

Section 935. Alternative Compliance for a Measuring Device or Measurement Method Requirement

This section describes the plan a diverter may prepare for circumstances where strict compliance with the requirements in the regulation for a measuring device or measurement method are not feasible, would be unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water. This section establishes a framework for alternative approaches to compliance for a specific measuring device or measurement method, or for a type of measuring device.

During the public outreach process, many diverters were concerned they would not be able to meet one or more of the requirements for a measuring device or measurement method. Diverters requested exemptions from the measurement requirement for specific issues like small hydropower projects, points of diversion that are inaccessible for portions of the year due to snow, points of diversion with highly variable flow rates, and points of diversion under tidal influence.

This section requires a diverter to submit an alternative compliance plan and provide detailed documentation establishing and supporting the specific basis for claiming that strict compliance with the measuring device or measurement method requirements are not feasible, would be unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water. A plan shall describe how the diverter will attain reasonable compliance with the measurement requirements of the regulation. A diverter is required to diligently implement the proposed plan. Alternative compliance plans may remain in effort for up to five years, and may be renewed.

Alternative compliance plans are subject to audit by the Deputy Director, and shall be publicly posted on the Board's website with the opportunity for public comment. The Deputy Director may modify alternative compliance plans to meet the requirements of chapter 2.8, require correction of a defective plan, reject a plan that fails to meet the requirements of chapter 2.8, and require submission of additional information. Decisions or orders by the Deputy Director are subject to reconsideration.

Section 936. Request for Additional Time

This section was added to provide a standard method under which diverters may request an extension of time to comply with the reporting requirements of Chapter 2.8. All extension requests must be accompanied by supporting documentation.

Section 937. Report of Water Measuring Device

This section was added to inform diverters of applicable deadlines and to describe the information they are required to submit to the Board after installing a water measuring device. Reports should be submitted with the diverter's annual supplemental statement of water diversion and use, report of permittee, report of licensee, or report of registration holder, as applicable. Reports for devices installed on or before January 1, 2016 are due with the diverter's first water use report filed after January 1, 2017. Reports for devices installed after January 1, 2016, should be submitted with the first water use report submitted after installation. Reports for replacement devices are due within 30 days of installation or calibration.

Section 938. Compliance

A general section was added to inform the regulated community that failure to meet the requirements of this chapter is a violation subject to civil liability of up to \$500 per day pursuant to Water Code section 1846. This section does not add any new enforcement capability to the Board.

Summary of Additional Public Comments on the Regulation

Appendix 17 contains a brief summary of additional comments and questions received during the regulation development process.

Review of Measurement and Reporting Requirements in Other Western States

Appendix 18 contains a brief review of the measurement and monitoring requirements of Colorado, Oregon, Washington, Utah, and Arizona.

Summary of Existing Laws and Regulations

The existing rules for reporting are contained in California Code of Regulations, Title 23, Division 3, Chapter 2.7. This chapter was amended by the emergency regulation. These previous reporting regulations required water use reports to be submitted for different filing periods depending on the type of water right claimed. License and permit holders were required to file a water use report every year, while statement holders were only required to file every three years. Registration holders were only required to file once every five years as part of the renewal process under section 1228.5 of the Water Code. Stockpond certificate holders were not previously required to file.

The type of information required on each water use report also varied based on the type of water right. The emergency regulation updated the information required on each water use report in an effort to standardize submittals for statement filers and holders of permits, licenses, registrations, and certificates.

The existing regulations for measurement are contained in the following sections of the California Code of Regulations, Title 23, Division 3:

§780. Standard Permit Terms. The board maintains a list of Standard Permit Terms, applicable portions of which are included in all permits. Copies of the Standard Permit Terms are available upon request. In addition to the applicable standard terms which are included in each permit, the following terms shall be included in every water right permit issued by the board, and shall be included in every existing permit as a condition for granting an extension of time to commence or to complete construction work or to apply the water to full beneficial use:

Pursuant to California Water Code Sections 100 and 275 and the common law public trust doctrine, all rights and privileges under the permit and under any license issued pursuant thereto, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Resources Control Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use or unreasonable method of diversion of said water. The Board's continuing authority may be exercised by imposing additional specific requirements to eliminate waste of water and to meet the permittee's reasonable water requirements without unreasonable draft from the water source. Permittees may be required to implement a water conservation plan, features of which may include but are not necessarily be limited to: (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity

limitations of this permit and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation. The continuing authority of the Board also may be exercised by imposing further limitations on the diversion and use of water by the permittee in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution Article X, Sec. 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust.

§846. Measuring Devices and Statements. After issuance of a permit for surface diversion or storage or for underground storage, the permittee may be required to establish suitable measuring and recording devices and to obtain and furnish to the Board such records as may be needed to determine with reasonable accuracy: the quantity of water beneficially used; or the quantity of water placed in storage and the quantity later recovered under the provisions of the permit. Permittee may also be required to determine and submit a written statement of the quantities beneficially used.

SB 88 amended section 5103 of the Water Code, changing measurement requirements for statement filers. The statute previously read as follows:

§5103, subdivision (e). On or after January 1, 2012, monthly records of water diversions. The measurements of the diversion shall be made using best available technologies and best professional practices. Nothing in this paragraph shall be construed to require the implementation of technologies or practices by a person who provides to the board documentation demonstrating that the implementation of those practices is not locally cost effective.

Approximately 70 percent of statement holders stated on their water use reports that the measurement of the diversion as required under Water Code Section 5103 was not locally cost effective. SB 88 amended section 5013 of the Water Code to remove the “not locally cost effective” exception. As amended, the statute now provides, in relevant part, as follows:

§5103. Each statement shall be prepared on a form provided by the board. The statement shall include all of the following information:

...

(e) (1) (A) At least monthly records of water diversions. The measurements of the diversion shall be made in accordance with Section 1840.

(B) (i) On and after July 1, 2016, the measurement of a diversion of 10 acre-feet or more per year shall comply with regulations adopted by the board pursuant to Article 3 (commencing with Section 1840) of Chapter 12 of Part 2.

(ii) The requirement of clause (i) is extended to January 1, 2017, for any statement filer that enters into a voluntary agreement that is acceptable to the board to reduce the statement filer's diversions during the 2015 irrigation season.

A general description of existing law governing water rights, the water right priority system, the Board's information-gathering authorities, and the constitutional prohibition against the waste, unreasonable diversion, unreasonable method or diversion, or unreasonable use of water is set forth below.

Two main types of water rights constitute the vast majority of diversions in California: riparian rights and appropriative rights. A riparian water right generally provides a right to use the natural flow of a water body to which the land is riparian. Broadly speaking, riparian land is land that touches a lake, river, stream, or creek. Water can only be diverted under a riparian right when that water is used on the riparian parcel on land that drains back to the lake, river, stream, or creek from which the water was taken. Riparian rights remain with the property when it changes hands, although parcels severed from the adjacent water source generally lose their right to the water, absent indicia of intent to the contrary at the time of severance. Only the natural flow of water can be diverted under a riparian right. Water that is imported into a watershed from another river, stream, or creek cannot be used under a riparian right. Water cannot be stored during a wet time for use during a drier time under a riparian right. Neither can water released from an upstream storage reservoir be used by a downstream user under a riparian right. Riparian rights generally have a senior (higher relative priority) right to natural flows as against appropriative rights, and water must be available to fulfill the needs of all riparians before an appropriator may divert. This is not always the case, however. An appropriative right predating the patent date of riparian lands has seniority relative to the riparian right. The priorities of riparian right holders are correlative vis-à-vis each other; during a drought all share the shortage among themselves. Because a riparian right only allows the use of natural flow, it is possible to have water available under a riparian right during wetter years or months and not during drier years or months when natural flows are no longer available, including cases where stream flow is being supported by releases of previously stored water. This is particularly the case in dry years such as the current drought.

On the other hand, an appropriative water right is generally needed for water that is diverted for use on non-riparian land or to store water for use when it would not be available under natural conditions. An appropriative right holder can use natural flow, and non-natural flows like imported water from other watersheds, or irrigation return flows. Prior to 1914, appropriative water rights were acquired by putting water to beneficial use. The exact priority date of a pre-1914 appropriation can vary depending on the circumstances, but depends on either posting notice under the then applicable procedures of the Civil Code or otherwise clearly initiating the means necessary to divert or actually diverting. An appropriative water right that was acquired before 1914 is called a pre-1914 appropriative water right and is not subject to the permitting authority of the Board. Appropriative water rights obtained after 1914 require a water right permit and subsequently a license issued by the Board or its predecessors. Similar to pre-1914 water rights, the seniority of post-1914 water rights is based on a first-in-time concept with the

date of seniority typically established by the date of the application for the permit. A water right permit confers the Board's (or its predecessor's) authorization to develop a water diversion and use project. The right to use water is obtained through actual beneficial use of water within the limits described in the permit. A water right license is issued once full beneficial use of water has been made and other conditions of a water right permit are met and constitutes the confirmation by the Board (or its predecessor) of the water right. As between appropriators, junior water right holders may only divert where there is sufficient water to completely fulfill the needs of more senior appropriators.

When the amount of water available in a water source is not sufficient to support the needs of existing water right holders, junior appropriators must cease diversion in favor of more senior rights. However, it is not always clear to a junior diverter whether there is sufficient flow in the system to support their diversion and senior water uses downstream. It can also be difficult to determine whether releases of stored water are abandoned flows that may be diverted or whether those flows are not available for diversion because they are being released for downstream purposes. Similarly, it can be difficult for a riparian to know if water is natural flow or stored or imported water and whether, when and to what extent correlative reductions in water use are needed due to the need to share limited supplies amongst riparians. As part of administering water rights, the Board may curtail water diversions based on California's water rights priority system. The Board has continuing authority under Water Code sections 100 and 275 to enforce the requirements of the California Constitution, Article X, § 2, which directs that the water resources of the state be put to beneficial use to the fullest extent, and that water not be wasted or unreasonably used. It further provides that rights to the use of water are limited to such water as is reasonably required for the beneficial use served, and does not extend to the waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of the water. The reasonable use doctrine applies to the diversion and use of both surface water and groundwater, and it applies irrespective of the type of water right held by the diverter or user. (*Peabody v. Vallejo* (1935) 2 Cal.2d 351, 366-367.) What constitutes an unreasonable use, method of use, or method of diversion depends on the facts and circumstances of each case. (*People ex rel. State Water Resources Control Board v. Forni* (1976) 54 Cal.App.3d 743, 750.) Under the reasonable use doctrine, water right holders may be required to endure some inconvenience or to incur reasonable expenses. (*Id.* at pp. 751-752.)

In order to implement the water rights priority system, the Board may (a) investigate all streams, stream systems, portions of stream systems, lakes, or other bodies of water; (b) take testimony in regard to the rights to water or the use of water thereon or therein; and (c) ascertain whether or not water heretofore filed upon or attempted to be appropriated is appropriated under the laws of the State. (Water Code § 1051.) This investigative authority extends to diversions under claim of pre-1914 or riparian right, for purposes of determining whether or not such diversions are authorized. (See, e.g., *Young v. SWRCB* (2013) 219 Cal.App.4th 397.)

Diverting water when it is unavailable under your priority of right constitutes an unauthorized diversion and a trespass against the state. Violations could be subject to an Administrative Civil

Liability (ACL) under the Water Code, or referred to the Attorney General. Administrative cease and desist orders and court injunctions may also be issued to require that diversions stop. An ACL for an unauthorized diversion may impose liability up to \$1,000 a day plus \$2,500 per acre foot of water that is illegally diverted for violations during the current drought. The Board may also issue administrative cease and desist orders and request court injunctions to require that diversions stop.

Summary

The implementation of improved measurement and reporting of water rights as required under Senate Bill 88 and the proposed emergency regulation will improve water right administration and transparency of diversion records. More accurate and current diversion records together with their transparency allow the Board and all water users to more effectively:

- Understand and plan ahead for limited water supplies;
- Identify water losses in a diversion system and take corrective actions to conserve water and stretch limited water supplies;
- Assure compliance with the quantity and season limitations of existing water rights;
- Protect the senior rights of diverters in accordance with their relative priorities;
- Provide for efficient management and use of water during times of shortage; and
- Improve water planning and near-term forecasting of water demand.
- Increase understanding of water use through more accurate measurement
- Improve water rights administration and transparency of records
- Provide more accurate data on available water supplies
- Assure compliance with the quantity and season limitations of existing water rights
- Protect senior rights in accordance with priorities
- Provide for efficient management and use of water during times of shortage
- Improve forecasting of water demand

Mandate on Local Agencies or School Districts

The Board has determined that amendment of section 879 does not impose a new mandate on local agencies or school districts. The regulation is generally applicable law.

Cost Estimate

This cost estimate considers the fiscal effect of the proposed regulation, as defined in Government Code section 11346.5, subdivision (a)(6), which requires analysis of a proposed regulation's anticipated costs and savings to state agencies, local governments and agencies, school districts, including the effect of costs of savings of federal funding to the State.

Fiscal Effect of the Proposed Regulation (State and Local Government Agencies)

The primary fiscal effect of the proposed regulation relevant to Government Code section 11346.5, subdivision (a)(6) is the cost that would be incurred by state and local government agencies to install, operate, and maintain a measuring and recording device at each point of diversion.

The fiscal impact was based on information prepared by Board staff. M.Cubed partners Richard McCann, PhD, and Steven Moss, MPA, reviewed this report and provided comments on it, which were addressed by State Board staff before the study was finalized. M. Cubed, founded in 1993, provides economic and public policy consulting services to public and private sector clients.

The fiscal effects of the proposed regulation relevant to Government Code section 11346.5, subdivision (a)(6) are the cost that would be incurred by state and local government agencies to perform the tasks below:

1. File Supplemental Statements of Water Diversion and Use on an annual basis under section 5104 of the Water Code and section 920 of the proposed regulation. The Board estimates that there are 436 active statements held by state and local government agencies. The total cost incurred to state and local government agencies to complete and submit the supplemental statement on an annual basis would be **\$19,000 a year (average of \$43 per statement per year)**.
2. Complete an Annual Water Use Report under section 924 for Registration and Certificate holders. The Board estimates there are 14 registrations and certificates held by state and local government agencies. The total cost incurred to state and local government agencies to complete and submit the annual water use report would be **\$1,000 a year (average of \$65 per registration/certificate per year)**.
3. Complete and submit an online Report of Water Measuring Device and/or Recording Device in accordance with section 937. The Board estimates that there are 2979 points of diversion and 786 ponds and reservoirs held by state and local government agencies that would require the filing of an online Report of Water Measuring Device and/or Recording Device. The total cost incurred to state and local government agencies to complete and submit the online informational form and supporting documentation would be **\$367,000 (\$199 per water right)**.
4. Government agencies will need to install, repair, or modify existing measuring devices or measurement methods to comply with the requirements of Chapter 2.8, section 931 through section 937. The Board estimates that there are 2979 points of diversion and 786 ponds and reservoirs held by state and local government agencies that would require measurement. The cost incurred to state and local government agencies to install, repair, or modify measuring devices or implement measurement methods in accordance with Chapter 2.8 would be between **\$4,291,000 and \$8,819,000 (\$2,300 to \$4,800 per water right or claimed right)**.
5. Government agencies will need to operate and maintain measuring devices or measurement methods to comply with the requirements of Chapter 2.8, section 931 through section 937. The Board estimates that there are 2979 points of diversion and 786

ponds and reservoirs held by state and local government agencies that would require measurement. The cost incurred to state and local government agencies to operate and maintain measuring devices or measurement methods in accordance with Chapter 2.8 would be between **\$950,000 and \$1,962,000 a year (\$500 to \$1,100 per water right or claimed right).**

6. Special reporting - During a critically dry year, reporting of monthly diversions online may be required in specific critical water supply regions in accordance with section 917. The Board estimates that there are 2423 water rights and claimed water rights held by state and local government agencies that may be affected by this requirement. The cost incurred to state and local government agencies to complete and submit the diversion data online once a month for nine months would be **\$1,766,000 (\$729 per water right or claimed right).**

The expenses associated with items 1, 4, and 5 are required in accordance with Senate Bill 88 signed by Governor Edmund G. Brown Jr. on June 24, 2-15. These expenses would be incurred by state and local government agencies regardless of whether the proposed Emergency Regulation for Measuring and Reporting was adopted by the Board.

The proposed regulation is not anticipated to have a fiscal impact on school districts or to result in costs or savings in federal funding to the State. There are not expected to be any other nondiscretionary costs or savings to local agencies from the regulation.

Appendix 1 provides more background information on the proposed estimate.

Cost of Compliance for Small Diversions

The cost of compliance was a significant concern raised by a number of parties during the public meetings and workshops. The Board was concerned about the cost of compliance with the measurement and monitoring requirements of the regulation, and therefore the Board made requirements in the regulation less stringent for diverters with smaller diversions. People who divert or store smaller amounts of water have more time to meet the measurement and monitoring requirements under the phased-in approach. They also have less stringent requirements related to measurement accuracy, monitoring frequency, and installation, operation, and maintenance. The following table summarized the estimated costs that apply to over 75 percent of the direct diversion and storage rights in California.

Category		Device/Service	Cost Range	
			Low	High
Reservoir Storage (acre-feet)	10 af < storage < 200 af (78% of measured reservoirs)	Staff Gauge	\$300	\$800
Direct Diversion (acre-feet/year)	10 af/yr < diversion < 100 af/yr (42% of measured points of diversion)	In-line flow meter	\$1,200	\$1,800
	100 af/yr ≤ diversion < 1000 af/year (34% of measured points of diversion)	In-line flow meter / Open Channel	\$2,000	\$6,000
		Data logger	\$250	\$600
		Total	\$2,250	\$6,600

The cost of measuring and monitoring water use is case specific and can vary widely based on the requirements of each specific situation. The cost of compliance will also depend on whether the diverter can use an existing device or needs to install a new one and on cost of installation by a qualified individual. In the table above, the cost estimates for reservoir storage assume a reservoir survey has been completed as part of determining the amount of water stored in the reservoir or pond.

Diversers who are required to measure are also required to complete an online Report of Water Measuring Device and/or Recording Device in accordance with section 937. The Board estimates that the average cost to complete and submit the online informational form and supporting documentation would be \$98 for each required measurement device.

The costs of complying with the annual reporting requirements of the regulation are:

- No additional cost for reporting annual water use by permit holders and license holders.
- Average of \$43 per year additional cost for each statement holder to file Supplemental Statements of Water Diversion and Use on an annual basis instead of once every three years.
- Average of \$65 per year additional cost for each registration holder and certificate holder to file annual water use reports.

Consistency Determination

As the Board is the agency charged with implementing the water right system, it is the only agency that can implement this emergency regulation. As required by Government Code Section 11346.5, subdivision (a)(3)(D), the Board has conducted an evaluation of this regulation and has determined that it is not inconsistent or incompatible with existing state regulations. Board authority includes broad investigatory authority, and Water Code Section

1058.5 explicitly recognizes the need for regulations to provide the Board with increased information to appropriately implement the water rights system during the drought emergency.

Suspension of California Environmental Quality Act

The initial adoption of the Board's water diversion measurement and reporting regulations is exempt from Division 13 (commencing with Section 21000) of the Public Resources Code. (Wat. Code, § 1841, subd. (c).)

Authority and Reference Citations

For Section 907

Authority: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Sections 1003.5, 1395, 1396, 1397, 4999, 5001, 5105 and 12261, Water Code.

For Section 908

Authority: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Sections 348, subdivision (a), and 1846, Water Code.

For Section 910

Authority: Sections 348(a), 1058, 1840, and 1841, Water Code.

Reference: Sections 348(a), 5101, 5103 and 5104, Water Code.

For Section 911

Authority cited: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Sections 348, subdivision (a), 1846, 5101, 5103, and 5104, Water Code.

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Authority: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

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For Section 920

Authority: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

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For Section 921

Authority: Sections 348, subdivision (a), 1058, 1840, 1841, and 5103, Water Code.

Reference: Sections 348, subdivision (a), 5001, 5101(d) and 5101(e), Water Code.

For Section 922

Authority: Sections 348, subdivision (a), 1058, 1840, 1841, and 5103, Water Code.

Reference: Sections 348, subdivision (a) 5101(d) and 5101(e), Water Code.

For Section 924

Authority: Sections 348, subdivision (a), 1058, 1228.6, 1840, and 1841, Water Code.

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For Section 925

Authority: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Sections 348, subdivision (a), 1010, 1011, 1011.5, and 1846, Water Code.

For Section 929

Authority: Sections 348, subdivision (a), 1011, 1058, 1840, and 1841, Water Code.

Reference: Sections 348, subdivision (a), 1010, 1011, 1011.5, and 1846, Water Code.

For Section 931

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 13 and 5103, Water Code.

For Section 931.5

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Section 85230, Water Code.

For Section 932

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1122, 1123, 1846, and 5103, Water Code.

For Section 933

Authority: Sections 183, 1051, 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1846, and 5103, Water Code.

For Section 934

Authority: Sections 183, 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1846, and 5103, Water Code.

For Section 935

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1846, and 5103, Water Code.

For Section 936

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1846, and 5103, Water Code.

For Section 937

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1846, and 5103, Water Code.

For Section 938

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<http://www.ecy.wa.gov/programs/wr/measuring/images/pdf/gsfps.pdf>

Washington State Department of Ecology, Guidelines for Selecting Open Channel Meters

http://www.ecy.wa.gov/programs/wr/measuring/images/pdf/guidelines_selectiopanelmeter.pdf

Washington State Department of Ecology, Inspecting an Open Channel Water Measuring System

<http://www.ecy.wa.gov/programs/wr/measuring/images/pdf/iocm.pdf>

Wilson, Craig, Delta Watermaster, Statements of Water Diversion & Use Water Diversion Measurements

http://www.waterboards.ca.gov/waterrights/water_issues/programs/diversion_use/docs/s_tmnts_dvrns_use.pdf

Additional material was accessed and reviewed on the websites for the following agencies responsible for regulating water rights:

Utah <http://www.waterrights.utah.gov/>
Washington <http://www.ecy.wa.gov/programs/wr/rights/water-right-home.html>
Oregon <http://www.oregon.gov/owrd/pages/wr/index.aspx>
Colorado <http://water.state.co.us/surfacewater/swrights/Pages/default.aspx>
Arizona <http://www.azwater.gov/azdwr/SurfaceWater/SurfaceWaterRights/default.htm>
New Mexico <http://www.ose.state.nm.us/WR/WRindex.php>

Additional material or laws and regulations water rights administration was accessed from the following websites:

Utah <http://www.rules.utah.gov/publicat/code/r655/r655.htm>
Washington <http://www.ecy.wa.gov/laws-rules/ecywac.html>
<http://apps.leg.wa.gov/rcw/default.aspx?cite=90.03>
Oregon <http://www.oregon.gov/owrd/pages/law/index.aspx>
http://www.oregon.gov/owrd/LAW/docs/Water_Vol_I.pdf
Colorado <https://www.yourwatercolorado.org/flip/catalog.php?catalog=waterlaw>
Arizona <http://www.azleg.gov/ArizonaRevisedStatutes.asp?Title=45>
New Mexico http://law.justia.com/codes/new-mexico/2006/nmrc/jd_ch72-eaf.html
<http://www.ose.state.nm.us/WR/WRrules.php>

Appendices

1. Fiscal impact analysis for the regulation
2. [Senate Bill 88](#)
3. [Meeting notes from stakeholder meeting held on October 6, 2015.](#)
4. October 26, 2015, notice letter mailed out to approximately 7500 diverters affected by the proposed measurement requirements.
5. [Agenda for the public meetings held in Los Angeles, Redding, Sacramento, Stockton, and Santa Rosa.](#)
6. [Public meeting handout of concepts being considered for a draft regulation.](#)
7. [Public meeting presentation slides.](#)
8. [Summary of comments received at the public meetings.](#)
9. [Public handout on financial assistance options for measuring](#)
10. Written comments received on the concepts prior to December 7, 2015
11. [Draft regulation dated December 7, 2015.](#)
12. [Comments received on the December 7, 2015 version of the draft regulation.](#)
13. [Presentation made at the Board workshop on December 17, 2015.](#)
14. List of people making oral comments on the regulation at the Board workshop on December 17, 2015.
15. [Draft regulation dated January 8, 2016](#)
16. List of people making oral comments on the regulation at the Board meeting on January 19, 2016.
17. Summary of Additional Public Comments
18. Measurement and Reporting Requirements in Other Western States

Appendix 1: Public Agency and Government Fiscal Impact Analysis

Summary

This cost estimate considers the fiscal effect of the proposed Emergency Regulation for Measuring and Reporting. On XX, 2016, the Office of Administrative Law (OAL) approved an emergency rulemaking packet submitted by the State Water Board that amended Chapter 2.7 of the California Code of Regulations, title 23, division 3 and added Chapter 2.8 to California Code of Regulations, title 23, division 3.

M.Cubed partners Richard McCann, PhD, and Steven Moss, MPA, reviewed this report and provided comments on it, which were addressed by State Board staff before the study was finalized. M. Cubed, founded in 1993, provides economic and public policy consulting services to public and private sector clients. Practice areas include water and energy utility resource planning and ratemaking, resource use efficiency and conservation measures, project impact analysis, regional economic modeling, natural resource allocation policies, and environmental plan preparation and review.

Fiscal Effect of Proposed Emergency Regulation for Measuring and Reporting

The proposed Emergency Regulation for Measuring and Reporting imposes additional obligations, or costs, on a diverter that would not otherwise exist. A diverter was defined in the proposed Emergency Regulation for Measuring and Reporting as:

- Any person authorized to divert water under a permit or license; or
- Any person required under Water Code, Division 2, Part 5.1 to file a Statement of Water Diversions and Use; or
- Any person authorized to divert under a registration; or
- To the extent authorized by federal law, the federal government for rights claimed under permits, licenses, registrations, statements of water diversion and use, and non-reserved and reserved rights on file with the board.

The fiscal effects of the proposed regulation relevant to Government Code section 11346.5, subdivision (a)(6) is the cost that would be incurred by state and local government agencies to perform the tasks below:

1. File Supplemental Statements of Water Diversion and Use on an annual basis under Section 920. The State Water Board estimates there are 436 active statements held by state and local government agencies. The total cost incurred to state and local government agencies to complete and submit the supplemental statement on an annual basis would be **\$19,000 a year (average of \$43 per statement per year)**.
2. Complete an Annual Water Use Report under Section 924 for Registration and Certificate holders. The State Water Board estimates there are 14 registrations and certificates held by state and local government agencies. The total cost incurred to state and local government agencies to complete and submit the annual water use report would be **\$1,000 a year (average of \$65 per registration/certificate per year)**.
3. Complete and submit an online Report of Water Measuring Device and/or Recording Device in accordance with section 937. The State Water Board estimates there are 2979 points of diversion and 786 ponds and reservoirs held by state and local government agencies that would require the filing of an online Report of Water Measuring Device and/or Recording Device. The total cost incurred to state and local government

agencies to complete and submit the online informational form and supporting documentation would be **\$367,000 (\$199 per water right)**.

4. Government agencies will need to install, repair, or modify existing measuring devices or measurement methods to comply with the requirements of Chapter 2.8, section 932 through section 937. The State Water Board estimates there are 2979 points of diversion and 786 ponds and reservoirs held by state and local government agencies that would require measurement. The cost incurred to state and local government agencies to install, repair, or modify measuring devices or implement measurement methods in accordance with Chapter 2.8 would be between **\$4,291,000 and \$8,819,000 (\$2,300 to \$4,800 per water right or claimed right)**.
5. Government agencies will need to operate and maintain measuring devices or measurement methods to comply with the requirements of Chapter 2.8, section 932 through section 937. The State Water Board estimates there are 2979 points of diversion and 786 ponds and reservoirs held by state and local government agencies that would require measurement. The cost incurred to state and local government agencies to operate and maintain measuring devices or measurement methods in accordance with Chapter 2.8 would be between **\$950,000 and \$1,962,000 a year (\$500 to \$1,100 per water right or claimed right)**.
6. Special reporting - During a critically dry year, reporting of monthly diversions online may be required in specific critical water supply regions in accordance with section 917. The State Water Board estimates there are 2423 water rights and claimed water rights held by state and local government agencies that may be affected by this requirement. The cost incurred to state and local government agencies to complete and submit the diversion data online once a month for nine months would be **\$1,766,000 (\$729 per water right or claimed right)**.

The expenses associated with items 1, 4, and 5 are required in accordance with Senate Bill 88 signed by Governor Edmund G. Brown Jr. on June 24, 2015. These expenses would be incurred by state and local government agencies regardless of whether the proposed Emergency Regulation for Measuring and Reporting was adopted by the State Water Board. The State Water Board estimates that the costs incurred to state and local government agencies to comply with the proposed Emergency Regulation for Measuring and Reporting would be:

- One-time costs of between **\$4,658,000 and \$9,186,000**
- Annual cost of between **\$970,000 and \$1,982,000**
- Cost during critically dry year of up to **\$1,766,000**.

Analysis of Fiscal Effects of Proposed Section 920

The proposed Emergency Regulation for Measuring and Reporting would require diverters who file a Statement of Water Diversion and Use to file a Supplemental Statement on an annual basis. Previously, supplemental statements were required to be filed every three years.

Filling out the online report every year instead of every three years would be the only additional burden to state and local government agencies associated with section 920 of the proposed Emergency Regulation for Measuring and Reporting.

To conservatively estimate the cost of section 920, the State Water Board determined the total number of Statements held by state and local government agencies and multiplied that number by an estimated average time to complete the online report, multiplied by an average

staff cost per hour.

Based on information compiled from the State Water Board's eWRIMS database, there are approximately 436 active Statements held by state and local government agencies that could be affected by the requirements of section 920.

Completion of the online form would be expected to take 1 hour. The estimated average total hourly costs of state and local government agency staff required to complete the online report was conservatively estimated using \$65 per hour. The average cost to complete the online form would be \$65 (1*\$65).

There are a total of 436 registrations and certificates held by state and local government agencies. The annual cost incurred by state and local government agencies to file a supplemental statement would be \$28,340 (436 *\$65). Over a three year period, a Statement holder would file the Supplemental Statement two more times than previously required. The additional cost over a three year period would be \$56,680 (\$28,340 * 2). The potential cost incurred by state and local government agencies to comply with section 920 of the proposed Emergency Regulation for Measuring and Reporting would be approximately **\$19,000 a year** ($\$56,680 \div 3$) or **\$43 per statement per year**.

Analysis of Fiscal Effects of Proposed Section 924

The proposed Emergency Regulation for Measuring and Reporting would require holders of Registrations and Livestock Certificates to file a water use report every year. Filling out the online report would be the only additional burden to state and local government agencies associated with section 924 of the proposed Emergency Regulation for Measuring and Reporting.

To conservatively estimate the cost of section 924, the State Water Board determined the total number of registrations and certificates held by state and local government agencies and multiplied that number by an estimated average time to complete the online report, multiplied by an average staff cost per hour.

Based on information compiled from the State Water Board's eWRIMS database, there are approximately 12 registrations and one livestock certificate held by state and local government agencies that could be affected by the requirements of section 924 of the proposed Emergency Regulation for Measuring and Reporting.

Completion of the online form would be expected to take 1 hour. The estimated average total hourly staff costs of state and local government agency staff required to complete the online report and gather the required information from the field was conservatively estimated using \$65 per hour. The average cost to complete the online form would be \$65 (1*\$65). There are a total of 13 registrations and certificates held by state and local government agencies. Therefore, the potential cost incurred by state and local government agencies to comply with section 924 of the proposed Emergency Regulation for Measuring and Reporting would be **\$1,000 a year** (13 *\$65) or **\$65 per registration/certificate per year**.

Analysis of Fiscal Effects of Proposed Section 937

The proposed Emergency Regulation for Measuring and Reporting would require all diverters with diversions of more than 10 acre-feet per year (including license holders, permit holders, and statement holders) to file a Report of Water Measuring Device and

Recording Device. Filling out the online report and providing the supporting documentation would be the only additional burden to state and local government agencies associated with section 937 of the proposed Emergency Regulation for Measuring and Reporting.

To conservatively estimate the cost of section 937 of the proposed Emergency Regulation for Measuring and Reporting, the State Water Board determined the number of points of diversion associated with water rights and water right claims with diversions or authorized storage of more than 10 acre-feet per year held by state and local government agencies and multiplied that number by an estimated average time to complete the online report, multiplied by an average staff cost per hour.

Based on information compiled from the State Water Board's eWRIMS database, there are approximately 1,843 water rights and water right claims with diversions of more than 10 acre-feet per year held by state and local government agencies that could be affected by the requirements of section 937 of the proposed Emergency Regulation for Measuring and Reporting. There are 2,979 points of diversion and 786 reservoirs and ponds associated with these 1,843 rights and claimed rights. The amount of time required to complete the online report would depend on whether each agency already has documentation regarding its measuring and/or monitoring devices or whether it would need to obtain the information in the field.

Completion of the online form would be expected to take 1 hour. Agencies lacking sufficient information on the measuring and/or reporting device would need to conduct a field investigation to gather the necessary data needed to complete the form. The time required to collect the requested information in the field would vary. It is estimated it would take a state or local government entity 1 hour to collect the required information in the field. It is assumed the data would be collected during a routine operation and maintenance visit to the point of diversion, reservoir, or pond.

Thus, the time range to collect and report the required data would be between 1 hour (1 hour to complete the form) and 2 hours (1 hour to gather data in the field plus 1 hour to complete the form). It was estimated that half of the agencies would have sufficient records to fill out the report without requiring a field investigation. The remaining agencies would likely have incomplete records, requiring a field investigation. Thus, the average time to gather the data and fill out the report is would be 1.5 hours.

The estimated average total hourly staff costs of state and local government agency staff required to complete the online report and gather the required information from the field was conservatively estimated using \$65 per hour. The average cost to complete the online form would be \$97.50 (1.5*\$65). There are approximately 2,979 points of diversion and 786 reservoirs and ponds associated with 1,843 water rights and water right claims held by state and local government agencies. Therefore, the potential cost incurred by state and local government agencies to comply with section 937 of the proposed Emergency Regulation for Measuring and Reporting would be **\$367,000** (3,765 *\$97.50). The average costs per water right or water claim would be **\$199**.

Analysis of Fiscal Effects of Proposed Section 917

The proposed Emergency Regulation for Measuring and Reporting would require license, permit, and statement holders to file monthly diversion records during periods of insufficient supply. This requirement would only apply to state regions with insufficient supply to meet

demand. For the purpose of this analysis, it was assumed that the reporting has been required statewide for a period of nine months. Filling out the online form and gathering the data on a monthly basis would be the only additional burden to state and local government agencies associated with section 917 of the proposed Emergency Regulation for Measuring and Reporting.

To conservatively estimate the cost of section 917 of the proposed Emergency Regulation for Measuring and Reporting, the State Water Board determined the total number of water rights and water right claims held by state and local government agencies and multiplied that number by an estimated average time to complete the online form, multiplied by an average staff cost per hour.

Based on information compiled from the State Water Board's eWRIMS database, there are approximately 2,423 water rights and water right claims held by state and local government agencies that could be affected by the requirements of section 917 of the proposed Emergency Regulation for Measuring and Reporting. The amount of time required to complete the online form will depend on whether each agency already collects its diversion data on a monthly basis or whether it needs to obtain such information in the field.

Completion of the online form would be expected to take 30 minutes. Agencies that do not collect diversion data on a monthly basis would need to conduct a field investigation to gather the information needed to complete the form. The time required to collect the monthly diversion data in the field would vary. It is estimated it would take an average of 90 minutes for a state or local government entity to collect the required information in the field. It is assumed the data would be collected during a routine operation and maintenance visit to the measuring device.

The time range to collect and report the required diversion data was estimated to be between 30 minutes (30 minutes to complete the form) to 2 hours (90 minutes to gather data in the field plus 30 minutes to complete the form). It is estimated that half of the agencies would have sufficient records to fill out the report without requiring a field visit. The remaining agencies would likely have incomplete records, requiring a field visit. Thus, the average time to gather the data and fill out the form would be 1 hour and 15 minutes.

The estimated average total hourly staff costs of state and local government agency staff required to complete the online form and gather the diversion data from the field was conservatively estimated using \$65 per hour. The average monthly cost to complete the online form is \$81 ($\65×1.25). The average cost to complete the form during the nine month period when the regulation is effective is **\$729 (\$81/month * 9 months)**. There are a total of 2,423 water rights and water right claims held by state and local government agencies that could be affected by section 917 of the proposed Emergency Regulation for Measuring and Reporting. Therefore, the cost incurred by state and local government agencies to comply with section 917 of the proposed Emergency Regulation for Measuring and Reporting is **\$1,766,000** (2,423 water rights and claimed rights * \$729) or **\$729 per water right or claimed right**.

Estimated costs associated with the proposed section 917 of the proposed Emergency Regulation for Measuring and Reporting are conservative. Some of the permitted and licensed rights will be curtailed this year; under other rights no diversions will be made. Reports of no diversion will take significantly less time for the governmental agency to report. Therefore, the total cost to state and local government agencies will likely be significantly less than the estimate contained in this analysis.

Analysis of Fiscal Effects of Proposed Chapter 2.8

The proposed Emergency Regulation for Measuring and Reporting would require all license holders, permit holders, and statement holders who divert or are authorized to divert more than 10 acre-feet per year to install, operate, and maintain a measuring device or implement a measurement method. The cost of the measurement device or measurement method assumes the device is installed or that the measurement method is prepared by a qualified individual.

The proposed Emergency Regulation for Measuring and Reporting would require different standards of measurement and monitoring based on the size of the diversion or the size of the reservoir or pond. These categories and the number of water rights and claimed rights that fall into each of these categories held by state and local government agencies are summarized in Table 1 and Table 2.

To conservatively estimate the cost of the measuring requirement, the State Water Board determined the total number of water rights and claimed rights held by state and local government agencies that would be affected by Chapter 2.8. Based on information compiled from the State Water Board's eWRIMS database, there are 1,843 water rights and claimed rights with a claimed diversion or are authorized to divert more than 10 acre-feet per year held by state and local government agencies that would be affected. There are approximately 2979 points of diversion and 786 ponds and reservoirs associated with 1843 water rights and water right claims held by state and local government agencies that would require measurement. To determine the 10 acre-feet threshold, the face value was used for water use permits and licenses and for statement holders the water use reported for 2011.

The cost of measuring and monitoring water use are case specific and can vary widely based on the specific situation. Table 3 includes estimated costs for equipment that could be used to meet the measurement requirements of Chapter 2.8 of the proposed Emergency Regulation for Measuring and Reporting. These costs were estimated based on professional judgment and the following resources:

- The Department of Water Resources report "Cost Analysis for Proposed Agricultural Water Measurement Regulation in Support of Economic and Fiscal Impact Statement".
http://www.water.ca.gov/wateruseefficiency/sb7/docs/G-EFImpactv-7-1-4_22.pdf
- Measurement of Delta Agricultural Diversion (July 2011), Patrick L. Stiehr, Watermark Engineering, Inc.
http://www.waterboards.ca.gov/waterrights/water_issues/programs/diversion_use/docs/workshop2011july/stiehr_rpt.pdf
- Economic and Fiscal Impact Statement for the Russian River Frost Protection Regulation adopted on September 20, 2011.
http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/russian_river_frost/docs/090111app_d.pdf

The cost to each state and local government agency to comply with Chapter 2.8 of the proposed Emergency Regulation for Measuring and Reporting will depend on whether each government entity already has a measurement and/or recording device installed or whether the agency needs to install a new device or devices. Many state and local government agencies are required to measure their water use under a variety of existing regulations, including:

- Department of Water Resources (agricultural water measurement)
- United States Bureau of Reclamation (Central Valley Project contractors)
- United States Geologic Survey (surface water gaging network)
- Federal Energy Regulatory Commission (for federally licensed power facilities)
- Public Utility Commission (for investor owned water utilities)
- State Water Board, Division of Drinking Water (for publicly owned water utilities)

The State Water Board constructed the proposed Emergency Regulation for Measuring and Reporting to be consistent with existing measurement requirements and to ensure properly maintained measuring devices meeting the regulatory requirements of the governmental entities listed above would meet the requirements of the proposed Emergency Regulation for Measuring and Reporting.

The State Water Board determined the total number of water rights held by state and local government agencies and then estimated the number of water rights falling into each category. For each group of water rights, the State Water Board then estimated the percentages of devices which fell into one of the following three categories: (1) existing measuring device meets the standards of Chapter 2.8 of the proposed Emergency Regulation for Measuring and Reporting, (2) existing measuring device can be repaired or modified to meet the standards, or (3) new measuring device or measurement method is required to meet the standards. The percentages of measuring devices falling into each category were estimated using Table 3 from the Department of Water Resources report "Cost Analysis for Proposed Agricultural Water Measurement Regulation in Support of Economic and Fiscal Impact Statement" as a guide. The percentages for each category are listed in Table 3.

Government agencies will need to install, repair, or modify existing measuring devices or measurement methods to comply with the requirements of Chapter 2.8, section 932 through section 937 of the proposed Emergency Regulation for Measuring and Reporting. The State Water Board estimated that the total cost incurred to state and local government agencies to install, repair, or modify measuring devices or implement measurement methods in accordance with Chapter 2.8 would be between **\$4,291,000 and \$8,819,000**. The average cost would be between **\$2,300 to \$4,800 per water right (\$4,291,000÷1843 to \$8,819,000÷1843)**. The costs are shown on Table 3 and Table 4.

The cost of a Measurement Method is assumed to be comparable to the cost of installing measurement devices at each point of diversion. It is likely that a measurement method would be cheaper and more efficient than installing individual devices at each point of diversion.

The proposed Emergency Regulation for Measuring and Reporting also provide for specific situations where the cost of installing a measuring device in accordance with the requirements of Chapter 2.8 of the proposed Emergency Regulation for Measuring and Reporting would be unreasonably expensive, the diverter may apply for alternative compliance under Section 935 of the proposed Emergency Regulation for Measuring and Reporting.

Government agencies would need to operate and maintain measuring devices or measurement methods to comply with the requirements of Chapter 2.8 of the proposed Emergency Regulation for Measuring and Reporting. It was assumed that the annual cost of operation and maintenance of the measuring device or measurement method would be equal to 15% of the cost of installing a new device. The State Water Board estimated that the total cost incurred to state and local government agencies to operate and maintain new measuring devices or measurement methods in accordance with Chapter 2.8 would be

between **\$950,000** and **\$1,962,000** a year. The average cost would be between **\$500 to \$1,100 per water right** ($\$950,000 \div 1843$ to $\$1,962,000 \div 1843$). The costs are shown on Table 3 and Table 4.

**PUBLIC AGENCY AND GOVERNMENT FISCAL IMPACT ANALYSIS
EMERGENCY REGULATION FOR MEASURING AND REPORTING**

Note: Diversion amounts based on face value for permits/licenses and 2011 reported use for Statements

TABLE 1 - WATER RIGHTS IN CALIFORNIA HELD BY STATE/LOCAL GOVERNMENT AGENCIES

DIRECT DIVERSION (dd) (ACRE-FEET PER YEAR)	NUMBER OF PERMITS, LICENSES, AND STATEMENTS	NUMBER OF ACTIVE STATEMENTS	NUMBER OF PERMITS AND LICENSES	NUMBER OF PODS FOR PERMITS AND LICENSES	NUMBER OF PODS FOR PERMITS, LICENSES, AND STATEMENTS	RESERVOIR STORAGE CATEGORY
dd ≥ 10000	356	16	340	755	771	157
1000 ≤ dd < 10,000	362	57	305	519	576	108
100 ≤ dd < 1000	500	68	432	704	772	169
10 < dd < 100	625	58	567	802	860	352
dd ≤ 10	580	237	343	390	627	175

**PUBLIC AGENCY AND GOVERNMENT FISCAL IMPACT ANALYSIS
EMERGENCY REGULATION FOR MEASURING AND REPORTING**

TABLE 2 - RESERVOIRS IN CALIFORNIA HELD BY STATE/LOCAL GOVERNMENT AGENCIES

RESERVOIR STORAGE CATEGORY (ACRE-FEET)	NUMBER OF PERMITS AND LICENSES	NUMBER OF PERMITS	NUMBER OF LICENSES
storage ≥ 10000	157	84	73
200 ≤ storage < 10000	217	71	146
50 ≤ storage < 200	114	41	73
10 < storage < 50	298	54	244

**PUBLIC AGENCY AND GOVERNMENT FISCAL IMPACT ANALYSIS
EMERGENCY REGULATION FOR MEASURING AND REPORTING**

TABLE 3 - FISCAL IMPACT TO STATE/LOCAL GOVERNMENTAL AGENCIES

Category	Device/Service	Cost Range		Number of Devices	Cost Assuming New Measurement Devices		Device Required?	Percent of Total	Cost of New	Cost Accounting for Existing Devices		15% Annual O&M (% of install)		Annual O&M (new, and repaired only)										
		Low	High		Low	High				Low	High	Low	High											
Direct Diversion - dd (acre-feet/year)	dd ≥ 10000	Open Channel Flow Device	\$7,500	\$15,000	771	\$7,555,800	\$14,726,100	New	10%	100%	\$1,284,486	\$2,503,437	\$1,133,370	\$2,208,915	\$340,011	\$662,675								
		Pressure transducer	\$300	\$1,000																				
		Staff Gauge	\$300	\$500																				
		Data logger	500	800																				
		Telemetry	1200	1800																				
	Total	\$9,800	\$19,100																					
	1000 ≤ dd < 10,000	Open Channel Flow Device	\$5,000	\$10,000	576	\$3,513,600	\$7,084,800	New	25%	100%	\$1,185,840	\$2,391,120	\$527,040	\$1,062,720	\$263,520	\$531,360								
		Pressure transducer	\$300	\$1,000																				
		Staff Gauge	\$300	\$500																				
		Data logger	500	800																				
Total		\$6,100	\$12,300																					
100 ≤ dd < 1000	Flow meter / Open Channel	\$2,000	\$6,000	772	\$1,737,000	\$5,095,200	New	35%	100%	\$759,938	\$2,229,150	\$260,550	\$764,280	\$156,330	\$458,568									
	Data logger	\$250	\$600																					
	Total	\$2,250	\$6,600																					
	In-line flow meter	\$1,200	\$1,800				860	\$1,032,000	\$1,548,000							New	75%	100%	\$828,180	\$1,242,270	\$154,800	\$232,200	\$139,320	\$208,980
	Total	\$1,200	\$1,800																					
Pressure transducer	\$500	\$1,500																						
Staff Gauge	600	1500																						
Data logger	500	800																						
storage ≥ 10000	storage ≥ 10000	Data logger	500	800	157	\$486,700	\$910,600	Repair	20%	35%	\$82,739	\$154,802	\$73,005	\$136,590	\$21,902	\$40,977								
		Telemetry	1500	2000																				
		Total	\$3,100	\$5,800																				
		Pressure transducer	\$300	\$1,000																				
		Staff Gauge	\$300	\$500																				
	200 ≤ storage < 10000	Pressure transducer	\$300	\$1,000	217	\$184,450	\$434,000	New	25%	100%	\$62,252	\$146,475	\$27,668	\$65,100	\$13,834	\$32,550								
		Staff Gauge	\$300	\$500																				
		Data logger	\$250	\$500																				
		Total	\$850	\$2,000																				
		Staff Gauge	\$400	\$800				114	\$45,600	\$91,200							New	35%	100%	\$19,950	\$39,900	\$6,840	\$13,680	\$4,104
Pressure transducer	\$300	\$1,000																						
Staff Gauge	\$300	\$500																						
Data logger	\$250	\$500																						
Total	\$850	\$2,000																						
50 ≤ storage < 200	Staff Gauge	\$400	\$800	298	\$89,400	\$149,000	New	70%	100%	\$67,274	\$112,123	\$13,410	\$22,350	\$11,399	\$18,998									
	Pressure transducer	\$300	\$1,000																					
	Staff Gauge	\$400	\$800																					
	Data logger	\$250	\$500																					
	Total	\$850	\$2,000																					
10 < storage < 50	Staff Gauge	\$300	\$500	298	\$89,400	\$149,000	Repair	15%	35%	\$67,274	\$112,123	\$13,410	\$22,350	\$11,399	\$18,998									
	Pressure transducer	\$300	\$1,000																					
	Staff Gauge	\$400	\$800																					
	Data logger	\$250	\$500																					
	Total	\$850	\$2,000																					

NOTE: THE COST ESTIMATES FOR RESERVOIR STORAGE ASSUME A RESERVOIR SURVEY HAS BEEN COMPLETED AS PART OF DETERMINING THE AMOUNT OF WATER STORED IN THE RESERVOIR OR POND.

**PUBLIC AGENCY AND GOVERNMENT FISCAL IMPACT ANALYSIS
EMERGENCY REGULATION FOR MEASURING AND REPORTING**

TABLE 4 - FISCAL IMPACT TO STATE/LOCAL GOVERNMENTAL AGENCIES

Category	Cost Assuming New Measurement Devices		Cost Accounting for Existing Devices		Annual Operation/Maintenance (all)		Annual Operation/Maintenance (new and repair)	
	Low	High	Low	High	Low	High	Low	High
Direct Diversion	13,838,400	28,454,100	4,058,444	8,365,977	2,075,760	4,268,115	899,181	1,861,583
Reservoirs/Ponds	806,150	1,584,800	232,214	453,300	120,923	237,720	51,238	100,733
Total	\$14,644,550	\$30,038,900	\$4,290,658	\$8,819,277	\$2,196,683	\$4,505,835	\$950,419	\$1,962,315

Senate Bill No. 88

CHAPTER 27

An act to add Sections 116680, 116681, 116682, and 116684 to the Health and Safety Code, to add and repeal Sections 21080.08, 21080.45, and 21080.46 of the Public Resources Code, and to amend Sections 375, 375.5, 377, 1058.5, 1552, 1846, 5103, and 5104 of, to add Sections 377.5, 79708.5, and 79716.5 to, and to add Article 3 (commencing with Section 1840) to Chapter 12 of Part 2 of Division 2 of, the Water Code, relating to water, and making an appropriation therefor, to take effect immediately, bill related to the budget.

[Approved by Governor June 24, 2015. Filed with
Secretary of State June 24, 2015.]

LEGISLATIVE COUNSEL'S DIGEST

SB 88, Committee on Budget and Fiscal Review. Water.

(1) Existing law, the California Safe Drinking Water Act, provides for the operation of public water systems, and imposes on the State Water Resources Control Board various responsibilities and duties. Existing law requires the state board to conduct research, studies, and demonstration projects relating to the provision of a dependable, safe supply of drinking water, to adopt regulations to implement the California Safe Drinking Water Act, and to enforce provisions of the federal Safe Drinking Water Act. Existing law prohibits a person from operating a public water system unless the person first submits an application to the state board and receives a permit issued by the state board, as specified.

This bill would authorize the state board to order consolidation with a receiving water system where a public water system, or a state small water system within a disadvantaged community, consistently fails to provide an adequate supply of safe drinking water. This bill would authorize the state board to order the extension of service to an area that does not have access to an adequate supply of safe drinking water so long as the extension of service is an interim extension of service in preparation for consolidation. The bill would require the state board, prior to ordering consolidation or extension of service, to conduct an initial public meeting and a public hearing and to make specified findings. The bill would limit the liability of a consolidated water system, wholesaler, or any other agency in the chain of distribution that delivers water to a consolidated water system, as specified.

(2) Existing law, the California Environmental Quality Act (CEQA), requires a lead agency, as defined, to prepare, or cause to be prepared, and certify the completion of, an environmental impact report on a project that it proposes to carry out or approve that may have a significant effect on the environment or to adopt a negative declaration if it finds that the project

will not have that effect. CEQA also requires a lead agency to prepare a mitigated negative declaration for a project that may have a significant effect on the environment if revisions in the project would avoid or mitigate that effect and there is no substantial evidence that the project, as revised, would have a significant effect on the environment. CEQA exempts certain projects from its requirements.

This bill would, until January 1, 2017, or a specified date, whichever is earlier, exempt from CEQA certain groundwater replenishment projects.

This bill would, until July 1, 2017, exempt from CEQA the development and approval of building standards by state agencies for recycled water systems.

This bill would, with specified exceptions and until July 1, 2017, or a specified date, whichever is later, exempt from CEQA the adoption of an ordinance to impose stricter conditions on the issuance of well permits or changes in the intensity of land use that would increase demand on groundwater.

(3) The California Constitution declares that the general welfare of the state requires that the water resources of the state be put to beneficial use to the fullest extent of which they are capable, and that the right to the use of water does not extend to the waste or unreasonable use, method of use, or method of diversion of water. Existing law requires the state board to take all appropriate proceedings or actions to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water in this state. Existing law states the intent of the Legislature that the state take vigorous action to enforce the terms and conditions of permits, licenses, certifications, and registrations to appropriate water, to enforce state board orders and decisions, and to prevent the unlawful diversion of water.

This bill would, commencing January 1, 2016, require a person who diverts 10 acre-feet of water per year or more under a permit or license to install and maintain a device or employ a method capable of measuring the rate of direct diversion, rate of collection to storage, and rate of withdrawal or release from storage, as specified, and with certain exceptions. This bill would require the permittee or licensee to maintain a record of all diversion monitoring and the total amount of water diverted and submit these records to the state board, as prescribed. This bill would require a person who diverts water under a registration, permit, or license to report to the state board, at least annually. This bill would authorize the state board to adopt regulations requiring measurement and reporting of water diversion and use by specified persons and would require that the initial regulations be adopted as emergency regulations and that these emergency regulations remain in effect until revised by the state board. This bill would exempt from CEQA the adoption of the initial regulations by the state board.

(4) Existing law authorizes a person or entity in violation of a term or condition of a permit, license, certificate, or registration issued by, an order adopted by, or certain emergency regulations adopted by, the state board to

be civilly liable for an amount not to exceed \$500 for each day in which the violation occurs.

This bill would expand this civil liability to any violation of any regulation adopted by the state board.

Existing law makes this civil liability applicable only in a critically dry year immediately preceded by 2 or more consecutive below normal, dry, or critically dry years or during a period for which the Governor has issued a proclamation of a state of emergency based on drought conditions.

This bill would eliminate this requirement.

(5) Existing law, with certain exceptions, requires each person who diverts water after December 31, 1965, to file with the state board a statement of diversion and use, and to include specified information. Existing law requires supplemental statements of diversion and use to be filed at 3-year intervals prior to July 1 of the year next succeeding the end of each interval, and requires, if there is a change in the name or address of the person diverting water, a supplemental statement be filed with the state board that includes the change. Existing law provides that the making of a material misstatement in connection with these provisions is a misdemeanor punishable as prescribed.

This bill would require supplemental statements of diversion and use to be filed annually prior to July 1, as provided. By expanding the definition of a crime, this bill would impose a state-mandated local program.

Existing law requires each statement of diversion and use, on and after January 1, 2012, to include monthly records of water diversions using best available technologies and best professional practices. Existing law prohibits this requirement from being construed to require the implementation of technologies or practices by a person who provides to the state board documentation demonstrating that the implementation of those practices is not locally cost effective.

This bill would require each statement to include at least monthly records of water diversions and would eliminate the above-described prohibition.

(6) Under existing law, emergency regulations of the state board are not subject to review by the Office of Administrative Law if the state board adopts findings that the emergency regulations are adopted to prevent the waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion, of water to promote wastewater reclamation, or to promote water conservation, and that the emergency regulations are adopted in response to conditions which exist, or are threatened, in a critically dry year immediately preceded by 2 or more consecutive dry or critically dry years. Under existing law, a person who violates an emergency regulation adopted by the state board pursuant to these provisions or violates certain cease and desist orders relating to the enforcement of water rights may be liable for specified amounts. Revenues generated from these penalties are deposited into the Water Rights Fund, which are available, upon appropriation, for specified purposes.

This bill would require that a civil liability imposed for a violation of an emergency conservation regulation, as defined, that is adopted pursuant to

these provisions, or a violation of a cease and desist order of that emergency conservation regulation, be deposited, and separately accounted for, in the Water Rights Fund. The bill would require those funds to be available, upon appropriation by the Legislature, for water conservation activities and programs.

(7) Existing law authorizes any public entity, as defined, that supplies water at retail or wholesale for the benefit of persons within the service area or area of jurisdiction of the public entity to, by ordinance or resolution, adopt and enforce a water conservation program to reduce the quantity of water used for the purpose of conserving the water supplies of the public entity. Existing law provides that a violation of a requirement of a water conservation program is a misdemeanor punishable by imprisonment in the county jail for not more than 30 days, or by a fine not exceeding \$1,000, or both.

This bill would provide that a court or public entity may hold a person civilly liable in an amount not to exceed \$10,000 for a violation of a water conservation program ordinance or resolution, or certain emergency regulations adopted by the state board. This bill would prohibit the civil liability assessed by a court or public entity for the first violation by a residential water user from exceeding \$1,000, except as specified. This bill would provide that commencing on the 31st day after the public entity has notified the person of the violation, the person additionally may be civilly liable for an amount not to exceed \$10,000 plus \$500 for each additional day on which the violation continues. This bill would require civil liability imposed pursuant to these provisions to be paid to the public entity and to be expended solely for the purposes of the water conservation program. In addition to these remedies, this bill would authorize a public entity to enforce water use limitations by a volumetric penalty in an amount established by the public entity.

(8) Existing law, the Water Quality, Supply, and Infrastructure Improvement Act of 2014, approved by the voters as Proposition 1 at the November 4, 2014, statewide general election, authorizes the issuance of general obligation bonds in the amount of \$7,545,000,000 to finance a water quality, supply, and infrastructure improvement program. The act requires each state agency that receives an appropriation from the funding made available by the act to administer a competitive grant or loan program under the act's provisions to develop and adopt project solicitation and evaluation guidelines before disbursing the grants or loans. The act requires the Secretary of the Natural Resources Agency to publish and post on the Natural Resources Agency's Internet Web site a list of expenditures pursuant to the act not less than annually, as prescribed, and to post on that Internet Web site the guidelines submitted by state agencies and the secretary's verification that the guidelines are consistent with applicable statutes and the purposes of the act.

This bill would require the secretary to post on the Natural Resources Agency's Internet Web site information on changes to project timelines and project spending, in order to facilitate oversight of funding and projects.

The act requires each state agency that receives an appropriation of funding made available by the act to be responsible for establishing metrics of success and reporting the status of projects and all uses of the funding on the state's bond accountability Internet Web site.

This bill would require each state agency that receives an appropriation of funding made available by the act to evaluate the outcomes of projects, report this evaluation on the state's bond accountability Internet Web site, and to hold a grantee of funds accountable for completing projects funded by the act on time and within scope.

(9) The bond act provides that the sum of \$810,000,000 is to be available, upon appropriation by the Legislature, for expenditures on, and competitive grants and loans to, projects that are included in and implemented in an adopted integrated regional water management plan and respond to climate change and contribute to regional water security. The bond act authorizes the use of \$100,000,000 of those funds for direct expenditures, and for grants and loans, for certain water conservation and water use efficiency plans, projects, and programs. Existing law establishes the CalConserve Water Use Efficiency Revolving Fund and provides that the moneys in the fund are available to the Department of Water Resources, upon appropriation by the Legislature, for the purpose of water use efficiency projects. Existing law requires moneys in the fund to be used for purposes that include, but are not limited to, at or below market interest rate loans to local agencies, as defined, and permits the department to enter into agreements with local agencies that provide water or recycled water service to provide loans.

Existing law transferred to the fund the sum of \$10,000,000 of the proceeds of these bonds for water conservation and water use efficiency projects and programs to achieve urban water use targets. Existing law requires the department to use \$5,000,000 for a pilot project for local agencies to provide water efficiency upgrades to eligible residents and requires the department to use the other \$5,000,000 for local agencies to provide low-interest loans to customers to finance the installation of onsite improvements to repair or replace, as necessary, cracked or leaking water pipes to conserve water.

This bill would appropriate the sum of \$10,000,000 available in the fund from the proceeds of the bond act for the purpose of these provisions.

(10) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

(11) This bill would declare that it is to take effect immediately as a bill providing for appropriations related to the Budget Bill.

Appropriation: yes.

The people of the State of California do enact as follows:

SECTION 1. Section 116680 is added to the Health and Safety Code, to read:

116680. The Legislature finds and declares as follows:

(a) It is the policy of the state to encourage orderly growth and development, which are essential to the social, fiscal, and economic well-being of the state. The Legislature recognizes that the logical formation, consolidation, and operation of water systems is an important factor in promoting orderly development and in balancing that development against sometimes competing state interests of discouraging urban sprawl, preserving open space and prime agricultural lands, and efficiently extending other government services. Therefore, the policy of the state should be affected by the logical formation, consolidation, and operation of water systems.

(b) The powers set forth in Section 116682 for consolidation of water systems are consistent with the intent of promoting orderly growth.

SEC. 2. Section 116681 is added to the Health and Safety Code, to read:

116681. The following definitions shall apply to this section and Sections 116682 and 116684:

(a) “Adequate supply” means sufficient water to meet residents’ health and safety needs.

(b) “Affected residence” means a residence reliant on a water supply that is either inadequate or unsafe.

(c) “Consistently fails” means a failure to provide an adequate supply of safe drinking water.

(d) “Consolidated water system” means the public water system resulting from the consolidation of a public water system with another public water system, state small water system, or affected residences not served by a public water system.

(e) “Consolidation” means joining two or more public water systems, state small water systems, or affected residences not served by a public water system, into a single public water system.

(f) “Disadvantaged community” means a disadvantaged community, as defined in Section 79505.5 of the Water Code, that is in an unincorporated area or is served by a mutual water company.

(g) “Extension of service” means the provision of service through any physical or operational infrastructure arrangement other than consolidation.

(h) “Receiving water system” means the public water system that provides service to a subsumed water system through consolidation or extension of service.

(i) “Safe drinking water” means water that meets all primary and secondary drinking water standards.

(j) “Subsumed water system” means the public water system, state small water system, or affected residences not served by a public water system consolidated into or receiving service from the receiving water system.

SEC. 3. Section 116682 is added to the Health and Safety Code, to read:

116682. (a) Where a public water system, or a state small water system within a disadvantaged community, consistently fails to provide an adequate supply of safe drinking water, the State Water Resources Control Board may order consolidation with a receiving water system as provided in this section and Section 116684. The consolidation may be physical or operational. The State Water Resources Control Board may also order the extension of service to an area that does not have access to an adequate supply of safe drinking water so long as the extension of service is an interim extension of service in preparation for consolidation. The State Water Resources Control Board may set timelines and performance measures to facilitate completion of consolidation.

(b) Prior to ordering consolidation or extension of service as provided in this section, the State Water Resources Control Board shall do all of the following:

(1) Encourage voluntary consolidation or extension of service.

(2) Consider other enforcement remedies specified in this article.

(3) Consult with, and fully consider input from, the relevant local agency formation commission regarding the provision of water service in the affected area, the recommendations for improving service in a municipal service review, and any other relevant information.

(4) Consult with, and fully consider input from, the Public Utilities Commission when the consolidation would involve a water corporation subject to the commission's jurisdiction.

(5) Consult with, and fully consider input from, the local government with land use planning authority over the affected area, particularly regarding any information in the general plan required by Section 65302.10 of the Government Code.

(6) Notify the potentially receiving water system and the potentially subsumed water system, if any, and establish a reasonable deadline of no less than six months, unless a shorter period is justified, for the potentially receiving water system and the potentially subsumed water system, if any, to negotiate consolidation or another means of providing an adequate supply of safe drinking water.

(A) During this period, the State Water Resources Control Board shall provide technical assistance and work with the potentially receiving water system and the potentially subsumed water system to develop a financing package that benefits both the receiving water system and the subsumed water system.

(B) Upon a showing of good cause, the deadline may be extended by the State Water Resources Control Board at the request of the potentially receiving water system, potentially subsumed water system, or the local agency formation commission with jurisdiction over the potentially subsumed water system.

(7) Obtain written consent from any domestic well owner for consolidation or extension of service. Any affected resident within the consolidation or extended service area who does not provide written consent shall be ineligible, until the consent is provided, for any future water-related

grant funding from the state other than funding to mitigate a well failure, disaster, or other emergency.

(8) Hold at least one public meeting at the initiation of this process in a place as close as feasible to the affected areas. The State Water Resources Control Board shall make reasonable efforts to provide a 30-day notice of the meeting to the ratepayers, renters, and property owners to receive water service through service extension or in the area of the subsumed water system and all affected local government agencies and drinking water service providers. The meeting shall provide representatives of the potentially subsumed water system, affected ratepayers, renters, property owners, and the potentially receiving water system an opportunity to present testimony. The meeting shall provide an opportunity for public comment.

(c) Upon expiration of the deadline set by the State Water Resources Control Board pursuant to paragraph (6) of subdivision (b), the State Water Resources Control Board shall do the following:

(1) Consult with the potentially receiving water system and the potentially subsumed water system, if any.

(2) Conduct a public hearing, in a location as close as feasible to the affected communities.

(A) The State Water Resources Control Board shall make reasonable efforts to provide a 30-day notice of the hearing to the ratepayers, renters, and property owners to receive water service through service extension or in the area of the subsumed water system and to all affected local government agencies and drinking water service providers.

(B) The hearing shall provide representatives of the potentially subsumed water system, affected ratepayers, renters, property owners, and the potentially receiving water system an opportunity to present testimony.

(C) The hearing shall provide an opportunity for public comment.

(d) Prior to ordering consolidation or extension of service, the State Water Resources Control Board shall find all of the following:

(1) The potentially subsumed water system has consistently failed to provide an adequate supply of safe drinking water.

(2) All reasonable efforts to negotiate consolidation or extension of service were made.

(3) Consolidation of the receiving water system and subsumed water system or extension of service is appropriate and technically and economically feasible.

(4) There is no pending local agency formation commission process that is likely to resolve the problem in a reasonable amount of time.

(5) Concerns regarding water rights and water contracts of the subsumed and receiving water systems have been adequately addressed.

(6) Consolidation or extension of service is the most effective and cost-effective means to provide an adequate supply of safe drinking water.

(7) The capacity of the proposed interconnection needed to accomplish the consolidation is limited to serving the current customers of the subsumed water system.

(e) Upon ordering consolidation or extension of service, the State Water Resources Control Board shall do all of the following:

(1) As necessary and appropriate, make funds available, upon appropriation by the Legislature, to the receiving water system for the costs of completing the consolidation or extension of service, including, but not limited to, replacing any capacity lost as a result of the consolidation or extension of service, providing additional capacity needed as a result of the consolidation or extension of service, and legal fees. Funding pursuant to this paragraph is available for the general purpose of providing financial assistance for the infrastructure needed for the consolidation or extension of service and does not need to be specific to each individual consolidation project. The State Water Resources Control Board shall provide appropriate financial assistance for the infrastructure needed for the consolidation or extension of service. The State Water Resources Control Board's existing financial assistance guidelines and policies shall be the basis for the financial assistance.

(2) Ensure payment of standard local agency formation commission fees caused by State Water Resources Control Board-ordered consolidation or extension of service.

(3) Adequately compensate the owners of a privately owned subsumed water system for the fair market value of the system as determined by the Public Utilities Commission for water corporations subject to the commission's jurisdiction or the State Water Resources Control Board for all other water systems.

(4) Coordinate with the appropriate local agency formation commission and other relevant local agencies to facilitate the change of organization or reorganization.

(f) For the purposes of this section, the consolidated water system shall not increase charges on existing customers of the receiving water system solely as a consequence of the consolidation or extension of service unless the customers receive a corresponding benefit.

(g) Division 3 (commencing with Section 56000) of Title 5 of the Government Code shall not apply to the consolidation or extension of service required pursuant to this section.

SEC. 4. Section 116684 is added to the Health and Safety Code, to read:

116684. (a) Liability of a consolidated water system, wholesaler, or any other agency in the chain of distribution that delivers water to a consolidated water system shall be limited as described in this section.

(b) (1) The consolidated water system, wholesaler, or any other agency in the chain of distribution that delivers water to a consolidated water system, shall not be held liable for claims by past or existing customers or those who consumed water provided through the subsumed water system concerning the operation and supply of water from the subsumed water system during the interim operation period specified in subdivision (d) for any good faith, reasonable effort using ordinary care to assume possession of, to operate, or to supply water to the subsumed water system.

(2) The consolidated water system, wholesaler, or any other agency in the chain of distribution that delivers water to a consolidated water system, shall not be held liable for claims by past or existing customers or by those who consumed water provided through the subsumed water system for any injury that occurred prior to the commencement of the interim operation period specified in subdivision (d).

(c) (1) The consolidated water system, wholesaler, or any other agency in the chain of distribution that delivers water to a consolidated water system, shall not be held liable for claims by past or existing customers or by those who consumed water provided through the subsumed water system concerning the provision of supplemental imported water supplies to the subsumed water system during the interim operation period specified in subdivision (d) for any good faith, reasonable effort using ordinary care to supply water to the subsumed water system.

(2) The consolidated water system, wholesaler, or any other agency in the chain of distribution that delivers water to a consolidated water system, shall not be held liable for claims by past or existing customers or by those who consumed water provided through the subsumed water system concerning the operation and supply of water from the subsumed water system for any injury that occurred prior to the commencement of the interim operation period specified in subdivision (d).

(3) This subdivision shall only apply if the water supplied by the consolidated water system through a temporary potable service pipeline to the subsumed water system meets or exceeds federal and state drinking water quality standards.

(d) (1) The interim operation period shall commence upon the connection of a temporary potable service pipeline by the consolidated water system to the subsumed water system, or upon the execution of an agreement between the consolidated water system, subsumed water system, and any other signatories to provide service to the customers of the subsumed water system, whichever occurs first.

(2) (A) Except as provided in subparagraph (B), the interim operation period shall last until permanent replacement facilities are accepted by the consolidated water system with the concurrence of the State Water Resources Control Board and the facilities and water supply meet drinking water and water quality standards.

(B) Upon the showing of good cause, the interim operation period shall be extended by the State Water Resources Control Board for up to three successive one-year periods at the request of the consolidated water system.

(3) The acceptance date of permanent replacement facilities shall be publicly noticed by the consolidated water system.

(e) Subdivision (b) shall only apply if the consolidated water system provides water to the subsumed water system in accordance with all of the following conditions:

(1) Water provided by the consolidated water system through a temporary potable service pipeline to the subsumed water system shall meet or exceed federal and state drinking water quality standards.

(2) Reasonable water system flow and pressure through a temporary potable service pipeline shall be maintained during the interim operation period based upon the condition and integrity of the existing subsumed water system, and any disruptions to water delivery resulting from construction-related activities associated with the installation of permanent replacement facilities shall be minimal.

(3) The consolidated water system shall notify fire officials serving the subsumed water system service area of the condition and firefighting support capabilities of the subsumed water system and planned improvements with the installation of permanent replacement facilities thereto. The consolidated water system shall maintain or improve the condition and firefighting support capabilities of the subsumed water system during the interim operation period.

(4) Customers of the subsumed water system shall receive written notice upon any change in possession, control, or operation of the water system.

(f) Nothing in this section shall be construed to do any of the following:

(1) Relieve any water district, water wholesaler, or any other entity from complying with any provision of federal or state law pertaining to drinking water quality.

(2) Impair any cause of action by the Attorney General, a district attorney, a city attorney, or any other public prosecutor, or impair any other action or proceeding brought by or on behalf of a regulatory agency.

(3) Impair any claim alleging the taking of property without compensation within the meaning of either the Fifth Amendment to the United States Constitution or Section 19 of Article I of the California Constitution.

SEC. 5. The Legislature finds and declares all of the following:

(a) Section 7 of Article XI of the California Constitution authorizes a county or city to “make and enforce within its limits all local, police, sanitary, and other ordinances and regulations not in conflict with general laws.”

(b) The California Supreme Court has held that local regulations affecting economic interests in property are within local governments’ police power (*Birkenfeld v. City of Berkeley* (1976) 17 Cal.3d 129, 158).

(c) Counties may reasonably regulate land use under their police powers (*Associated Home Builders etc., Inc., v. City of Livermore* (1976) 18 Cal.3d 582).

(d) Counties may regulate groundwater, including well permitting, under their police powers (*Baldwin v. County of Tehama* (1994) 31 Cal.App.4th 166, 175-76), and numerous counties have exercised this authority through ordinances.

(e) The Legislature enacted the Sustainable Groundwater Management Act (Part 2.74 (commencing with Section 10720) of Division 6 of the Water Code) to ensure that local agencies manage their high- and medium-priority groundwater basins sustainably. That act does not require the adoption of local groundwater sustainability plans until 2020 or 2022. Under the act, counties retain their authority to issue well permits.

(f) As local agencies are transitioning to the implementation of the Sustainable Groundwater Management Act, unregulated well permitting in stressed high- and medium-priority groundwater basins during the ongoing drought emergency is causing risks to the health, safety, and well-being of citizens.

SEC. 6. Section 21080.08 is added to the Public Resources Code, to read:

21080.08. (a) This division does not apply to a project that satisfies both of the following:

(1) The project is approved or carried out by a public agency for the purpose of mitigating drought conditions for which a state of emergency was proclaimed by the Governor on January 17, 2014, pursuant to Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code.

(2) The project consists of construction or expansion of recycled water pipeline and directly related infrastructure within existing rights of way, and directly related groundwater replenishment, if the project does not affect wetlands or sensitive habitat, and where the construction impacts are fully mitigated consistent with applicable law.

(b) This section shall remain operative until the state of emergency due to drought conditions declared by the Governor in the proclamation issued on January 17, 2014, has expired or until January 1, 2017, whichever occurs first, and as of January 1, 2017, is repealed unless a subsequent statute amends or repeals that date.

SEC. 7. Section 21080.45 is added to the Public Resources Code, to read:

21080.45. (a) This division does not apply to the development and approval of building standards by state agencies for recycled water systems.

(b) This section shall become inoperative on July 1, 2017, and, as of January 1, 2018, is repealed, unless a later enacted statute, that becomes operative on or before January 1, 2018, deletes or extends the dates on which it becomes inoperative and is repealed.

SEC. 8. Section 21080.46 is added to the Public Resources Code, to read:

21080.46. (a) Without limiting any other statutory exemption or categorical exemption, this division does not apply to the adoption of an ordinance by a city, county, or city and county to limit or prohibit the drilling of new or deeper groundwater wells, or to limit or prohibit increased extractions from existing groundwater wells, through stricter conditions on the issuance of well permits or changes in the intensity of land use that would increase demand on groundwater.

(b) (1) This section shall remain operative until July 1, 2017, or so long as the state of emergency due to drought conditions declared by the Governor in the proclamation of a state of emergency issued on January 17, 2014, remains in effect, whichever is later.

(2) This section is repealed on January 1 of the year following the date on which this section becomes inoperative.

(c) Notwithstanding subdivision (a) or (b), this section does not apply to either of the following:

(1) The issuance of any permit for a new or deeper groundwater well by a city, county, or city and county.

(2) The adoption of any ordinance affecting or relating to new residential, commercial, institutional, or industrial projects or any mix of these uses, or any change in the intensity or use of land for these purposes, if that project or change in use requires approval by a city, county, or city and county. Nor does this section apply to the adoption of any ordinance that would limit or prohibit new or deeper groundwater wells, or increased extraction from existing groundwater wells, that may be needed to serve these projects.

SEC. 9. Section 375 of the Water Code is amended to read:

375. (a) Notwithstanding any other law, any public entity that supplies water at retail or wholesale for the benefit of persons within the service area or area of jurisdiction of the public entity may, by ordinance or resolution adopted by a majority of the members of the governing body after holding a public hearing upon notice and making appropriate findings of necessity for the adoption of a water conservation program, adopt and enforce a water conservation program to reduce the quantity of water used by those persons for the purpose of conserving the water supplies of the public entity.

(b) With regard to water delivered for other than agricultural uses, the ordinance or resolution may specifically require the installation of water-saving devices that are designed to reduce water consumption. The ordinance or resolution may also encourage water conservation through rate structure design.

(c) For the purposes of this chapter, “public entity” means a city, whether general law or chartered, county, city and county, special district, agency, authority, any other municipal public corporation or district, or any other political subdivision of the state.

(d) For the purposes of this section and subdivisions (b) and (c) of Section 377, “person” means any person, firm, association, organization, partnership, business, trust, corporation, company, or public agency, including any city, county, city and county, district, joint powers authority, or any agency or department of a public agency.

SEC. 10. Section 375.5 of the Water Code is amended to read:

375.5. (a) A public entity may undertake water conservation and public education programs in conjunction with school districts, public libraries, or any other public entity.

(b) (1) A public entity may undertake water conservation and public education programs using an information booklet or materials for use in connection with the use or transfer of real estate containing up to four residential units. For the purposes of this subdivision, the public entity may use water conservation materials prepared by the department.

(2) It is the intent of the Legislature that on or before December 31, 2007, a review of the program be conducted to obtain information on both of the following matters:

(A) The extent to which public entities have undertaken water conservation and public education programs referred to in paragraph (1).

(B) The extent to which water conservation may be attributable to the implementation of water conservation and public education programs referred to in paragraph (1).

(c) A public entity may take into account any programs undertaken pursuant to this section in a rate structure design implemented pursuant to Section 375.

(d) The Legislature finds and declares that a program undertaken pursuant to this section is in the public interest, serves a public purpose, and will promote the health, welfare, and safety of the people of the state.

SEC. 11. Section 377 of the Water Code is amended to read:

377. (a) From and after the publication or posting of any ordinance or resolution pursuant to Section 376, violation of a requirement of a water conservation program adopted pursuant to Section 376 is a misdemeanor. A person convicted under this subdivision shall be punished by imprisonment in the county jail for not more than 30 days, or by fine not exceeding one thousand dollars (\$1,000), or by both.

(b) A court or public entity may hold a person civilly liable in an amount not to exceed ten thousand dollars (\$10,000) for a violation of any of the following:

(1) An ordinance or resolution adopted pursuant to Section 376.

(2) An emergency regulation adopted by the board under Section 1058.5, unless the board regulation provides that it cannot be enforced under this section.

(c) Commencing on the 31st day after the public entity notified a person of a violation described in subdivision (b), the person additionally may be civilly liable in an amount not to exceed ten thousand dollars (\$10,000) plus five hundred dollars (\$500) for each additional day on which the violation continues.

(d) Remedies prescribed in this section are cumulative and not alternative, except that no liability shall be recoverable under this section for any violation of paragraph (2) of subdivision (b) if the board has filed a complaint pursuant to Section 1846 alleging the same violation.

(e) A public entity may administratively impose the civil liability described in subdivisions (b) and (c) after providing notice and an opportunity for a hearing. The public entity shall initiate a proceeding under this subdivision by a complaint issued pursuant to Section 377.5. The public entity shall issue the complaint at least 30 days before the hearing on the complaint and the complaint shall state the basis for the proposed civil liability order.

(f) (1) In determining the amount of civil liability to assess, a court or public entity shall take into consideration all relevant circumstances, including, but not limited to, the nature and persistence of the violation, the extent of the harm caused by the violation, the length of time over which the violation occurs, and any corrective action taken by the violator.

(2) The civil liability calculated pursuant to paragraph (1) for the first violation of subdivision (b) by a residential water user shall not exceed one thousand dollars (\$1,000) except in extraordinary situations where the court or public entity finds all of the following:

(A) The residential user had actual notice of the requirement found to be violated.

(B) The conduct was intentional.

(C) The amount of water involved was substantial.

(g) Civil liability imposed pursuant to this section shall be paid to the public entity and expended solely for the purposes of this chapter.

(h) An order setting administrative civil liability shall become effective and final upon issuance of the order and payment shall be made. Judicial review of any final order shall be pursuant to Section 1094.5 of the Code of Civil Procedure.

(i) In addition to the remedies prescribed in this section, a public entity may enforce water use limitations established by an ordinance or resolution adopted pursuant to this chapter, or as otherwise authorized by law, by a volumetric penalty in an amount established by the public entity.

SEC. 12. Section 377.5 is added to the Water Code, to read:

377.5. (a) A complaint or citation under subdivision (b) of Section 377 or subdivision (d) of Section 1058.5 may be issued by any of the following:

(1) A code enforcement officer, as defined in Section 829.5 of the Penal Code.

(2) A designee of the chief executive officer of a public entity authorized to adopt an ordinance or resolution under Section 375.

(3) A designee of the chief executive officer of a city, county, or city and county.

(b) For purposes of this section, the term “chief executive officer” includes a city manager, general manager, or other employee of the public entity who is the highest ranking officer or employee, other than a member of a multimember governing body, with responsibility for the operations of the public entity.

SEC. 13. Section 1058.5 of the Water Code is amended to read:

1058.5. (a) This section applies to any emergency regulation adopted by the board for which the board makes both of the following findings:

(1) The emergency regulation is adopted to prevent the waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion, of water, to promote water recycling or water conservation, to require curtailment of diversions when water is not available under the diverter’s priority of right, or in furtherance of any of the foregoing, to require reporting of diversion or use or the preparation of monitoring reports.

(2) The emergency regulation is adopted in response to conditions which exist, or are threatened, in a critically dry year immediately preceded by two or more consecutive below normal, dry, or critically dry years or during a period for which the Governor has issued a proclamation of a state of emergency under the California Emergency Services Act (Chapter 7

(commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions.

(b) Notwithstanding Sections 11346.1 and 11349.6 of the Government Code, any findings of emergency regulation adopted by the board, in connection with the adoption of an emergency regulation under this section, are not subject to review by the Office of Administrative Law.

(c) An emergency regulation adopted by the board under this section may remain in effect for up to 270 days, as determined by the board, and is deemed repealed immediately upon a finding by the board that due to changed conditions it is no longer necessary for the regulation to remain in effect. An emergency regulation adopted by the board under this section may be renewed if the board determines that the conditions specified in paragraph (2) of subdivision (a) are still in effect.

(d) In addition to any other applicable civil or criminal penalties, any person or entity who violates a regulation adopted by the board pursuant to this section is guilty of an infraction punishable by a fine of up to five hundred dollars (\$500) for each day in which the violation occurs.

(e) (1) Notwithstanding subdivision (b) of Section 1551, subdivision (d) of Section 1845, and subdivision (f) of Section 1846, a civil liability imposed under Chapter 12 (commencing with Section 1825) of Part 2 of Division 2 by the board or a court for a violation of an emergency conservation regulation adopted pursuant to this section shall be deposited, and separately accounted for, in the Water Rights Fund. Funds deposited in accordance with this subdivision shall be available, upon appropriation, for water conservation activities and programs.

(2) For purposes of this subdivision, an “emergency conservation regulation” means an emergency regulation that requires an end user of water, a water retailer, or a water wholesaler to conserve water or report to the board on water conservation. Water conservation includes restrictions or limitations on particular uses of water or a reduction in the amount of water used or served, but does not include curtailment of diversions when water is not available under the diverter’s priority of right or reporting requirements related to curtailments.

SEC. 14. Section 1552 of the Water Code is amended to read:

1552. Except as provided in subdivision (e) of Section 1058.5, moneys in the Water Rights Fund are available for expenditure, upon appropriation by the Legislature, for the following purposes:

(a) For expenditure by the State Board of Equalization in the administration of this chapter and the Fee Collection Procedures Law (Part 30 (commencing with Section 55001) of Division 2 of the Revenue and Taxation Code) in connection with any fee or expense subject to this chapter.

(b) For the payment of refunds, pursuant to Part 30 (commencing with Section 55001) of Division 2 of the Revenue and Taxation Code, of fees or expenses collected pursuant to this chapter.

(c) For expenditure by the board for the purposes of carrying out this division, Division 1 (commencing with Section 100), Part 2 (commencing with Section 10500) and Chapter 11 (commencing with Section 10735) of

Part 2.74 of Division 6, and Article 7 (commencing with Section 13550) of Chapter 7 of Division 7.

(d) For expenditures by the board for the purposes of carrying out Sections 13160 and 13160.1 in connection with activities involving hydroelectric power projects subject to licensing by the Federal Energy Regulatory Commission.

(e) For expenditures by the board for the purposes of carrying out Sections 13140 and 13170 in connection with plans and policies that address the diversion or use of water.

SEC. 15. Article 3 (commencing with Section 1840) is added to Chapter 12 of Part 2 of Division 2 of the Water Code, to read:

Article 3. Monitoring and Reporting

1840. (a) (1) Except as provided in subdivision (b), a person who, on or after January 1, 2016, diverts 10 acre-feet of water per year or more under a permit or license shall install and maintain a device or employ a method capable of measuring the rate of direct diversion, rate of collection to storage, and rate of withdrawal or release from storage. The measurements shall be made using the best available technologies and best professional practices, as defined in Section 5100, using a device or methods satisfactory to the board, as follows:

(A) A device shall be capable of continuous monitoring of the rate and quantity of water diverted and shall be properly maintained. The permittee or licensee shall provide the board with evidence that the device has been installed with the first report submitted after installation of the device. The permittee or licensee shall provide the board with evidence demonstrating that the device is functioning properly as part of the reports submitted at five-year intervals after the report documenting installation of the device, or upon request of the board.

(B) In developing regulations pursuant to Section 1841, the board shall consider devices and methods that provide accurate measurement of the total amount diverted and the rate of diversion. The board shall consider devices and methods that provide accurate measurements within an acceptable range of error, including the following:

- (i) Electricity records dedicated to a pump and recent pump test.
- (ii) Staff gage calibrated with an acceptable streamflow rating curve.
- (iii) Staff gage calibrated for a flume or weir.
- (iv) Staff gage calibrated with an acceptable storage capacity curve.
- (v) Pressure transducer and acceptable storage capacity curve.

(2) The permittee or licensee shall maintain a record of all diversion monitoring that includes the date, time, and diversion rate at time intervals of one hour or less, and the total amount of water diverted. These records shall be included with reports submitted under the permit or license, as required under subdivision (c), or upon request of the board.

(b) (1) The board may modify the requirements of subdivision (a) upon finding either of the following:

(A) That strict compliance is infeasible, is unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water.

(B) That the need for monitoring and reporting is adequately addressed by other conditions of the permit or license.

(2) The board may increase the 10-acre-foot reporting threshold of subdivision (a) in a watershed or subwatershed, after considering the diversion reporting threshold in relation to quantity of water within the watershed or subwatershed. The board may increase the 10-acre-foot reporting threshold to 25 acre-feet or above if it finds that the benefits of the additional information within the watershed or subwatershed are substantially outweighed by the cost of installing measuring devices or employing methods for measurement for diversions at the 10-acre-foot threshold.

(c) At least annually, a person who diverts water under a registration, permit, or license shall report to the board the following information:

(1) The quantity of water diverted by month.

(2) The maximum rate of diversion by months in the preceding calendar year.

(3) The information required by subdivision (a), if applicable.

(d) Compliance with the applicable requirements of this section is a condition of every registration, permit, or license.

1841. (a) The board may adopt regulations requiring measurement and reporting of water diversion and use by either of the following:

(1) Persons authorized to appropriate water under a permit, license, registration for small domestic, small irrigation, or livestock stockpond use, or certification for livestock stockpond use.

(2) Persons required to comply with measurement and reporting regulations pursuant to subparagraph (B) of paragraph (1) of subdivision (e) of Section 5103.

(b) The initial regulations that the board adopts pursuant to this section shall be adopted as emergency regulations in accordance with Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code. The adoption of the initial regulations is an emergency and shall be considered by the Office of Administrative Law as necessary for the immediate preservation of the public peace, health, safety, and general welfare. Notwithstanding Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code, any emergency regulations adopted under this section shall remain in effect until revised by the board.

(c) The adoption of the initial regulations pursuant to this article is exempt from Division 13 (commencing with Section 21000) of the Public Resources Code.

SEC. 16. Section 1846 of the Water Code is amended to read:

1846. (a) A person or entity may be liable for a violation of any of the following in an amount not to exceed five hundred dollars (\$500) for each day in which the violation occurs:

(1) A term or condition of a permit, license, certificate, or registration issued under this division.

(2) A regulation or order adopted by the board.

(b) Civil liability may be imposed by the superior court. The Attorney General, upon the request of the board, shall petition the superior court to impose, assess, and recover those sums.

(c) Civil liability may be imposed administratively by the board pursuant to Section 1055.

(d) In determining the appropriate amount of civil liability, the court, pursuant to subdivision (b), or the board, pursuant to subdivision (c), may take into consideration all relevant circumstances, including, but not limited to, the extent of harm caused by the violation, the nature and persistence of the violation, the length of time over which the violation occurs, and the corrective action, if any, taken by the violator.

(e) No liability shall be recoverable under this section for any violation for which liability is recovered under Section 1052.

(f) All funds recovered pursuant to this section shall be deposited in the Water Rights Fund established pursuant to Section 1550.

SEC. 17. Section 5103 of the Water Code is amended to read:

5103. Each statement shall be prepared on a form provided by the board. The statement shall include all of the following information:

(a) The name and address of the person who diverted water and of the person filing the statement.

(b) The name of the stream or other source from which water was diverted, and the name of the next major stream or other body of water to which the source is tributary.

(c) The place of diversion. The location of the diversion works shall be depicted on a specific United States Geological Survey topographic map, or shall be identified using the California Coordinate System, or latitude and longitude measurements. If assigned, the public land description to the nearest 40-acre subdivision and the assessor's parcel number shall also be provided.

(d) The capacity of the diversion works and of the storage reservoir, if any, and the months in which water was used during the preceding calendar year.

(e) (1) (A) At least monthly records of water diversions. The measurements of the diversion shall be made in accordance with Section 1840.

(B) (i) On and after July 1, 2016, the measurement of a diversion of 10 acre-feet or more per year shall comply with regulations adopted by the board pursuant to Article 3 (commencing with Section 1840) of Chapter 12 of Part 2.

(ii) The requirement of clause (i) is extended to January 1, 2017, for any statement filer that enters into a voluntary agreement that is acceptable to

the board to reduce the statement filer's diversions during the 2015 irrigation season.

(2) (A) The terms of, and eligibility for, any grant or loan awarded or administered by the department, the board, or the California Bay-Delta Authority on behalf of a person that is subject to paragraph (1) shall be conditioned on compliance with that paragraph.

(B) Notwithstanding subparagraph (A), the board may determine that a person is eligible for a grant or loan even though the person is not complying with paragraph (1), if both of the following apply:

(i) The board determines that the grant or loan will assist the grantee or loan recipient in complying with paragraph (1).

(ii) The person has submitted to the board a one-year schedule for complying with paragraph (1).

(C) It is the intent of the Legislature that the requirements of this subdivision shall complement and not affect the scope of authority granted to the board by provisions of law other than this article.

(f) The purpose of use.

(g) A general description of the area in which the water was used. The location of the place of use shall be depicted on a specific United States Geological Survey topographic map and on any other maps with identifiable landmarks. If assigned, the public land description to the nearest 40-acre subdivision and the assessor's parcel number shall also be provided.

(h) The year in which the diversion was commenced as near as is known.

SEC. 18. Section 5104 of the Water Code is amended to read:

5104. (a) Supplemental statements shall be filed annually, before July 1 of each year. They shall contain the quantity of water diverted and the rate of diversion by months in the preceding calendar year and any change in the other information contained in the preceding statement.

(b) If there is a change in the name or address of the person diverting the water, a supplemental statement shall be filed with the board that includes the change in name or address.

(c) A supplemental statement filed prior to July 1, 2016, shall include data satisfying the requirements of subdivision (a) for any diversion of water in the 2012, 2013, and 2014 calendar years, that was not reported in a supplemental statement submitted prior to July 1, 2015.

(d) This section does not limit the authority of the board to require additional information or more frequent reporting under any other law.

SEC. 19. Section 79708.5 is added to the Water Code, to read:

79708.5. In addition to the information required pursuant to Section 79708, in order to facilitate oversight of funding and projects, the secretary shall post on the Natural Resources Agency's Internet Web site information on changes to project timelines and project spending.

SEC. 20. Section 79716.5 is added to the Water Code, to read:

79716.5. Each state agency that receives an appropriation of funding made available by this division shall do the following:

(a) Evaluate the outcomes of projects funded by this division.

(b) Include in the agency's reporting pursuant to Section 79716 the evaluation described in subdivision (a).

(c) Hold a grantee of funds accountable for completing projects funded by this division on time and within scope.

SEC. 21. The sum of ten million dollars (\$10,000,000) available in the CalConserve Water Use Efficiency Revolving Fund from the proceeds of bonds issued pursuant to Division 26.7 (commencing with Section 79700) of the Water Code, is hereby appropriated for the purpose of Section 81023 of the Water Code.

SEC. 22. No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because the only costs that may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

SEC. 23. This act is a bill providing for appropriations related to the Budget Bill within the meaning of subdivision (e) of Section 12 of Article IV of the California Constitution, has been identified as related to the budget in the Budget Bill, and shall take effect immediately.

OCTOBER 6, 2015 MEETING NOTES

REVIEW OF CONCEPTS - MEASUREMENT & REPORTING EMERGENCY REGULATIONS

GENERAL OVERALL COMMENTS

The meeting started with a good discussion of the purpose of the regulations, what data needs are unmet by the current reports and what types of questions remained unanswered by the current system. Staff described the need for both long-term management of the statewide water rights system as well as the need to have accurate and timely data for dry year/drought response. Staff also described that data availability and stream system management needs vary widely throughout the state, and that the group brought together people with a wide range of experiences. The group discussed data weaknesses, public perception and data management. The notes below reflect the input provided by participants under each of the concepts discussed.

REPORTING

Concept 1: What is a reasonable period of time for diverters to organize and electronically submit the information required on the annual reports considering the need to maximize the use of the data for dry year management purposes?

Meeting Notes:

- Provisional data from USGS gages can delay submittals – possible errors in provisional data need to be corrected before submittal.
- Several speakers identified the need for adequate time to tie the diversion amounts to the water right. Dividing up diversion between multiple water rights – more difficult for complex projects.
- Some areas not physically accessible early in the year requiring a delay in reporting.
- Suggestion that the SWB consider water year reporting (Oct-Sept) instead of calendar year.
- Several speakers emphasized that return flow or consumptive use data is useful, in addition to diversion information.
- Several expressed that reporting frequency, accuracy and size requirements should depend on local watershed conditions.
- Suggestion that provisional monthly diversion data for drought response could be supplied initially followed by annual reporting with water rights specified.

- Overall the group felt that moving the current July 1 reporting date up would be difficult if reporting remains on a calendar year cycle.

REPORTING

Concept 2: During the drought, some diverters have been required to report water use every month. Under what conditions should monthly or more frequent reporting be required?

Meeting Notes:

- Stakeholders asked what the SWB had done with the monthly data water users submitted during the past year. Was it useful? In the right format? Staff indicated it was very useful in developing water availability analysis.
- Suggestion that monthly data submittals could be more basic than the annual report submittals – monthly submittals would report amount diverted without regard to water right type.
- Require monthly data in drought emergency or when real-time data is needed.
- Data could be recorded daily or monthly but only reported when needed.

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OCTOBER 6, 2015 MEETING NOTES

REVIEW OF CONCEPTS - MEASUREMENT & REPORTING EMERGENCY REGULATIONS

- More frequent reporting and monitoring – in both normal and drought years – improves management of the resource.
 - Reporting frequency could be based on the size of the diversion relative to the amount of water present in the watershed.
 - Some diversion accounting will be difficult to do on a monthly basis (may be difficult to assign diversions to a specific water right, as well as distinguish stored water versus direct diversion).
- Real-time data is provisional for those relying on USGS gages.
- Could end up with two sets of conflicting diversion data if changes are made to the provisional data (e.g. rating shift).
- Real-time telemetered data valuable for drought management – not general water rights accounting.
- Smaller diversions (ditches, siphons and gravity diversions) are difficult and expensive to measure. Current reports do not account for return flows making the data less useful and resulting in an incomplete water management picture.
- Aggregate data may be sufficient for diversion reporting, but not for enforcement against an individual water right holder.
- Because of the cost of real-time measurement, there needs to be a good reason for whether and where it should be required.
- Measurement standards should be affordable.
- The “not locally cost effective” provision was overused. General suggestion that measurement should be the standard, not the exception.
- Some diverters, such as public water suppliers currently report daily diversions to the Division of Drinking Water.
- There are currently some very inexpensive metering devices available that can achieve daily and hourly needs.

- Real-time diversion data should be the long-term goal. Telemetry is being implemented for some large diverters currently at significant cost.

REPORTING

Concept 3: What information should be submitted on the annual reports for diversions made under registrations for small domestic, small irrigation, or livestock stockpond use, or certificates for livestock stockpond use?

Meeting Notes:

- Look at standard form for small irrigation use registration as a model for other types of registrations/certifications.
- Could use the current form that is used every 5 years and just require annual submittal.
- Reporting frequency may be different based on season of diversion – ponds filled during the wet season might report less frequently than those diverting water during the dry season.
- Given the small size of these diversions, SWB should consider delaying implementation of this idea until the utility can be demonstrated.

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OCTOBER 6, 2015 MEETING NOTES
REVIEW OF CONCEPTS - MEASUREMENT & REPORTING EMERGENCY REGULATIONS

REPORTING

Concept 4: Should the reporting requirements for conservation credits or alternative supply credits (Water Code Sections 1010, 1011, and 1011.5) be required on a monthly basis?

Should a water right holder be required to describe the method or device they use to determine a conservation credit or alternative supply credit?

Meeting Notes:

- Concern was expressed that diverters may fill in the same amount for every month on the required annual report.
- Don't want to require data that will not be useful. If there isn't a clear need, don't add to the difficulty of the reporting by requiring additional work.

REQUIRED MEASUREMENT

Concept 5: When a diverter exercises multiple water rights at the same point of diversion, should the diversion threshold be determined by the quantity of water diverted under each individual right or the combined diversion amount under all of the rights? The combined water rights could include permits, licenses, claims made under Statements, registrations, and certificates.

Meeting Notes:

- Threshold based on the combined diversion prevents the loophole of a water user claiming individual rights that are all below the threshold.
- Diversion amounts from the same source or for a specific place of use should be considered together for the threshold.
- Need to account for technology and cost.
- The PUC currently requires water suppliers to measure each point of diversion.

REQUIRED MEASUREMENT

Concept 6: When a diverter has multiple points of diversion, should the diversion threshold be determined by the quantity of water diverted from each individual point of diversion or the combined diversion amount from all of the points of diversion?

Meeting Notes:

- Total diversion should be used when looking at the threshold.
- Tie the diversion amount to the place of use.

OCTOBER 6, 2015 MEETING NOTES
REVIEW OF CONCEPTS - MEASUREMENT & REPORTING EMERGENCY REGULATIONS

REQUIRED MEASUREMENT

Concept 7: Should measuring devices or methods be required for holders of small irrigation registrations? Should measuring devices be required for holders of domestic registrations, livestock registrations, small irrigation registrations, or stock pond certificates?

Meeting Notes:

- The value of measuring the small diverters needs to be determined by the cost of measurement and the benefit of the information reported.
- Small irrigation diversions can be a significant impact in small or environmentally sensitive areas, such as coastal streams. Perhaps measurement should be tied to watershed characteristics.
- Where inexpensive measurement solutions are available, they should be used.
- It is unclear what the benefit of measurement is for some small domestic and stock ponds. Measurement may be warranted in specific areas based on local conditions.
- Consider allowing measurement methods that are less expensive or less accurate for these types of small uses.

REQUIRED MEASUREMENT

Concept 8: Should measuring devices or methods that are approved as meeting the existing requirements of other state and federal agencies be grandfathered in?

Meeting Notes:

- Current measurement requirements include:
 - FERC license requirements.
 - PUC has requirements (General Order 103a, and Title 22)
 - BOR contractors – devices installed and maintained by the Bureau.
 - DWR has significant regulatory process – consider if SWB could adopt a state standard.
 - USGS has rigorous standards.
- Given the number of current governmental measuring standards, the group suggested review of the requirements and grandfathering in devices as much as possible.

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REQUIRED MEASUREMENT

Concept 9: Should the measurement requirement apply to all diversion over 10 acre-feet per year with an allowance for exceptions, subject to approval, for diversions up to 25 acre-feet per year?

Should the regulation specifically carve out watersheds or circumstances in which a 25 acre-foot threshold would apply? If so, in what areas of the state, or under what circumstances, should the diversion threshold be established at 25 acre-feet per year?

Meeting Notes:

- No one requirement may fit all situations.
- Timelines for compliance should consider the size of diversion and the characteristics of the watershed that the diversion is located in.
- Staggered implementation of the measurement requirements could lead to increased compliance.
- The application of the measurement requirement should consider the difficulty and cost in installing measuring devices and the relative size of the diversion to the watershed.
- The size of a diversion doesn't always relate to the cost of the measurement device.
- Different accuracy standards should be considered for smaller diversions.
- Should evaluate measurement methods commonly used by water diverters and determine if they are sufficiently accurate, and if not, why not.

COMPLIANCE AND ALTERNATIVES

Concept 10: Collaborative measurement may provide for greater efficiency. What should the process be for submitting, reviewing, approving, and evaluating a collaborative measurement plan?

Meeting Notes:

- Collaborative measurement must allow for determination of what the individual water users are diverting, and under which water right.
- Water users should be encouraged to work together. Staff should have the ability to work with diverters to implement collaborative solutions.
- Give deputy director authority to determine what is acceptable based on plans submitted to the SWB.
- Need flexibility in the regulation to allow for collaborative processes to develop over time.
- Need to be careful so that useful information is not lost when water users go to combined measurement.
- Changing points of diversion can be an expensive and time-consuming process, and the permitting process must be considered for a variety of collaborative types of measurements.
- Need to set criteria for collaborative measurement that ensure goals are met.

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COMPLIANCE AND ALTERNATIVES

Concept 11: Under what circumstances would strict compliance with the measurement requirements be considered infeasible, unreasonably expensive, unreasonably affect public trust uses, or result in the waste or unreasonable use of water?

Meeting Notes:

- Diffuse inflow and flow from small streams into reservoirs or other systems can be difficult to measure.
- If a measuring device is not practical, diverters should have the ability to propose an alternative method.
- Reporting should allow for exemptions and alternate methods. Current reporting forms do not allow an explanation of what methodologies are being used.
- Guidelines should be developed for determining what is too expensive or infeasible, given different situations and different public trust needs.
- Exemptions should not become the standard.
- SWB should create the benchmark and then water users should propose alternatives that reasonably meet objective. A process should be developed for the SWB to determine if the alternative is acceptable.
- Rate of diversion to storage can be difficult to determine and may be a circumstance where alternatives can be considered.
- Time should be built into the regulation to allow for the installation of measurement devices that may be subject to permit requirements of other agencies (CDFW/ACE).

COMPLIANCE AND ALTERNATIVES

Concept 12: What reasonable alternatives should be considered for complying with the measuring device requirements if strict compliance is infeasible for the reasons state above?

Meeting Notes:

- Alternatives should be tied to the need for the accurate information or the impact of the diversion on the watershed.
- Consider a sliding scale for measurement accuracy based on watershed characteristics and the relative size of the diversion to the overall amount of instream flow.
- Need to understand that field accuracy will be different than lab accuracy for most measurement devices. Flow meters are fairly standard, but many other types of measurement must account for field installation.
- Measurement by any device or method should be both accurate and repeatable.
- Look at existing methods which are commonly used.
- Need a process for people to submit reasonable alternatives which includes the relative factors to be considered, including accuracy and repeatability.

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OCTOBER 6, 2015 MEETING NOTES
REVIEW OF CONCEPTS - MEASUREMENT & REPORTING EMERGENCY REGULATIONS

INSTALLATION OF MEASURING DEVICES

Concept 13: Under the new legislation, the measurement requirements could go into effect on or after January 1, 2016. What is a reasonable amount of time for diverters to install measuring devices?

Meeting Notes:

- The regulation should say when measurement needs to be verified and installed.
- Some particular types of measurement will take time to implement (e.g. gages on streams, devices with permitting issues, devices with associated rating curves).
- Should consider allowing for interim and longer term plans to come into compliance.
- People should report what device or method they are using.
- Implementation could be staggered based on size of diversion or location (priority watersheds).
- Need a year or two to get water users up to speed. Will take time to educate the water users.
- Some water diverters may have special challenges such as PUC approval.

INSTALLATION OF MEASURING DEVICES

Concept 14: Should any specific groups of water right holders be allowed additional time to install a measuring device?

Meeting Notes:

- (See answers to concept 13)

INSTALLATION OF MEASURING DEVICES

Concept 15: What types of professionals or other individuals should be allowed to install or maintain a water measuring device?

Meeting Notes:

- Concern that regulations will create a cottage industry with additional costs to diverters. Suggested that the SWB wait and see if we need to specify credentials at a later date.
- Certification process should not add cost or burden to the water user that is not appropriate.
- Ranch managers or other field staff could be capable of installing many of the measurement devices. If needed, performance certification by a licensed engineer after a specific implementation time frame could be used.
- One alternative is to require certification of installation/accuracy based on the size of diversion, with larger diversions requiring additional assurance of installation and accuracy performance.
- Installation form could be signed under penalty of perjury to ensure compliance.
- Auditing could be used as a means of verifying compliance.
- Different measurement methods may have a different certification process.
- Regulations should give the diverter latitude in how to comply.
- SWB could require certification by a professional when device/method appears suspect.
- Some diversion points are easier/more accurate to measure (open channel versus full pipe flow).

These meeting notes are a summary of the various opinions expressed by the participants at the meeting. The notes do not necessarily reflect the individual views of each participant or the views of the State Water Board or its staff.

OCTOBER 6, 2015 MEETING NOTES
REVIEW OF CONCEPTS - MEASUREMENT & REPORTING EMERGENCY REGULATIONS

INSTALLATION OF MEASURING DEVICES

Concept 16: Should a certification process be required for existing measuring devices (installed prior to January 1, 2016) to ensure they meet reasonable accuracy standards?

Meeting Notes:

- (See answers to concept 15)

INSTALLATION OF MEASURING DEVICES

Concept 17: What types of professionals or other individuals should be allowed to certify the accuracy of and evaluate the implementation of measuring device alternatives?

Meeting Notes:

- (See answers to concept 15)

OTHER KEY ISSUES

Concept 18: What other key issues you would like to see addressed in the regulations?

Do you have any other thoughts or comments related to the measurement and reporting requirements authorized under Senate Bill 88?

Meeting Notes:

- SB88 language on hourly reporting is onerous. Look to other states to see how they implement measurement. Arizona requires data to be retained for three years, but not necessarily submitted unless requested.
- Hourly data is a problem when only provisional data is available.
- Change in storage (or diversion from storage) not practical/useful on an hourly rate when there is no more seasonal inflow.
- Several stakeholders represent a variety of diverters with varying levels of experience. Consider getting focus group feedback. Public education and outreach for the regulation development and implementation.
- Several stakeholders offered to provide future input or testing of forms during regulation development and implementation.
- Measurement/monitoring can help water users gain a better understanding of their diversion/water right.

State Water Resources Control Board

October 26, 2015

NOTICE

DEVELOPMENT OF WATER MEASUREMENT AND REPORTING REGULATION

Responsible Party:

(Name of Primary Contact)
(Address of Primary Contact)

Diverter: (Name of Diverter)

The purpose of this letter is to provide information about a new water measurement law which will affect water right holders and diverters who divert more than 10 acre-feet of water per year. The law includes a new reporting requirement that all diverters submit their monthly diversion records each year. During drier than normal periods, all diverters may also be required to submit their diversion records on a monthly basis.

The new requirements go into effect on January 1, 2016, and are found in Senate Bill 88, Chapter 27, which was signed by the Governor in June. Use this link to view the law:

http://www.leginfo.ca.gov/pub/15-16/bill/sen/sb_0051-0100/sb_88_bill_20150624_chaptered.pdf

The State Water Board is authorized to adopt an emergency regulation to implement these new requirements. You can participate in the development of the regulation by emailing your comments to dwr-measurement@waterboards.ca.gov, or attending one of the public outreach and information meetings (see list below).

The Current Problem:

The extended drought has highlighted the need for current, accurate information on how much water is required to serve right holders in the various watersheds throughout the State. Even during years with more normal precipitation, rainfall and snow accumulation patterns vary widely across the State. Water supply may be adequate in one region while a critical water shortage can occur in another region.

Accurate data on water diversion and use is needed on a timely basis in order to evaluate water supply conditions in each watershed, how far water supplies can be expected to stretch, and whether there is water available for diversions. Unfortunately, the historic reporting standard does not meet current needs. The new law and proposed implementing regulation are expected to address this problem.

Benefits of Measurement and Reporting:

The State Water Board is the agency with primary responsibility for the administration and regulation of water rights in California. The State Water Board allocates surface water through a system of permits, licenses, and registrations. These allow the right holder to divert water for reasonable beneficial use. The State Water Board also maintains records of water use under riparian and pre-1914 claims of right.

FELICIA MARCUS, CHAIR | THOMAS HOWARD, EXECUTIVE DIRECTOR

Improved measurement and reporting of water rights as required by Senate Bill 88 will allow the State Water Board and all water users to more effectively:

- Increase understanding of water use through more accurate measurement;
- Improve water rights administration and transparency of records;
- Provide more accurate data on available water supplies;
- Improve forecasting of water demand;
- Assure compliance with the quantity and season limitations of existing water rights;
- Protect senior rights in accordance with priorities; and
- Provide efficient management and use of water during times of shortage.

Information Meetings for the Emergency Regulation*:

The following meetings are scheduled to take public comments on the new measurement and reporting requirements. The comments will be used to help formulate the regulation.

DATE	TIME	LOCATION
November 2, 2015 (Monday)	6:00 – 9:00 pm	Junipero Serra State Office Building, Carmel Room 320 West 4th Street, Los Angeles, CA 90013
November 4, 2015 (Wednesday)	6:00 – 9:00 pm	The City of Redding 777 Cypress Avenue, Redding, CA 96001
November 5, 2015 (Thursday)	6:00 – 9:00 pm	State Office Building, Auditorium 31 East Channel Street, Stockton 95202
November 9, 2015 (Monday)	1:00 – 4:00 pm	CalEPA Headquarters Building, Coastal Hearing Room 1001 I Street, Sacramento, CA 95812
A webcast of the meeting on November 9 in Sacramento will be available at http://www.calepa.ca.gov/broadcast/		
November 12, 2015 (Thursday)	6:00 – 9:00 pm	Steele Lane Community Center 415 Steele Lane, Santa Rosa, CA 95403

*A quorum of the State Water Board may be present at the meetings. However, no State Water Board action will be taken. If you require an interpreter, please contact the State Water Board five days in advance of the meeting.

Additional Information on the Emergency Regulation and Information Meetings:

Information and updates on the emergency regulation and the public meetings will be posted at:

http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation

You can receive update notices about the emergency regulation by subscribing to the “Water Measurement” email list located at:

http://www.waterboards.ca.gov/resources/email_subscriptions/swrcb_subscribe.shtml#dwr

Contact Information:

If you need assistance, please contact the Division of Water Rights at (916) 341-5300 or send an email to: dwr-measurement@waterboards.ca.gov.

Sincerely,



Barbara Evoy, Deputy Director
Division of Water Rights

AGENDA

INFORMATIONAL MEETING

SENATE BILL 88 AND THE WATER MEASUREMENT AND REPORTING EMERGENCY REGULATION

- Welcome and Introductions
- State Water Resource Control Board Presentation
- Review of Concepts and Recommendations
- Break
- Continue Review of Concepts and Recommendations
- General Question and Answer Session

ADDITIONAL INFORMATION

Emergency regulation website

http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/

Email Address: **dwr-measurement@waterboards.ca.gov**

Phone Number: **(916) 341-5300**

State Water Resources Control Board

SENATE BILL 88 AND THE EMERGENCY REGULATION FOR MEASURING AND REPORTING THE DIVERSION OF WATER

LIST OF CONCEPTS AND RECOMMENDATIONS FOR THE EMERGENCY REGULATION

BACKGROUND

Senate Bill 88, signed by Governor Edmund G. Brown Jr. on June 24, 2015, adds measurement and reporting requirements for a substantial number of diverters. The measurement and reporting requirements go into effect as early as January 1, 2016. The State Water Board intends to adopt an emergency regulation to implement these new provisions.

The new measurement requirements affect all water right holders diverting 10 acre-feet of water or more per year (approximately 12,000 water right holders). The annual reporting requirement will affect all water users required to file statements of diversion and use (including those claiming a riparian or pre-1914 appropriative water right) and persons authorized to appropriate under a permit, license, registration (small domestic, small irrigation, or livestock stock pond), or certificate for livestock stock pond use.

The State Water Board anticipates that the new measurement requirements could present challenges to some water users. The State Water Board is holding meetings and workshops in affected areas around the state to receive input on key issues to be addressed in the emergency regulation. The State Water Board will use the input from the meetings and workshops to shape a draft regulation which will be broadly circulated in early-December. The draft regulation is tentatively scheduled to be presented for discussion at a State Water Board Workshop in mid-December.

The emergency regulation is tentatively scheduled to be presented to the State Water Board for adoption at its second meeting in January, 2016. If the emergency regulation is adopted, it will be sent to the Office of Administrative Law for approval.

Additional information on the emergency regulation process may be found on the following website:

http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/

The following pages list key issues to be addressed in the regulation along with recommendations from State Water Board staff. The State Water Board is looking for additional input from the regulated community.

You may also email your comments or questions to: **dwr-measurement@waterboards.ca.gov**.

LIST OF CONCEPTS AND RECOMMENDATIONS FOR THE EMERGENCY REGULATION

REPORTING

Concept 1: What is a reasonable period of time for diverters to organize and electronically submit the information required on the annual reports, considering the need to maximize the use of the data for dry year management purposes?

Recommendation: For water diverted in 2016 and after, the annual water use reports for permits, licenses, stock ponds and registrations should be filed prior to April 1 of the year following the diversion. Annual use reports for statements shall be filed prior to July 1 of the year following the diversion, as specified by statute.

Concept 2: During the drought, some diverters have been required to report water use every month. Under what conditions should monthly or more frequent reporting be required?

Recommendation: When flows or projected flows in a watershed or subwatershed are sufficient to support some but not all diversions, water diverters located within the watershed or subwatershed may be required to electronically submit monthly diversion records.

Concept 3: How should the diversion threshold be determined for the measurement requirements when:

- A diverter exercises multiple water rights at the same point of diversion, or
- A diverter has multiple points of diversion serving a specific place of use.

The combined water rights could include permits, licenses, registrations, certificates, pre-1914, riparian, or undocumented diversions.

Recommendation: The threshold for measurement should be based on the total amount of water diverted under all bases of right for each place of use.

REQUIRED MEASUREMENT

Concept 4: Should measurement be required for domestic registrations, livestock registrations, small irrigation registrations, or stock pond certificates?

Recommendations: Measurement should not be required for domestic registrations, small irrigation registrations, livestock registrations, or stock pond certificates provided that the maximum authorized diversion is 10 acre-feet per year or less.

Measurement should be required when the total amount of water diverted under an individual right, or an individual right in combination with other bases of right for the place of use, exceeds 10 acre-feet per year.

LIST OF CONCEPTS AND RECOMMENDATIONS FOR THE EMERGENCY REGULATION

REQUIRED MEASUREMENT

Concept 5: Should measuring devices that are approved as meeting the existing requirements of other state and federal agencies be grandfathered in? If so, which ones, and under what conditions?

Recommendation: Measuring devices or methods meeting the existing requirements of other state and federal agencies should be grandfathered in as much as possible provided they approximate the accuracy standards set forth in the regulation. The State Water Board should review the measurement requirements of the following agencies:

- Department of Water Resources (agricultural water measurement)
- United States Bureau of Reclamation (Central Valley Project contractors)
- United States Geologic Survey (surface water gaging network)
- Federal Energy Regulatory Commission (for federally licensed power facilities)
- Public Utility Commission (for investor owned water utilities)
- State Water Board, Division of Drinking Water (for publicly owned water utilities)

Concept 6: Should the regulation specify areas or circumstances where the diversion threshold for required measurement may be greater than 10 acre-feet per year? If so, in what areas of the state, or under what circumstances, should a higher diversion threshold be established?

Recommendations: The regulation should not list specific areas or specific circumstances where a diversion threshold greater than 10 acre-feet per year may be established.

The regulation should include a framework that allows the State Water Board to establish a higher diversion threshold in specific watersheds or under specific circumstances.

The cost of measurement and the relative size of the diversions compared to the natural flow, overall diversion demand, and instream uses in the watershed should be factors in determining if a higher threshold may be established.

Concept 7: Should the measurement requirements be based on accuracy standards, a specific list of approved devices, or another approach?

Recommendations: The regulation should not list specific measuring devices or specify methods. Measurement devices and methods should be required to meet reasonable accuracy standards.

LIST OF CONCEPTS AND RECOMMENDATIONS FOR THE EMERGENCY REGULATION

COMPLIANCE AND ALTERNATIVES

Concept 8: Collaborative measurement may provide for greater efficiency. What should the process be for submitting, reviewing, approving, and evaluating a collaborative measurement plan?

Recommendations: Water diverters should be encouraged to establish collaborative measurement on a local or regional basis. The regulation should be flexible in the types of collaborative measurement plans water users may submit as long as the measurement meets the regulation's accuracy standards.

Concept 9: What reasonable alternatives should be considered for complying with the measurement requirements if strict compliance is considered infeasible, unreasonably expensive, to unreasonably affect public trust uses, or result in the waste or unreasonable use of water?

Recommendations: Determination of these circumstances is situation dependent.

The regulation should establish a framework for considering alternative approaches to compliance for a specific measuring device or measurement method, or for a type of measuring device.

When reviewing a request for an alternative, the State Water Board should consider the impact of the diversion(s) on the watershed based on watershed characteristics and the relative size of the diversion(s) to the overall amount of natural stream flow.

A water user requesting an alternative approach should submit a reasonable plan for attaining compliance. A water user should be required to diligently implement the proposed plan.

INSTALLATION OF MEASURING DEVICES

Concept 10: Under the new legislation, the measurement requirements could go into effect as early as January 1, 2016. What is a reasonable amount of time for diverters to install measuring devices or methods?

Recommendations: The measurement requirements should be implemented on a staggered basis. Staggered implementation could lead to increased compliance. Timelines for compliance should consider the size of diversion and the characteristics of the watershed that the diversion is located in.

Where appropriate, the regulation should allow for interim and multi-year plans to allow diverters to achieve full compliance.

LIST OF CONCEPTS AND RECOMMENDATIONS FOR THE EMERGENCY REGULATION

INSTALLATION OF MEASURING DEVICES

Concept 11: Who should be allowed to install or maintain a water measuring device or method?
Should a certification process be required for measuring devices or methods to ensure they meet the regulation's accuracy standards?

Recommendations: The regulation should be flexible to allow qualified individuals to install and maintain water measurement devices that have been lab certified, provided the installation is made in accordance with the protocols specified by the manufacturer.

Where lab certification is not applicable, field certification of a measurement device or method should require a licensed engineer or other qualified professional.

The regulation should require periodic field inspections to verify the device or method continues to provide measurements meeting the regulation's accuracy standard.

The inspection process could be prioritized based on the size of a diversion or other criteria.

OTHER KEY ISSUES

Concept 12: What other key issues you would like to see addressed in the regulations?

MEASURING AND REPORTING



KATHY MROWKA
DIVISION OF WATER RIGHTS
STATE WATER RESOURCES CONTROL BOARD
NOVEMBER, 2015

The Current Problem

- Need current and accurate information on how much water is being diverted.
- Rainfall and snow accumulation patterns vary widely across the State. Water supply may be adequate in one region while a critical water shortage can occur in another region.

The Current Problem

- Accurate data on water diversion and use is needed in order to evaluate water supply conditions in each watershed.
- Need to determine how far water supplies can be expected to stretch.
- Need to determine whether there is water available for diversions.

What's New

- The Governor recently signed into law a bill which adds measurement requirements to water rights that are 10 acre-feet or more in size.
- The law requires that water diverters begin measuring as soon as January 1, 2016.

What's New

- The law requires that all diverters report their diversions annually.
- Currently, only permit and license holders submit their water diversion reports each year. All others submit their information on a less frequent basis.
- During times of water shortage, more frequent reporting may be required.

Next Steps

- The next step in this process is development of a regulation.
- A regulation provides information on how to comply with the law. It can be very basic, or it can provide a lot of details and information to assist and guide the public.

Next Steps

We are here today to seek your comments on the following issues:

- Reporting water use
- Required measurement
- Compliance and alternatives
- Installation of measuring devices
- Other key issues.

Benefits

- Increase understanding of water use through more accurate measurement
- Improve water rights administration and transparency of records
- Provide more accurate data on available water supplies

Benefits, Continued

- Assure compliance with the quantity and season limitations of existing water rights
- Protect senior rights in accordance with priorities
- Provide for efficient management and use of water during times of shortage
- Improve forecasting of water demand

What Will 10 acre-feet Do?

- Provide 162 people with water for a year based on a use of 55 gallons per person per day.
- Provide 71 people with water for a year based on a use of 125 gallons per person per day.
- Irrigate 3.25 acres of land with an average duty of 3.1 acre-feet per acre.
- Fill a pond that covers one acre of land and has a depth of 12 feet.

Primary Components of the New Law

- Reporting
- Measurement

4. AMOUNT OF WATER DIVERTED AND USED

Note: Please report only the amounts diverted and used under this supplemental statement only. Do not report water diverted under other water rights, groundwater, or water supplied or purchased from others.

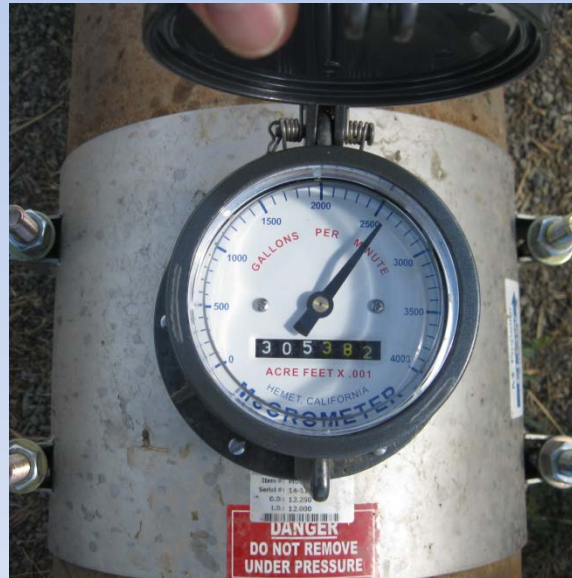
4a. Choose the unit:
 Gallons Acre-feet (AF) ²

4b. Check this box if the amount of water used is the same as the amount directly diverted. Do not check this box if your use of water is non-consumptive or if you have no use of water. If no use, enter 0 (zero) ²

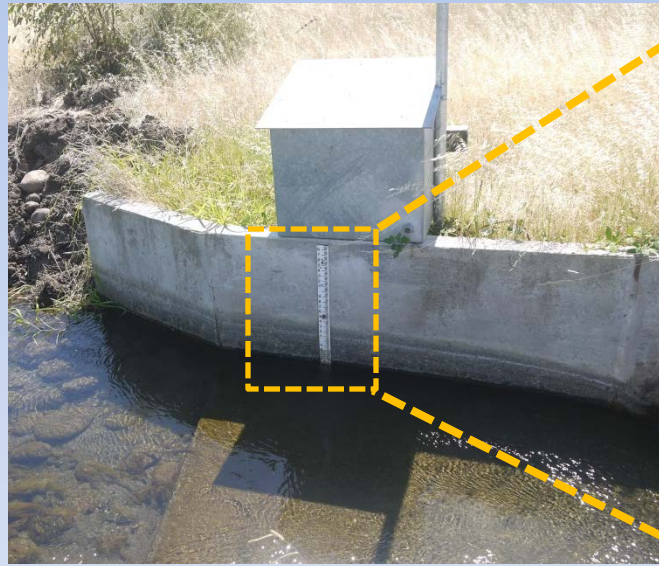
4c. Enter numerals only (no commas or letters). If no water was diverted as used, enter 0 (zero)

	Amount directly diverted	Amount diverted or collected to storage	Amount used ²
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
Total	0	0	0

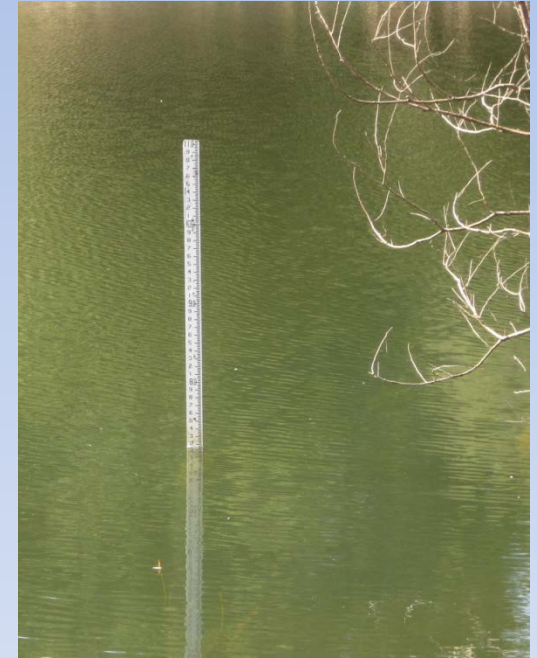
4d. If the total water diverted or used above is 0, please provide an explanation. Pre-1914 claim holders may lose their rights for



Staff Gauge and Flume



Staff Gage (Reservoir)



Weirs

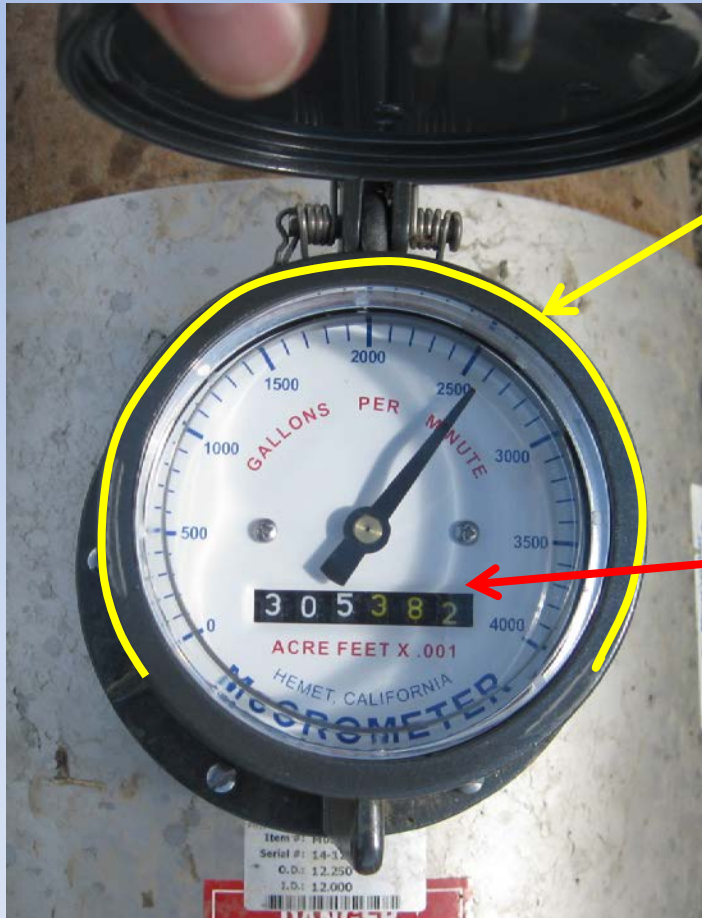


Propeller Flowmeter



<http://www.waderain.com>

Rate and Totalizer



Rate

Totalizer

Concept 1

- What is a reasonable period of time for diverters to electronically submit the information required on the annual reports?

Concept 2

- Under what conditions should monthly or more frequent reporting be required?

Concept 3

How should the diversion threshold be determined for the measurement requirement when:

- A diverter exercises multiple water rights at the same point of diversion, or
- A diverter has multiple points of diversion.

Concept 4

- Should measurement be required for small irrigation registrations?
- Should measurement be required for domestic registrations, livestock registrations or stock pond certificates?

Concept 5

- Should measuring devices that are approved as meeting the existing requirements of other state and federal agencies be grandfathered in?

Concept 6

- Should the regulation specify areas or circumstances where the diversion threshold for required measurement may be greater than 10 acre-feet per year?

Concept 7

- Should the measurement requirements be based on accuracy standards, a specific list of approved devices, or another approach?

Concept 8

- Collaborative measurement may provide for greater efficiency. What should the process be for submitting, reviewing, approving, and evaluating a collaborative measurement plan?

Concept 9

- What reasonable alternatives should be considered for complying with the measurement requirements if strict compliance is considered infeasible, unreasonably expensive, to unreasonably affect public trust uses, or result in the waste or unreasonable use of water?

Concept 10

- Under the new legislation, the measurement requirements could go into effect as early as January 1, 2016. What is a reasonable amount of time for diverters to install measuring devices or methods?

Concept 11

- Who should be allowed to install or maintain a water measuring device or method?
- Should a certification process be required for measuring devices or methods to ensure they meet reasonable accuracy standards?

Other Key Issues

What other key issues you would like to see addressed in the regulation?

Next Steps

- The State Water Board will use the input from the meetings to shape a draft regulation.
- The draft regulation will be discussed at a State Water Board Workshop in December, 2015.
- The Board will be asked to consider adoption of the regulation in January, 2016.

Additional Information

- Emergency regulation website
- http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/
- Phone Number: **(916) 341-5300**
- Email Address: **dwr-measurement@waterboards.ca.gov**

Listening Meetings



SB 88 and the Emergency Regulation for Measuring and Reporting the Diversion of Water

State Water Resources Control Board
Division of Water Rights



Section 1

Introduction

1.1 Overview

The objective of public listening meetings is to engage stakeholders in the regulation drafting process. Meetings help State Water Resources Control Board (SWRCB) Division of Water Rights program staff gain a better understanding of the interests and concerns that stakeholders have on key concepts, and collect input on key concepts and staff recommendations.

Senate Bill 88 was signed by Governor Edmund G. Brown Jr. on June 24, 2015. Sections 15 through 18 of SB 88 add measurement and reporting requirements for a substantial number of diverters. The measurement requirements authorized under SB 88 could go into effect on or after January 1, 2016. The State Water Board is adopting a regulation to implement these new provisions.

The legislation authorizes the State Water Board to adopt a regulation requiring measurement for water right holders and claimants who divert 10 acre-feet of water or more per year. The measurement requirement would apply to approximately 12,000 water right holders and claimants. The legislation also authorizes the State Water Board to adopt a regulation requiring annual reporting from statement holders and persons authorized to appropriate under a permit, license, registration (small domestic, small irrigation, or livestock stockpond), or certificate for livestock stockpond use.

The legislation authorizes the State Water Board to adopt an initial regulation as an emergency regulation that shall remain in effect until revised by the State Water Board. The adoption of the initial regulation is exempt from the California Environmental Quality Act (CEQA).

1.2 Stakeholder Input Process

The State Water Board anticipates that the new measurement requirements could present challenges to some water users. The State Water Board is holding meetings and workshops in affected areas around the state to receive input on key issues to be addressed in the emergency regulation. The State Water Board will use the input from the meetings and workshops to shape a draft regulation which will be broadly circulated in early-December. The draft regulation is tentatively scheduled to be presented for discussion at a State Water Board Workshop in mid-December.

The emergency regulation is tentatively scheduled to be presented to the State Water Board for adoption at its second meeting in January, 2016. If the emergency regulation is adopted, it will be sent

to the Office of Administrative Law for approval.

Accordingly, SWRCB held public listening meetings, at the following locations, to receive comments:

- Los Angeles – November 2, 2015
- Redding – November 4, 2015
- Stockton – November 5, 2015
- Sacramento – November 9, 2015
- Santa Rosa – November 12, 2015

Comments from the public meetings were captured. This technical memorandum (TM) documents these meetings. Section 2 includes meeting summaries.

Section 2

Key Concepts and Listening Comments

2.0 Key Concepts

SWRCB staff presented key concepts and staff recommendations in four topic areas.

LIST OF CONCEPTS AND RECOMMENDATIONS FOR THE EMERGENCY REGULATION

REPORTING

Concept 1: What is a reasonable period of time for diverters to organize and electronically submit the information required on the annual reports, considering the need to maximize the use of the data for dry year management purposes?

Recommendation: For water diverted in 2016 and after, the annual water use reports for permits, licenses, stock ponds and registrations should be filed prior to April 1 of the year following the diversion. Annual use reports for statements shall be filed prior to July 1 of the year following the diversion, as specified by statute.

Concept 2: During the drought, some diverters have been required to report water use every month. Under what conditions should monthly or more frequent reporting be required?

Recommendation: When flows or projected flows in a watershed or subwatershed are sufficient to support some but not all diversions, water diverters located within the watershed or subwatershed may be required to electronically submit monthly diversion records.

Concept 3: How should the diversion threshold be determined for the measurement requirements when:

- A diverter exercises multiple water rights at the same point of diversion, or

- A diverter has multiple points of diversion serving a specific place of use.

The combined water rights could include permits, licenses, registrations, certificates, pre-1914, riparian, or undocumented diversions.

Recommendation: The threshold for measurement should be based on the total amount of water diverted under all bases of right for each place of use.

REQUIRED MEASUREMENT

Concept 4: Should measurement be required for domestic registrations, livestock registrations, small irrigation registrations, or stock pond certificates?

Recommendations: Measurement should not be required for domestic registrations, small irrigation registrations, livestock registrations, or stock pond certificates provided that the maximum authorized diversion is 10 acre-feet per year or less. Measurement should be required when the total amount of water diverted under an individual right, or an individual right in combination with other bases of right for the place of use, exceeds 10 acre-feet per year.

Concept 5: Should measuring devices that are approved as meeting the existing requirements of other state and federal agencies be grandfathered in? If so, which ones, and under what conditions?

Recommendation: Measuring devices or methods meeting the existing requirements of other state and federal agencies should be grandfathered in as much as possible provided they approximate the accuracy standards set forth in the regulation. The State Water Board should review the measurement requirements of the following agencies:

- Department of Water Resources (agricultural water measurement)
- United States Bureau of Reclamation (Central Valley Project contractors)
- United States Geologic Survey (surface water gaging network)
- Federal Energy Regulatory Commission (for federally licensed power facilities)
- Public Utility Commission (for investor owned water utilities)
- State Water Board, Division of Drinking Water (for publicly owned water utilities)

Concept 6: Should the regulation specify areas or circumstances where the diversion threshold for required measurement may be greater than 10 acre-feet per year? If so, in what areas of the state, or under what circumstances, should a higher diversion threshold be established?

Recommendations: The regulation should not list specific areas or specific circumstances where a

diversion threshold greater than 10 acre-feet per year may be established. The regulation should include a framework that allows the State Water Board to establish a higher diversion threshold in specific watersheds or under specific circumstances. The cost of measurement and the relative size of the diversions compared to the natural flow, overall diversion demand, and instream uses in the watershed should be factors in determining if a higher threshold may be established.

Concept 7: Should the measurement requirements be based on accuracy standards, a specific list of approved devices, or another approach?

Recommendations: The regulation should not list specific measuring devices or specify methods. Measurement devices and methods should be required to meet reasonable accuracy standards.

COMPLIANCE AND ALTERNATIVES

Concept 8: Collaborative measurement may provide for greater efficiency. What should the process be for submitting, reviewing, approving, and evaluating a collaborative measurement plan?

Recommendations: Water diverters should be encouraged to establish collaborative measurement on a local or regional basis. The regulation should be flexible in the types of collaborative measurement plans water users may submit as long as the measurement meets the regulation's accuracy standards.

Concept 9: What reasonable alternatives should be considered for complying with the measurement requirements if strict compliance is considered infeasible, unreasonably expensive, to unreasonably affect public trust uses, or result in the waste or unreasonable use of water?

Recommendations: Determination of these circumstances is situation dependent. The regulation should establish a framework for considering alternative approaches to compliance for a specific measuring device or measurement method, or for a type of measuring device. When reviewing a request for an alternative, the State Water Board should consider the impact of the diversion(s) on the watershed based on watershed characteristics and the relative size of the diversion(s) to the overall amount of natural stream flow. A water user requesting an alternative approach should submit a reasonable plan for attaining compliance. A water user should be required to diligently implement the proposed plan.

INSTALLATION OF MEASURING DEVICES

Concept 10: Under the new legislation, the measurement requirements could go into effect as early as January 1, 2016. What is a reasonable amount of time for diverters to install measuring devices or methods?

Recommendations: The measurement requirements should be implemented on a staggered basis. Staggered implementation could lead to increased compliance. Timelines for compliance should consider the size of diversion and the characteristics of the watershed that the diversion is located in. Where appropriate, the regulation should allow for interim and multi-year plans to allow diverters to

achieve full compliance.

Concept 11: Who should be allowed to install or maintain a water measuring device or method? Should a certification process be required for measuring devices or methods to ensure they meet the regulation's accuracy standards?

Recommendations: The regulation should be flexible to allow qualified individuals to install and maintain water measurement devices that have been lab certified, provided the installation is made in accordance with the protocols specified by the manufacturer. Where lab certification is not applicable, field certification of a measurement device or method should require a licensed engineer or other qualified professional. The regulation should require periodic field inspections to verify the device or method continues to provide measurements meeting the regulation's accuracy standard. The inspection process could be prioritized based on the size of a diversion or other criteria.

OTHER KEY ISSUES

Concept 12: What other key issues you would like to see addressed in the regulations?

2.1 Listening Comments

The following is a summary of verbal comments received at each of the five public listening meetings.

2.1.1 Los Angeles Listening Meeting – November 2, 2015

SWRCB staff included: John O'Hagan, Kathy Mrowka, Paul Wells, Nathan Weaver, Andrew DiLuccia, Gita Kapahi, and Monique Wilber. Three members of the public attended.

Concepts 1,2,3

- Concept 1: Populating data is labor intensive. Is there a potential of auto-populating data from the year before?

Concepts 4,5,6,7

- Concept 6: Would the framework be in the form of a petition? For specific circumstances? Criteria could be remoteness, etc. What are options for types of measurement devices? Very remote, not easily accessible land.
- Concept 7: Certain situations require specific devices.

Concepts 8,9

- Concept 9: Viewing as an implementation plan, grouping similar types of permits/inventory. Will there be flexibility in implementation? What would people need to submit?
- Sometimes new standards are not feasible to replace measurement devices.

Concepts 10, 11

- Concept 10: Will there be a clear way to demonstrate proof of compliance?
- Concept 11: Hydrographers do this kind of work
- It would be labor intensive to put hundreds of measurement stations on a certification schedule (Action: LADWP to provide info).

Concept 12

- We have the same goals; we want to be in compliance. We are concerned with the January 2016 date.
- Interest in funding to be listed on website.

2.1.2 Redding Listening Meeting – November 4, 2015

SWRCB staff included: Barbara Evoy, Kathy Mrowka, Paul Wells, Nathan Weaver, Miryam Barajas, Esther Tracy, and Monique Wilber. Approximately 100 members of the public attended.

Concepts 1,2,3

- Economically feasible diversions
- Do most people have the ability to electronically submit?
- Good to provide audience with standards to comment on
- Deeded rights – pre-1914 – how to measure. Is this take without compensation?
- Support of Concept 1 as a Rancher – need to keep track annually
- Late notice on these meetings. One size does not fit all. Not enough time to review
- Meters are expensive and people don't know how much it will cost
- Expensive meters will not be financially feasible
- Fining us is not effective
- Centralize data – have a good picture of total supply. State has access to gauges
- Isn't it the responsibility of watermasters to collect data and measure water?
- How do you measure unintended diversions like gopher holes?
- Is there a list of people who sell the measurement devices? Cost?
- Streamlined reporting. Date, time, amount diverted, and storage. It could be 300,000 plus points of data for several rights
- Paper mail and letters, please. Many do not use email.

Concepts 4,5,6,7

- Does all diversion equal use? Report diversion; report use. No assumption if water is being returned to creek.
- Stockponds do not usually have a defined channel. What about evaporation? Groundwater recharge, wild animals benefit from stockpond use. Start at 25 acre feet for stockpond measurement
- Will the burden of inaccurate reporting in good faith land on the back of the consumer?
- Why is Waterboards not addressing unregulated non-taxpaying diverters?
- Who gets water not used by rights holders and why are we not being compensated? For

curtailments.

- Do you consider water that goes back to the stream or back to the groundwater aquifer?
- What is the definition of “reasonable accuracy standard?”
- Concept 5: Any consideration of how state and federal agencies will have funding other than taxes?
- Any workshops that will be offered because a lot of folks don’t have electronic devices? (for reporting)
- Support for grandfathering in measurement. DDW requires water agencies to measure and report
- Senior people don’t have feasibility due to cost issues; what is consideration to low-income people with water rights?
- Issues regarding power supply, especially in rural areas
- Why doesn’t the state buy the devices? They want the information
- Don’t you already do studies on dry years, watersheds, and ranch use?
- Pre-1914 holders should be able to pump all the water they want
- Concept 7: Too broad; not clear enough. Diversions are assumed to be consumption?
- How often is the website updated?
- Request for summary of meeting notes
- Why are we concerned with measurement? What are we trying to accomplish? Conservation? Or more taxes?
- Will Bureau of Reclamation devices be acceptable? Need clarity on standards for devices
- Diversion for power doesn’t make sense as water returns to stream for downstream users
- This is about three things: water rights; diversion; and consumption. If I divert less than my water right, will state reduce the right? This affects property value. Has this been discussed? Will this measurement result in curtailment for non-use?

Concepts 8,9

- One device only needed for collaborative measurement effort?
- In adjudication, single diversion, multiple users, would Boards be okay with each party reporting? Are you (Boards) becoming adjudication enforcement? Does each user have to measure individually on a ditch? Because then you are getting into adjudication/Watermaster territory
- Multiple diversion points on one stream via other properties is problematic. There is no power, no cell service, and we don’t own the land to put up solar to power. It is not economically feasible.
- Will a canal company measure off the river and cite deliveries made, or will each rancher measure?

Concepts 10, 11

- Law goes into effect on January 1, 2016; regulation does not go into effect until after that date. How to comply?

- Some people do not have an email or electronic device, to get regulations, and to comment on the regulations
- Permits from Army Corps of Engineers and California Department of Fish and Wildlife take a long time. Take that time into consideration
- Concept 11: What is the definition of “qualified?” What will the charges be to rights holders to use a “professional?”
- Mercury is used to clean meters
- Concerned that consumption is “steady.” Consumption is taking priority over production. The value of some properties is water. Less consumption of water will be noted. Water rights holders could lose rights, and the region/state/nation could lose food security
- State mandates are hard
- State is trying to control all water. Cities should use desalination instead of taking farm water

Concept 12

- Overlap with adjudicated water rights is an issue. Will data be public? Parties will watch others’ rights and create a firestorm. Opens legal doors regarding adjudicated water rights. Measurement can have huge impact. Clear definitions needed.
- The difference between water right and use needs to be clearly written in the regulation
- Diversion and use/consumption and water rights are different things
- When will fully distributed cost be charged to users? Demand curve for urban users?
- Does Boards have estimate on people who have not proved up on their water right and haven’t paid taxes? Boards is going after people paying taxes – not the ones who are not.
- Will the Watermaster have to put in a measuring device?
- Leaky ditches are not bad. They help habitat. Stockponds do too. One size doesn’t fit all.
- We want the water master to comply.
- If you can prioritize people field certifying measuring devices, why can’t the Boards make sure watermasters comply? Watermasters should help diverters.
- We appreciate staff coming here
- Regarding locations these meetings are being held at: How many diverters attended the Los Angeles meeting? Stockton, Santa Rosa, Sacramento make sense. You left out eastern California (east of the Sierras)
- Different requirements for small diverters versus large diverters for standards? More grades of requirements for over/under 10 acre-feet
- Look at tree growth; cutting; management of the forest. Look at the source of the problem. Tree cover increased exponentially due to the spotted owl. There is over density of trees, resulting in fires
- What makes a pressure transducer meet appropriate standards? Some have accuracy of 1/10%; reservoirs can make it off by a large amount
- How will the state monitor and inform? Lots of people, big bureaucracy to monitor. How can six staff people handle 12,000 water rights holders?

- Is there anyone in this county for us to talk to?
- Information is needed for people without electronic devices
- What are field certification specifics? Hard for us to give you feedback when we don't know what the burden will be. It is very vague. It doesn't help us assess the level of alarm. Specifics, and soon, will help
- Look at what the ongoing cost burden of compliance will be. Better compliance if people know, going in.
- The elephant in the room: How will people without means afford this? People are concerned. People don't all have access to computers. What are consequences of not complying?

2.1.3 Stockton Listening Meeting – November 5, 2015

SWRCB staff included: John O'Hagan, Kathy Mrowka, Paul Wells, Nathan Weaver, George Kostyrko, Esther Tracy, and Monique Wilber. SWRCB Board Member Dorene D'Adamo and Watermaster Michael George attended. Approximately 20 members of the public attended.

Concepts 1,2,3

- There is a reporting issue with the April 1 reporting and using the calendar year instead of the water year. Especially with SGMA. Need to get with the other programs
- Don't take away ag beneficial use. Stockponds can be like vernal pools
- Multitude of reporting for different uses like ag, environmental, etc. Would take care of reporting time issues
- Cattle may rub up on staff gauges and make gauge measurement incorrect
- Concept 2: Monthly should be never. It is a huge burden. After the fact reporting. Have a good reason to collect and use data
- How does the prior month affect real-time data? Let us give you the data all at the end of the year instead of monthly
- Are you using the information?
- I take water out, but I am putting the tail water back in the river. You aren't asking about tail water. Will I get credit for that?
- Some of us think that Boards shouldn't be doing detailed water rights enforcement
- Long term view is important – but variability from year to year is important
- Focus on problem areas
- Convert delta consumptive use to diversions. Consumptive use is a more meaningful number. Pay attention to consumptive use.
- If cows are drinking water in a stockpond, it affects the numbers
- Stockponds are not affiliated with irrigation and should be exempt
- Water in stockponds during summer is not moving. Monthly data for a stockpond doesn't make sense

Concepts 4,5,6,7

- Ten acre feet for stockponds, not in system for much flow. There is not a way to measure

outflow. It is meaningless. It is storage

- There are problems when gauges don't work, or cross section will change. Be liberal in attitude towards accuracy
- Some stockponds are isolated and only get rain run-off. There should not be monthly monitoring. How can models work on stock ponds when there is not movable water to another water body?
- Staff needs to be reasonable
- Surprised by 10% error. In ag you are planting the same crop, you know usage through history. Regulation to correct to 10%?
- Is replenishment understood as a beneficial use?

Concepts 8,9

- Good ideas. Collaborative approach in Delta makes sense. Trying to divide up can be an issue.
- Consumptive use is a better measurement. CIMIS sites can be used with crop type to determine.
- New law directs you to collect data. But collection of data for data is not meaningful. Keep what is relevant for the law. Make that decision. No one analyzes data and it is meaningless. It is just a check-off box.
- People in the Delta are not stealing water. The Craig Wilson study showed that.
- Objective is to find out the projected uses under different permits. If level of river is not up to the projected use, it allows them to look at who is using water. They have to know expected projected use. This is a best case scenario of how the State can figure this out. Monthly data collection makes it closer to being correct and shows how much water goes south. Riparian users have not been required to report water diversions. It is for our benefit.
- Need to understand the relationship with groundwater.

Concepts 10, 11

- Appreciate the value of 10%. Farmer can do that visually. Farmer needs to know crop needs.
- Wide variety. For example, velocity meter in different parts of the stream. There are more variables. Plenty of flexibility to be reasonable on this. Registered civil engineers are expensive.
- Stock ponds – can't measure "flow." Is self-reporting okay? Will we have to have registered engineers measure?
- I appreciate you wanting to do this on a case by case basis.
- Dam safety regulations – I'd like to see stockponds exempt.
- Cross-sections in stockponds change constantly. Flexibility is important
- Concept 10: January 1, 2016 is less than 60 days away. What is the effective date? Penalties?
- Set-up date depends on the measuring device.
- I have no idea what device to use. I'm dry most of the year. But I can't tell you a time frame because I don't have the information.
- What are the teeth of the regulation for non-compliance?
- What about diverted water being put back into the river? We just paid for a pump – now we

need something else?

- Our river pump is metered now – will we have to change it?
- Will we have to submit data on a certain day of the month?
- Look at what is consumed (instead of what is diverted). A lot of water is going back to the river.
- Is a water right consumptive use or diversion?
- Five days at the end of the month to report is really tight; ten days is better
- Two weeks is much better to report.
- We want something we can comply with.
- Appreciate that staff is trying to be flexible.

2.1.4 Sacramento Listening Meeting – November 9, 2015

SWRCB staff included: John O’Hagan, Kathy Mrowka, Paul Wells, Nathan Weaver, George Kostyrko, Gita Kapahi, and Esther Tracy. Approximately 30 members of the public attended.

Concepts 1,2

- Tier system for water rights, legal challenges for SB88.
- January 1 date for implementation
- Levee maintenance and cost passed on to water rights holders, now we need to report water use.
- Diversion in adjudicated basins, will records held by water master be enough?
- Water rights holders will do reporting, not people who lease land.
- Exemption for stock ponds that are water collections.
- Concept 1: Agency reporting earlier than July 1st to April 1st is impossible. Lack of data received by USGS. Not enough time
 - Alternative: provide data earlier and final data later in year. Support July 1st date.
- Reporting of water use or amount the pond holds.
- Use of water by fire department/forestry for firefighting reporting.
- Reporting of water use for truck loads.
- Electronic reporting for small farmers is a challenge: not all can use a computer.
- Monthly reporting problem. Not all watersheds monitored the same way. Low vs high flow diversion.
- Regulation discourages long term water storage.
- Previous cycle (5 year reporting) – will they have to report for prior years or will it start as of January?
- Reporting for all at the same time?
- Water year reporting instead of calendar year reporting.
- Reporting data will be publically available all will replace previous reporting system
- Spring with a reservoir is a unique case.
- Diverters that need to report with SB 88 – all water right holders who are already required to report to Board
- Covers subterranean streams but not percolating water

- Report and capture data on water used for firefighting/fire protection

Concepts 3,4,5

- Concept 4: GSA formation and other regulations encourage smaller diverters to not participate.
- Registration is exempt is good.
- Measuring for stockpond is too much, if not consumptive use then should not require monitoring.

Concepts ,6,7,8,9

- The water fix will remove water from farmer, should not have to comply if land will be taken.
- January 1st deadline is too soon, non-compliance if regulation has not been created yet.
- Propose in-lieu regulations/methods when appropriate. Alternatives may work instead of regulations dictated.
- Concept 9: A plan submitted to the division and approved by the director. Case by case analysis.
- Concept 6: Higher diverter use; wildlife habitat provided.
- Concept 9: Recirculated system of tidal water. Water fowl habitat, will they be regulated?
- Look at larger area diverters for example Delta rely on brackish water for habitat.
- Concept 7: List of devices that will meet regulations performance standards.
- Will proposal include an itemized list of case by case evaluation of projects by Boards?
- Will staff come out to the farm to evaluate cases?
- Power meters with pump standards (use as a measuring device).
- Ten acre feet, does this refer to water use or reservoir capacity?
- Limitation of checking device when checking the accuracy of measuring device.
- Concept 7: for large reservoirs no measuring device, all done by standard calculation. May not meet accuracy standards.

Concepts 10, 11

- California water project causes the river to flow backward, accuracy will vary. Pumping is regulated by state and federal. Water rights holder has no control over pumping and reversal.
- Prov. that others' actions are not affected. Accuracy of individual's instruments.
- Accuracy of water being used
- Size of diversion is approximate. Need to include public use.
- Put up regulations and schedule of proposed dates for implementation
- Want target date.
- Emergency regulation, does it allow for Board to establish regulations and compliance time.
- Concept 10: Government agencies have three phases they need to comply with. May require new permits
- Concept 10: Measurements, Board has previously allowed for different measurement measures, will these still be acceptable?
- Pending application in pipeline for water rights, will application need to be restarted; will SB 88 apply to pending water rights application?

- When will “emergency” status stop?
- Request for all information in writing
- Cost
- Monthly vs annual reporting online
- Best way for public to communicate with staff
- How will public communicate with staff once regulation is in place?
- If junior water rights holder and haven’t gotten water due to drought, do they still need to report?
- Will reporting be done at same webpage with the Water Board?
- Watersheds in California vary; do these regulations apply to all watersheds even if they are not in drought conditions?
- Are Regional Boards involved with implementation?

2.1.5 Santa Rosa Listening Meeting – November 12, 2015

SWRCB staff included: John O’Hagan, Kathy Mrowka, Paul Wells, Nathan Weaver, Tim Moran, Gita Kapahi, and Monique Wilber. Approximately 40 members of the public attended.

Concepts 1,2,3

- How do you define “water issues”?
- What if someone is conservative in water use and someone else isn’t?
- Concept 1: Six months which is what is now, is reasonable. Otherwise concept 3 will conflict concept 1.
- You’re requiring people to put meters on; state should upgrade their reporting system.
- Reporting monthly is a problem in the drought.
- Diversion is different than use. If you are diverting surface run-off, if one year you collect less than another do you still have to report? Like if you collect seven acre feet?
- I have a well and I got a letter. Do I report?
- To clarify, if you have a pond that is sheet-fed, does this apply?
- Concept 3: Multiple points of diversion on one tributary, or multiple points of diversion on more than one stream?
- Define “sheet flow and “electronic.”
- We’re using less than our licenses; 20 acre feet water right but using 7 acre feet. How does SB 88 apply?
- Multiple points of diversion on several properties that are not contiguous. Do we add it all up? Each one of ours is being reported individually.
- Do you want to know when it’s going into the pond, and, when it goes out of the pond?
- Upper Basin some diverters using contract water. Such as 3 acre feet contract water and 7 acre feet diverted water. How do you count this?
- If Board reviews already reported use, why this new measurement requirement? You are punishing people already regulated, instead of those not complying.
- Why doesn’t Boards look at who is drying up the streams upstream? You are not enforcing.

- What is the current measurement requirement if you are less than 10 acre feet?
- Concept 3: place of use criteria – is that exact place of use? Some ranches have adjacent places of use. It is more complicated.
- What is the risk to our right if using/reporting less water? What is the reward? Will Boards reevaluate our rights based on the electronic database?

Concepts 4,5,6,7

- We have a tree farm and divert about 7 acre feet into pond. Use 95% for recreation and wildlife, watering our road, and for fire use. All ponds leak. Overflows in winter. Pond goes down as there is inflow and outflow. How do you measure? I estimate. I keep records when water is used for road or fire. More than 10 acre-feet, and turtles and wildlife use too. How do we deal with that? How does public gain from my reporting? Expensive and uncertain to measure what I'm diverting.
- There needs to be some flexibility to spend money to measure ponds. What is the point; what is the goal?
- Do people have water holding permits (for ponds)?
- Diversions reporting versus use reporting? Natural succession. Ponds are destined to become meadows. Prevent silt from going into river. Ponds get silted up and would change over time. Take staff gauge and use for water usage?
- Concept 7: Appreciate flexibility on the device. Connect it to concept 11. What is the accuracy standard, and what about when it changes?
- Concept 7: Keep accuracy standards simple. Do you have a method or process to keep it simple and feasible? Have a performance standard.
- Middletown. Ephemeral streams run into ponds. Into ponds. We have staff gauges in all ponds calibrated with propeller flowmeter. Not sure how SB 88 will change that. Three ponds, one flows into others. Some gauges go up, some go down. But they use flowmeters. Have accurate capacity curve. Not clear if it's raining. Tighter interval than monthly?
- SB 88 language is diversion intervals every 1 hour. Concept 7 might not have capacity for that reporting, and just changed meters. What about exceptions for repairs and maintenance of gauges?
- Concept 7: you're asking for a lot. Why can't we have monthly reports, completed annually? No power source at meters. Rural meters can get stolen. What about the flood issue?
- Concept 4: is a lot of work for people with ponds. Why not exclude and only do agriculture. Higher measurement threshold for ponds is better.
- Regarding extraction rates over 30 day average – for daily, hourly regulations is stringent.

Concepts 8,9

- Concept 9: January 1 timeframe?
- Measurement can be collaborative, but reporting is individual, correct?

Concepts 10, 11

- Concept 10: Section 17, VI, July 2016.....not seeing January 2016 as target, but July 1 2016 as target.
- Section 18 of 54017: Supplemental statement filing. Clarify – is that retroactive?
- Concept 10: Staggered implementation. Basis of timeline should be on complexity of system. Difficulty, not size.
- Concept 11: Clarify – part of reporting process to describe system. Will there be a point where descriptions are required?
- You'll have to state the device is certified? Onerous to pay technician to come out and check/inspect device. If Board is providing advice, provide guidelines for devices.
- Simple system versus complex system. Hourly requirement is nebulous. Don't think people will comply, they will average it. Super simple installation of flow meter; maybe have people snap a photo of it.
- Concept 10: Has staff been thinking of currently existing installed meters are in compliance?
- When is proposed regulation going to be distributed?
- When is December Board workshop?
- For distribution of drinking water, muni is looking at water treatment operators who are already licensed. Also, waste water treatment plant operators who are licensed have experience testing, using, and monitoring these systems.
- Accuracy depends on importance of measurement. Seems like use basic criteria – there is a difference between diversion and use for example. Potential for impact is low is an example of criteria. Why are we doing it? That's where criteria should be.
- Have a checklist to determine criteria.
- Regarding certification. Have an alternate mechanism. Performance-based measurement like the gentleman suggested with his pond.
- How to provide safe harbor. Environmental groups will want tight measurements.
- What if you are applying for water rights now? How do we be compliant while we are applying?
- As a T-1 operator, all meters are required to be changed every 10 years.
- We report annually now. Monthly or hourly. Downstream ag wells put in. If stream dries up, I'm concerned with upstream vineyard pumping. I have to put a dam above my dam and divert upstream water. I have to deal with extra water flow. People like us have to report and others don't. I have to hire consultants and attorneys to keep my dam.
- How will Boards notify statement holders? What timeframe? When will notices go out?
- Are you keeping track of flows in the river and what is left over for environmental uses?
- Diversions measurement versus stream flow. To calculate for unregulated users, is important.
- I don't see how measurements of ponds are useful. Streams that used to flow don't, some wells are next to the creek. Transpiration rates are high by some flora. What are we gaining from complexity of specific data? Data may not mean much.
- Emergency regulation because of drought. What if we come out of drought?
- I can't find who has diversions on website.

- Caution you to get buy-in, and to provide more carrots and less sticks. Alleviate cost, make dependent on usage, let diverter do own device maintain, have differences based on watershed.
- Are there stiffer measurement accuracy requirements for very big users?

State Water Resources Control Board

POTENTIAL OPTIONS FOR FINANCIAL ASSISTANCE MEASUREMENT OF DIVERSIONS

- This summary page is provided for informational purposes only. Please contact the appropriate funding organization for additional information on a particular funding program.
- All of the programs have a competitive process for awarding funding. Only a portion of the applicants will be approved to receive funding.

Program Name:	State Water Efficiency and Enhancement Program (SWEEP)
Funding Organization:	California Department of Food and Agriculture
Eligible Types of Proposals:	Applicants must show water savings and greenhouse gas reductions
Eligible Parties:	Farmers
Anticipated Application Dates:	November 9 through December 19, 2015 (\$15 million) January through February, 2016 (\$19 million)
Maximum Funding:	\$200,000 cap per application
Cost Sharing:	Not required. However, additional consideration is made for funding if an application has matching funds.
Website:	https://www.cdfa.ca.gov/environmentalstewardship/weep.html
Phone:	(916) 657-3231
Email:	grants@cdfa.ca.gov

Program Name:	Water Smart Program
Funding Organization:	United States Bureau of Reclamation
Eligible Types of Proposals:	Applicants must demonstrate water conservation
Eligible Parties:	Applications must have legal authority to deliver water or power – eligible parties include irrigation districts, water districts, urban water suppliers, and tribal entities.
Application Period:	Typically for 45 to 60 days between November and January
Maximum Funding:	Variable from year to year.
Cost Sharing:	Minimum 50% cost share is required
Website:	http://www.usbr.gov/watersmart/

Program Name:	Environmental Quality Incentive Program (EQIP)
Funding Organization:	Natural Resources Conservation Service, US Department of Agriculture
Eligible Types of Proposals:	Measurement associated with improving on-farm irrigation practices. Implementing conservation practices that address natural resource concerns. Applicants may apply under Water Conservation Practice 587 – Water Control Structure – Flow Meter
Application Period:	Accepted year-round. Evaluated for funding based on batching schedule
Eligible Parties:	Agricultural producers and Tribes
Maximum Funding:	\$450,000 (for all EQIP contracts entered into from 2014-2018)
Website:	http://www.nrcs.usda.gov/wps/portal/nrcs/main/ca/programs/financial/eqip/

Potential Options for Financial Assistance, Measurement of Diversions

Program Name: **Agriculture Water Use Efficiency Grants**

Funding Organization: Department of Water Resources

Eligible Types of Proposals: Applicants must demonstrate they are saving water

Application Period: Spring 2016

Eligible Parties: Government agencies, non-profits, and tribal entities.

Cost Sharing: Minimum 50% cost share is typically required

Websites: <http://www.water.ca.gov/wuegrants/index.cfm>

<http://www.water.ca.gov/wuegrants/SolicitationsProp1AG.cfm>

Phone: 916-651-7025

Email: WUEGrants@water.ca.gov

SENATE BILL 88 AND DRAFT EMERGENCY REGULATION FOR MEASURING/REPORTING

Written Comments Filed Prior to December 7, 2015.

Author	Organization	Date
Ron Bingaman	Sierra Green Energy, LLC	October 29, 2015
Felice Pace		October 30, 2015
Kathleen Spencer	Peterson Land & Cattle Co.	October 30, 2015
Andrew Stevenson	Hydro Sierra Energy LLC	November 2, 2015
Ben Singer	Hydrodynamics	November 2, 2015
Robert J. Matteoli, PE		November 5, 2015
Bob Pincus	WQ consultants	November 5, 2015
Becky (no last name on email)		November 12, 2015
Bill Ferguson	City of Santa Barbara	November 9, 2015
Jason Carkeet	Turlock Irrigation District	November 9, 2015
Jason Carkeet	Turlock Irrigation District	November 9, 2015
Jason Carkeet	Turlock Irrigation District	November 9, 2015
Ivory Reyburn	Coachella Water District	November 9, 2015
John Clements, PE	GEI Consultants	November 9, 2015
Ryan Hilburn	W.M. Beaty & Associates, Inc.	November 9, 2015
Jeffrey A. Volberg	California Waterfowl	November 10, 2015
Mike Bonnheim		November 11, 2015
Steven Chappell	Suisun Resource Conservation District	November 12, 2015
Bob Pincus	WQ consultants	November 12, 2015
Linda D. Boudier		November 13, 2015
Bill Ferguson	City of Santa Barbara	November 16, 2015
Henry and Pam Giacomini		November 17, 2015
Leonard Moty	Shasta County Board of Supervisors	November 17, 2015
Frost Pauli	Mendocino County Farm Bureau	November 18, 2015
Rich Fischer	Shasta County Cattlemen's Association	November 18, 2015
Suzanne Womack		November 22, 2015
Emmy Cattani		November 23, 2015
George Barber	Paradise Irrigation District	November 23, 2015
Louis "Weegee" DeBernardi		November 24, 2015
Ted deBraga	North Eastern California Water Association	November 24, 2015
William A. Spence		November 24, 2015
Mark Lathrop	Shasta County Farm Bureau	November 25, 2015
Curt Aikens	Yuba County Water Agency	November 25, 2015
Rex Cozzalio	Siskiyou County Water User's Association	November 29, 2015
Susan F. Petrovich	Brownstein Hyatt Farber Schreck	December 3, 2015

DWR-Measurement

From: Wells, Paul@Waterboards on behalf of DWR-Measurement
Sent: Friday, October 30, 2015 1:50 PM
To: 'Ron Bingaman'
Subject: RE: Water Board Notice Letter Oct. 26, 2015 request for comments

Mr. Bingaman,

Thank you for your comment.

Sincerely,

Paul Wells
Division of Water Rights
(916) 323-5195

From: Ron Bingaman [<mailto:ron.bingaman@gmail.com>]
Sent: Thursday, October 29, 2015 8:17 PM
To: DWR-Measurement
Subject: Water Board Notice Letter Oct. 26, 2015 request for comments

Good day,

I am providing feedback and comments relating to the notice letter dated Oct. 26, 2015 from the State Water Resources Control Board in which the Board is soliciting comments to assist the Board in creating regulations found in Senate Bill 88, Chapter 27.

I have reviewed the letter content and offer the following comment. There should be a carve out for facilities which divert water on a NON-CONSUMPTIVE basis. If there is no carve out or exception for this type of water right, the data will be screwed if the Board includes the diverted water numbers for these facilities, there will be an artificial surplus created in the data as the water is returned to the waterway.

To keep the data accurate, any non-consumptive water right should be excluded from reporting or as an alternative the Board will have to create some type of calculation to add back in the water that is returned from these facilities back in the water ways.

It would be seem less problematic to just carve out any non-consumptive water rights as the amount of water diverted should be equal to the amount of water returned to the waterway, thus a net zero effect on the amount of available water.

Thank you for considering this comment.

Best regards,

Ron Bingaman
Managing Member
Sierra Green Energy, LLC
530-268-2153

DWR-Measurement

From: Wells, Paul@Waterboards on behalf of DWR-Measurement
Sent: Friday, October 30, 2015 1:51 PM
To: 'Felice Pace'
Subject: RE: Media Advisory: Salmon Disaster looms in the Scott River Basin

Mr. Pace,

Thank you for your comments.

Sincerely,

Paul Wells
Division of Water Rights
(916) 323-5195

From: Felice Pace [mailto:unofelice@gmail.com]
Sent: Thursday, October 29, 2015 1:18 PM
To: DWR-Measurement
Subject: Fwd: Media Advisory: Salmon Disaster looms in the Scott River Basin

Concerning regulations to implment the new diversion measurement law please see the media advisory below. Please design the regulations to address the out-of-season irrigation and over-diversion under stockwatering rights that occurs year after year in the Scott River Basin. That means reporting must be year around to be effective. And there need to be signifiant consequences for failure to report each month of the year. There needs to be significant and progressively greater fines for failure to report and reporting must be on a monthly basis to be meaningful.

Felice Pace

Felice Pace
Klamath, CA 95548
707-954-6588

"There's a crack in everything; that's how the light gets in."

- Leonard Cohen

----- Forwarded message -----

From: Felice Pace <unofelice@gmail.com>
Date: Thu, Oct 29, 2015 at 12:55 PM
Subject: Media Advisory: Salmon Disaster looms in the Scott River Basin
To: undisclosed recipients <unofelice@gmail.com>

KlamBlog Media Advisory

Felice Pace, editor

www.klamblog.blogspot.com

28 Maple Rd. Klamath, CA 95548 [707-9546588](tel:707-9546588) unofelice@gmail.com

Reporters and editors,

There is another salmon disaster in process in the Klamath River Basin but, like much that is newsworthy concerning the plight of salmon in this basin, it is not being reported. I'm asking you to help correct that reality.

Right now flows in the Scott River are 6.5 cfs and the Chinook run which should have been spawning in the Scott Valley for the past two weeks is stuck down in the canyon due to low flow barriers. Unless there are large rainstorms soon, it is highly likely that most of the Chinook salmon production from the Scott River Basin this year will be lost and that will be a major step toward extirpation of Chinook from most of the Scott River Basin. If sufficient rains don't come during the next month, the Coho run will also be negatively affected.

Part of the reason flows are so low is drought. But the unrestrained pumping of groundwater which has lowered the water table prevents the springs which should be feeding the river at this time of year from running until winter rains can replenish the aquifer (see:

<http://www.fws.gov/arcata/fisheries/reports/technical/Van%20Kirk%20and%20Namen%20Base%20flow%20Trends%20JAWRA.pdf>). Also, the practice by some surface water right holders of running their ditches full at this time of year when they only have stock watering rights or even of irrigating out of season because they want to soak pastures are major factors (see photos below).

This is done with impunity because state regulators won't act to stop it in spite of Public Trust complaints which have been filed asking them to end the illegal water use. Below are photos of out-of-season irrigation and a ditch running full during winter. To be clear, these are not from this year but they show practices which occur repeatedly by several irrigators year after year. The California DFW and State Water Board know about this situation but they do nothing to end the illegality. In short, flagrant abuses of water and wildlife laws are well known but ignored by the very officials who swore to uphold those laws. For a 2001 news article documenting this with respect to DFW see [this link](#). Unfortunately, DFW non-enforcement of laws which are supposed to protect fish is ongoing.



Out of season flood irrigation - Scott R Valley - 10/30/07



Ditch from Shakleford Creek running full in December 2009

The US Forest Service holds a right to flows in the Scott for "minimum subsistence-level fishery conditions." This time of year that right is 40 CFS and goes up to 200 cfs in November for the primary right and there is an additional secondary right. As mentioned above flows are currently 6.5 cfs. The FS in-stream right is not met in many months even in years of average precipitation and snow pack.

National Forests were created to secure a timber supply and to achieve "favorable conditions of flow" in western rivers and streams. The water diverted and pumped by Scott Valley irrigators is produced on national forest lands at the headwaters but little to none of that water gets to flow out of the Valley to the Scott River Canyon which is also predominantly national forest land. Yet the Forest Service has refused to ask the State Water Resources Board to regulate water use in the Scott River Valley so that the in-stream flow right for fisheries is met. In this way, managers of the Klamath National Forest have failed to fulfill one of their basic responsibilities.



Scott River near the downstream end of Scott Valley on September 29, 2015

The lack of access to spawning grounds in and above the Scott River Valley is an issue in many recent years (see, for example, the 2012 KlamBlog at [this link](#)). Sometimes the rains and flows come in time for the Chinook and sometimes not. Because their spawning run occurs in November and December, Coho spawning is less often affected.

Please let your readers and listeners know what is going on in the Scott River Basin. Reporters, please ask managers of the Klamath National Forest¹ why they have not insisted that the State Water Board enforce the Scott River Adjudication so that in-stream flows can be met or, in times of shortage like this, so that the shortage does not fall entirely on the salmon. And please ask the State Water Resources Control Board Water Rights Division² why they have not acted on Public Trust Complaints about illegal, out-of-season irrigation and excessive diversion under stockwater rights.

If I can clarify anything above or can be of any help with reporting on the Scott River situation please call me at [707-954-6588](tel:707-954-6588).

Footnotes:

¹Patricia Grantham is supervisor of the Klamath National Forest and can be reached at [707-842-6131](tel:707-842-6131).

²Barbara Evoy is head of the Water Rights Division at SWRCB. Her direct line is [\(916\) 341-5632](tel:916-341-5632). Evoy's assistant in charge of the Public Trust office is Dan Schultz. His direct line is [\(916\) 323-9392](tel:916-323-9392).

Felice Pace
Klamath, CA 95548
[707-954-6588](tel:707-954-6588)

"There's a crack in everything; that's how the light gets in."

- Leonard Cohen

DWR-Measurement

From: Wells, Paul@Waterboards on behalf of DWR-Measurement
Sent: Friday, October 30, 2015 2:37 PM
To: 'Kathleen Spencer'
Subject: RE: Reporting Requirement

Good Afternoon Ms. Spencer,

The regulation is being developed to allow water users with situations that are difficult to measure with a device the option of submitting a measurement method or other alternative for determining the amount of water they are diverting.

A draft regulation should be released for public review and comment in early December. At that time, we can discuss what the proposed process might be for your specific situation.

Regarding the public meetings, the Division is planning to first run the five public meetings as scheduled and then determine if additional meetings will be held.

The meeting on November 9th from 1:00-4:00 pm will be webcast. The webcast of the meeting will be available at <http://www.calepa.ca.gov/broadcast/>

General information on the regulation process is available on the following webpage:

http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/

Feel free to contact me directly if you have any specific questions about the regulation or the adoption process.

Sincerely,

Paul Wells
Division of Water Rights
(916) 323-5195

From: Kathleen Spencer [<mailto:ksspencer48@gmail.com>]
Sent: Friday, October 30, 2015 5:47 AM
To: DWR-Measurement
Cc: plcc@garlic.com; Brian Schmidt; cinschmidt@sbcglobal.net; Crystal S. Henzi; David Pariseau; gregastro@sbcglobal.net; izneh34@hotmail.com; jschmidt@tekplusinc.com; schmidt62@sbcglobal.net; schmidtmh@sbcglobal.net; Swenson, Stacey@miml.calstate.edu; Sundance Scardino; Tina Jollyschmidt
Subject: Reporting Requirement

To Whom it May Concern (If anyone reads this)

I just picked up my notice from the Water Board at the post office on October 29. I see your letter was posted on October 26 notifying us of the reporting survey you are demanding we fill out and which we used to try fill out. Really nice of you to let us know early so we could arrange to attend the meetings starting November 2. Here is my problem with this all.

We have been taxed on three permits (one contains 3 dams) for years now. That is 5 dams I was supposed to report on. Surveys have been sent out before but I could not fill them out. I called to get help but the person I got was nice

enough but could not realistically help me. How do I fill our surveys for dams who don't contain water for any length of time? You should come out and see our dams in June. You also need to educate the people receiving the surveys. It is all written in government speak.

We live in the Gabilan Range at an attitude of 1500 feet or more. We are actually considered a high desert. In the 1950's the NRCS was giving money to ranchers to build dams. My father did that. He got the 3 permits to build dams. One permit has 3 dams on it. It took me years of phoning Sacramento until I got a knowledgeable person that could at least tell me what dams were on what permits. I am sending you the copies of my bills on these dams and their information. They are located on three ranches BV (Bear Valley), HV (Horse Valley) and PR (Peterson Ranch). I am also sending you the acre feet that my father gave on what water they could contained in acre feet. There is only one of the five (BV Fishing Dam) that is located in a stream (Sandy Creek) and actually diverts water when we have a sizable rainfall. We do have one dam fed by a spring. We don't have enough water in any dam or well to irrigate.

Not only did I get this notification with not much time to respond or go to a meeting, you did not pick a place to have the meetings anywhere near us. You should at least have had one meeting in the Central Coast. Why did you leave us out? We have to resort to emailing you or phoning.

I hope someone is listening. You people need to get out of the office and check out the real world. We just went through this with GRAP.

Sincerely
Kathleen Spencer
Peterson Land & Cattle Co.
27000 Airline Hwy.
Paicines, (San Benito County),CA
831-389-4320

DWR-Measurement

From: Wells, Paul@Waterboards on behalf of DWR-Measurement
Sent: Tuesday, November 03, 2015 12:16 PM
To: 'Andy Stevenson'
Subject: RE: Comments on water measurement and reporting regulation

Good Afternoon Andy,

Thank you for providing comments on the concepts and recommendations for the water measurement and reporting emergency regulation.

Sincerely,

Paul Wells
Division of Water Rights

From: astevenson07@gmail.com [<mailto:astevenson07@gmail.com>] **On Behalf Of** Andy Stevenson
Sent: Monday, November 02, 2015 4:43 PM
To: DWR-Measurement
Subject: Comments on water measurement and reporting regulation

Hello -

I work for diverter Hydro Sierra Energy LLC, a federally licensed (FERC) hydroelectric power facility in Yuba County, CA. We have four comments on the regulations:

http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/docs/public_concepts_emerg_reg.pdf

- 1) We believe that a specific methodology for the small hydroelectric power industry should be explicitly included and endorsed in the regulation. This methodology allows for indirect measurement of the amount of water diverted based on a measurement of power output and an established ratio between power and water flow specific to that project (i.e. 1 cfs per 20 kW of power). This is the most common current methodology for small hydroelectric power producers, and is accepted by USGS and FERC. It would provide regulatory certainty for small power producers if it was explicitly approved in the draft regulations.
- 2) We agree with the recommendation under Concept 5 that measurement methods meeting requirements of other agencies should be grandfathered in to the extent they meet accuracy guidelines.
- 3) We also agree with the recommendation under Concept 7 that specific measuring devices or methods shall not be required, but they should meet reasonable accuracy standards.
- 4) Under Concept 9, we agree that the regulation should include a framework for alternative approaches, and that those approaches should be approved if strict compliance is unreasonably expensive or infeasible.

Andy

--

Andrew Stevenson
Hydro Sierra Energy LLC
847.924.3890
[LinkedIn](#)

DWR-Measurement

From: Wells, Paul@Waterboards on behalf of DWR-Measurement
Sent: Tuesday, November 03, 2015 2:41 PM
To: 'Ben Singer'
Subject: RE: Notice of development of water measurement and reporting regulation

Good Afternoon Ben,

Thank you for your comment.

Staff is recommending the regulation establish a framework for considering alternative approaches. One of the alternatives to consider is the non-consumptive use example you raised in your email.

The draft regulation will likely be released for public review and comment in early December.

Please keep checking the emergency regulation webpage for updates.

http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/

Sincerely,

Paul Wells
Division of Water Rights

From: Ben Singer [<mailto:ben@hydrodynamics.biz>]
Sent: Monday, November 02, 2015 10:29 AM
To: DWR-Measurement
Subject: Notice of development of water measurement and reporting regulation

Sir/Maam,

I have received your letter regarding proposed required water diversion reports. Would there be an exemption for non-consumptive use? We operate a number of small hydroelectric projects and don't feel it would be appropriate for us to have to submit monthly reports.

Thank you

Ben

Ben Singer
Hydrodynamics Inc
375 Holland Ln
Bozeman MT 59718
406-763-4063
406-763-4468 FAX

5 November 2015

Barbara Evoy, Deputy Director
Division of Water Rights
1001 I Street
Sacramento, CA 95814

SUBJECT: DEVELOPMENT OF WATER MEASUREMENT AND REPORTING
REGULATION

Thank you for the opportunity to respond to the new reporting issue.

This letter concerns stock pond 5648C-7, Calaveras County. Stock ponds are used in agriculture, and agriculture is a beneficial use. But stock ponds are extremely important to foothill flora and fauna under wildlife enhancement beneficial use, especially during drought conditions.

The new law directs you to establish monitoring programs that will obtain relevant data to help you determine how to meet the goal of providing adequate water supplies state wide. Often, however, the intent of a law does not consider all realities. Such is the case with the new legislation you are tasked to implement. You must now consider priorities and exemptions to best achieve your objectives within your allotted budget.

My stock pond only receives water from rainfall and runoff. It does not receive any water from a purveyor. Nor is the water used for irrigation. As such, no water is received/diverted whenever there is no direct rainfall and runoff.

My Stock Pond

I constructed my stock pond after the 1970's drought. During construction, I had the contour surveyed to give volume to depth measurements. The site contour map with depth to volume table is in your files. The table and a portion of the contour map is Attached. I wanted a relevant method to know the volume of water in the pond at any given time. With the contour map and table, I can now visually estimate the volume of water in the pond. Taking a visual measurement in the fall gives me a low volume reading. Taking a visual measurement in the spring gives me a high volume reading. The difference is the volume of water I stored during the winter. And I report if the pond overflows when it does; however, it has not filled or overflowed during these drought years.

A Big Stick Won't Work

A calibrated post in stock ponds to measure depth will not work. When the water is low, cows, deer, and bears will use the post for scratching and knock it from vertical alignment, thus rendering the post useless as a measuring device. Also, requiring a

measurement of diversion when there is no rainfall or runoff provides no data except a big zero.

Non-Moving Water

A long term objective to require the draining of a foothill stock pond, during the summer of a drought, to provide water for Delta fish or Los Angeles, has no practical reality. Even in a normal year, the down gradient land would be so dry that it would soak up what little water there is like a dry sponge. Down stream users would never see the water. This water will not 'move' to where you would want it to go.

Furthermore, there could be so little water in the ponds that the only way to get the water out of remote stock ponds would be with a bucket.

State Board's Task

You have a Herculean task to implement all the well meaning legislation. However, your agency must put each piece of legislation in perspective, consider how its intent can be practically implemented, compare the cost to benefit of each, and move forward on the biggest bang for the buck. Tax payers want to pay for the highest return. Collecting meaningless data for data collection sake is intellectual ascent with moronic practicality.

What little water there is in stock ponds during drought conditions is:

- minimal compared to other available water,
- cannot be moved to where decision makers would want it to go, and
- cannot be monitored monthly with any relevant meaning.

Furthermore:

- Monthly monitoring of stock ponds will not increase your understanding of how stock ponds operate,
- Transparency of records can be achieved with two measurements which calculate stored volumes through the rainfall months, and
- A true value of stored volume will give you more accurate data on available water.

Therefore, stock ponds not associated with irrigation should be exempt from monthly monitoring. And those stock ponds greater than 10 acre-feet should only be required to provide the volume of water captured during the rainfall year, not the calendar year.

The Real Solution

The most valid solution to provide adequate water supplies state wide is for more reservoirs. And, except for Sikes Reservoir, Temperance Flat Reservoir, and increasing the height of Shasta Dam, the most relevant reservoirs will be ground water basins.

The State Board should focus on implementation of SGMA. Through SGMA, SGA's integrating conjunctive use and banking can store water for future drought relief.

The State Board should not micromanage the process, but rather provide guidelines for the Water Districts with banked water to sell that banked water to entities which need the water. Moreover, the State Board should not interfere in the process of two entities agreeing to and transferring banked or surplus water. Nor should you stop any agreements.

Finally, the Delta Water Master should be expanded to a Supervisor's Unit and be solely responsible for all the new Delta monitoring, all Delta water contracting, and Delta pumping. The Delta Water Master and his staff should be completely separate from all other State Board management.

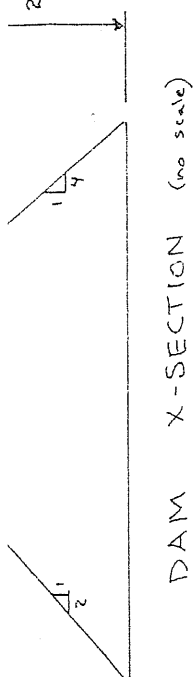
Northern California water users do not want socialized water and do not want Northern California to be the next Owens Valley only to the benefit of Southern California interests. Furthermore, California is not Australia.

Again, thank you for your time and consideration.

A handwritten signature in black ink that reads "Robert J. Matteoli". The signature is written in a cursive style with a horizontal line striking through the middle of the name.

Robert J. Matteoli, PE
2640 Avalon Drive
Sacramento, CA 95821

Attachment



CAPACITY CALC.

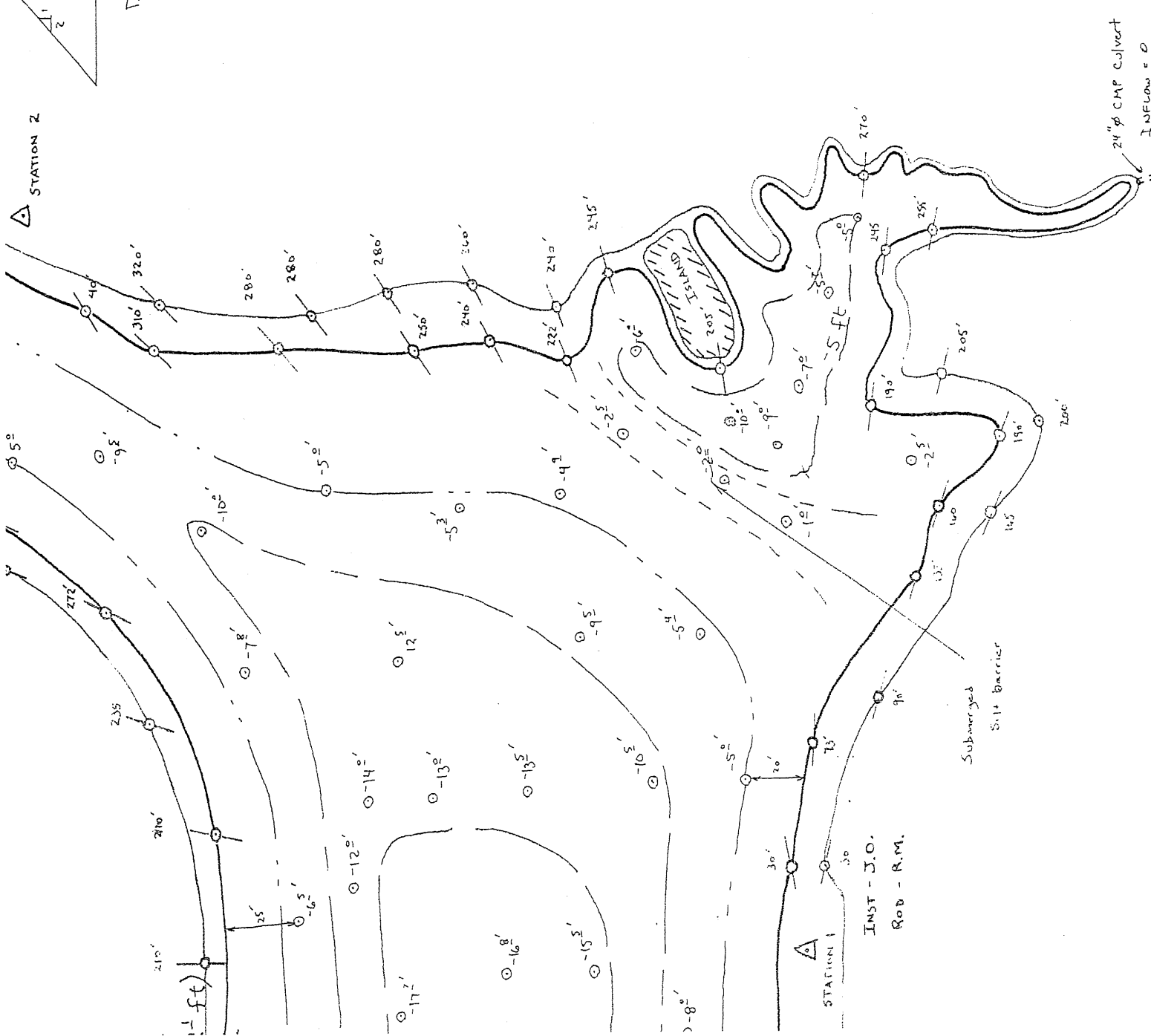
Contour	Area	Avg. Area	Interval	Volume
HWL *	2.83	2.59	2.1	5.44
WS	2.35	1.85	5.0	9.25
-5 **	1.35	1.03	5.0	5.15
-10	0.70	0.49	5.0	2.45
-15	0.28	0.14	2.7	0.38
-17.7				

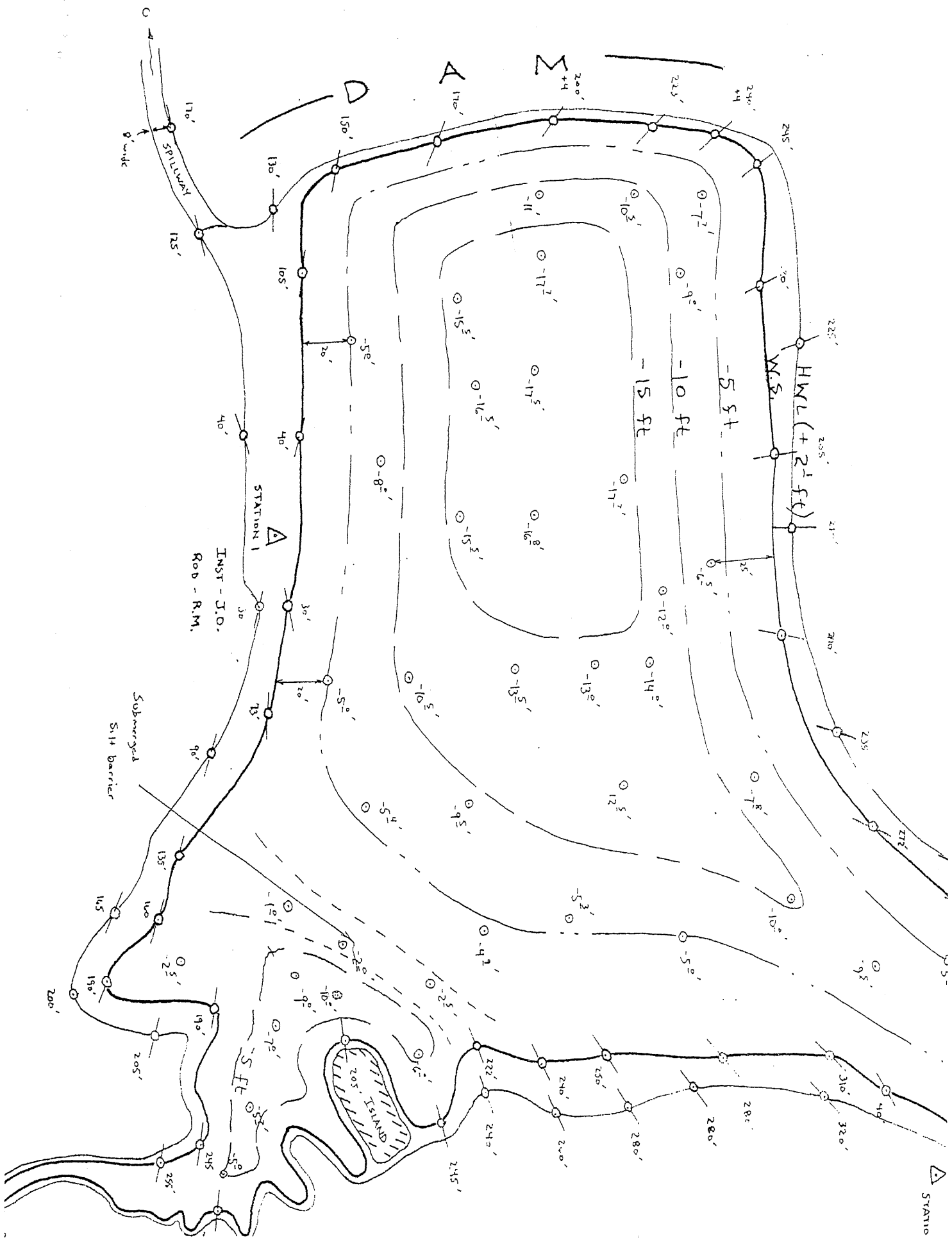
TOTAL = 22.67 ac-Ft

* HWL : Res island (2.85ac - 0.02ac)
 ** -5 ft : Includes silt-barrier (1.29 + 0.06) area

SAY 23 ac-Ft

12-10-43





DWR-Measurement

From: Bob Pincus <rpincus@wqconsultants.com>
Sent: Thursday, November 05, 2015 12:43 PM
To: DWR-Measurement
Cc: Evoy, Barbara@Waterboards; Mrowka, Kathy@Waterboards
Subject: SB 88

SB 88 mandates SWRCB to collect information on the exact amounts of water diversions . This is a long overdue regulation.

There are, though, some valid concerns as to the accuracy and privacy of the information to be provided. Conversations with farmers, vineyard owners and marijuana growers, representing a major portion of significant water diverters, indicate that there is, simply put, paranoia on the part of landowners about sharing their privileged information. Potentially informing their neighbors as to the specific amount of water diverted and used is not, they feel, in their best economic interests. Undoubtedly, this data collection might become the subject of litigation delaying the collection of the data.

Having recently developed a telemetric, ultrasonic streamflow gauge with a cellular reporting system we have an active interest in how the information is to be reported. So, we offer a suggestion on how to provide SWRCB with the water information that it requires while at the same time protecting the individual rights of landowners.

We propose the establishment of a creditable, third party database that can aggregate each landowners information, consolidating neighboring information and thus creating valid diversion information for a particular water reach while at the same time masking individual diversion data.

The database can be maintained by Humboldt State University who has agreed to aggregate and consolidate the data. The advantage of the HSU database would be the collection of more accurate water diversion information as landowners need not fear exposure, to their neighbors, of their own water diversion and use information. Landowner data will be consolidated by HSU along with other diverters in their reach with only the consolidated information forwarded by HSU to SWRCB.

This would be a win-win for both for the landowners and SWRCB.

Bob Pincus
WQ Consultants
707.624.6679

DWR-Measurement

From: Wells, Paul@Waterboards on behalf of DWR-Measurement
Sent: Thursday, November 12, 2015 9:20 AM
To: 'becky@calbotany.com'
Subject: RE: Nov. 9th meeting

Good Morning Becky,

The plan is for the regulation to allow water users to propose reasonable alternatives when a device is not economically feasible. I do not know if using readings from an electric meter coupled with an efficiency test will be an acceptable method.

The specific language is still being written. A draft regulation should be released for public review and comment in early December. At that time, we can discuss what the proposed process might be for your specific situation.

General information on the regulation process is available on the following webpage:

http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/

Sincerely,

Paul Wells
Division of Water Rights

From: becky@calbotany.com [<mailto:becky@calbotany.com>]

Sent: Monday, November 09, 2015 2:30 PM

To: DWR-Measurement

Subject: Nov. 9th meeting

Using SMUD or PGE meters to estimate usage. This was suggested in the meeting. This would be coupled with an efficiency test of the pump, which calculates output per kwh. If this is an acceptable method it would be necessary to decide how long the efficiency test would be good for.

This might be cost effective for farmers if efficiency tests were good for 2-3 years.

cell 916-416-7012

DWR-Measurement

From: Ferguson, Bill <BFerguson@SantaBarbaraCA.gov>
Sent: Monday, November 09, 2015 2:38 PM
To: DWR-Measurement
Subject: Timeline for installation of measuring devices

Regarding Concept 10, please consider that, for government agencies, installation of such devices may entail a feasibility phase, design phase, and a construction phase, subject to public contracting laws and schedules. This process can often take up to a year or more, even for relatively small projects.

Please note new phone # below

Bill Ferguson

Project Manager

City of Santa Barbara

(805) 560-7534

Water Resources Division, Public Works Department

P.O. Box 1990, Santa Barbara, CA 93102

Fax: (805) 897-2613

Email: BFerguson@SantaBarbaraCA.gov

Street Address: 630 Garden Street, Santa Barbara, CA 93101

DWR-Measurement

From: Jason A. Carkeet <jacarkeet@TID.ORG>
Sent: Monday, November 09, 2015 2:00 PM
To: DWR-Measurement
Subject: Reporting Dates

Kathy Mrowka made the comment that the Board wants to stagger the reporting dates because of a fear that the database may not be able to handle an increase in reporting all at one time. From the audience, an apt comment was made with regard to the difficulty of right holders to gather data by April 1 in addition to the issues surrounding the use of provisional data from USGS rather than final data. Given those concerns and others, it appears that the Board faces new challenges due to SB 88, and, rather than address its challenges directly, it wants to foist those challenges upon rights holders. Why does the Board refuse to address its server problems properly?

Jason A. Carkeet
Utility Analyst
Turlock Irrigation District
333 East Canal Drive
P.O. Box 949
Turlock, CA 95381-0949
Phone: (209) 883-8325
FAX: (209) 656-2147

DWR-Measurement

From: Jason A. Carkeet <jacarkeet@TID.ORG>
Sent: Monday, November 09, 2015 2:08 PM
To: DWR-Measurement
Subject: Concept 7

Measurement should be based on contemporaneous industry best practices, which may or may not change over time due to use of standard calculations or changes in technology.

Jason A. Carkeet
Utility Analyst
Turlock Irrigation District
333 East Canal Drive
P.O. Box 949
Turlock, CA 95381-0949
Phone: (209) 883-8325
FAX: (209) 656-2147

DWR-Measurement

From: Jason A. Carkeet <jacarkeet@TID.ORG>
Sent: Monday, November 09, 2015 2:28 PM
To: DWR-Measurement
Subject: Accuracy Standards for Collection to Storage

For collection to storage on all large reservoirs, there are no specific instruments for making such measurements. Instead, operators calculate collection to storage based on other known measurements and using standard calculation methods. These methods are as accurate as possible. The regulation needs to consider this.

Jason A. Carkeet
Utility Analyst
Turlock Irrigation District
333 East Canal Drive
P.O. Box 949
Turlock, CA 95381-0949
Phone: (209) 883-8325
FAX: (209) 656-2147

DWR-Measurement

From: Ivory Reyburn <IReyburn@cvwd.org>
Sent: Monday, November 09, 2015 1:40 PM
To: DWR-Measurement
Subject: SB 88

I agree with the comments made by the representative from Yuma Water District.

- We cannot report our annual permit diversions by April 1.
- We depend on USGS data
- We have multiple permits to report on and gathering the data is complex
- July 1 is a better date.

Ivory Reyburn
Coachella Valley Water District
Water Resources Supervisor
(760) 398-2661, ext. 2200

*P.O. Box 1058 Coachella, CA 92236
75515 Hovley Lane East
Palm Desert, CA 92260
www.cvwd.org*

DWR-Measurement

From: Wells, Paul@Waterboards on behalf of DWR-Measurement
Sent: Thursday, November 12, 2015 7:56 AM
To: 'Clements, John'
Subject: RE: Question for committee

Good Morning John,

This concern was raised at most of the public meetings and is currently being reviewed by Division staff. Additional information on this topic should be available on our website shortly.

Sincerely,

Paul Wells
Division of Water Rights

From: Clements, John [<mailto:jclements@geiconsultants.com>]
Sent: Monday, November 09, 2015 2:58 PM
To: DWR-Measurement
Subject: Question for committee

GEI provides watermaster service for the Scott-Shasta Watermaster District. Nearly all of the 300+ diversions currently have a flow measuring structure or device but not recording instruments. Does SB88 require water users of diversions within a watermaster district to install and maintain recording instruments?

John P. Clements, PE
Supervising Watermaster



GEI Consultants, Inc.
2868 Prospect Park Drive, Suite 400 | Rancho Cordova, CA 95670

T: 530.524.5790  530.524.5790

www.geiconsultants.com | [LinkedIn](#) | [Twitter](#) | [Facebook](#)

DWR-Measurement

From: Ryan Hilburn <RyanH@wmbeaty.com>
Sent: Monday, November 09, 2015 2:45 PM
To: DWR-Measurement
Subject: Water Measurement

As was mentioned earlier, the Board has allowed for those to use different measurement methods when permanent installations were not locally cost effective. Most of these diverters have a good program in place. Are these diverters now going to be required to upgrade to permanent installations even though it is still not cost effective?

Additionally, most permanent installations will require DFW permits. This process will take several months to complete. What type of timeframe will be allowed to obtain these permits and complete the installation? With no regulation in place how is a water user able to plan for these processes?

Ryan Hilburn | Southern District Forester | **W. M. Beaty & Associates, Inc.**
50 Hall Street, Suite A | Susanville, CA 96130
P: 530.257.7191 | F: 530.257.2519 | Cell: 530.310.4267 | Email: ryanh@wmbeaty.com



November 10, 2015

Ms. Felicia Marcus
Chair
State Water Resources Control Board
PO Box 100
Sacramento CA 95812-0100

Re: Comments on Senate Bill 88 and Water Measurement Regulations

Dear Chair Marcus:

The California Waterfowl Association appreciates the opportunity to comment on the emergency regulations being developed for the measuring and reporting of diversions of water as required by Senate Bill 88. These comments will address the process by which Senate Bill 88 was passed, and the necessity of tailoring the regulations to avoid inadvertently criminalizing water users who have difficulty in meeting the technical and financial requirements of complying with Senate Bill 88.

First of all, Senate Bill 88 is a prime example of the problems that can arise when a bill that makes a major change in policy is introduced and passed without the proper legislative process. Senate Bill 88 was a "spot" bill with no substantive provisions until it was amended with the final language on June 17, 2015. The bill was then passed as a budget trailer bill in both houses on June 19, 2015, despite the fact the substantive language was not connected to any part of the budget. The bill was not subject to review or hearing by any legislative committee with authority over the subject matter of the bill. The first notice most affected water users received of the bill's existence was the Water Board's notice dated October 26, 2015.

This legislative process was improper and unwise. The result is the imposition of rules that are difficult, if not impossible, for some affected water users to comply with, with the threat of criminal penalties for non-compliance. Any regulations promulgated by the Water Board must deal with these problems by ensuring that compliance is feasible and enforcement is reasonable. Otherwise, water users who are legitimately exercising their water rights under Article 10, Section 2, of the California Constitution will be inadvertently susceptible to criminal penalties.

California Waterfowl owns several managed wetland properties in the Suisun Marsh and Delta, and also represents many duck clubs and other private landowners who divert water to provide habitat for waterfowl and other wetland-dependent species.

We have two main concerns with the proposed regulations. The first is cost. California has lost 90% of its historic wetlands. Two thirds of our remaining wetlands are located on private land. Recognizing the high cost of maintaining these managed wetlands, the state and federal governments have adopted an incentive-based approach to wetland conservation via a variety of landowner-friendly conservation programs.

Despite these efforts, the current drought has significantly reduced available waterfowl habitat, both in managed wetlands and wildlife-friendly farming. With less habitat, wintering waterfowl face increased risk of 1) poor body condition when they make their migration back north in the spring and 2) waterfowl disease outbreak such as cholera and botulism. While Senate Bill 88 does provide some flexibility in cases where monitoring is “unreasonably expensive” or infeasible, our fear is that some landowners may opt out of flooding their wetlands, which would reduce overall waterfowl habitat in California even more.

Efforts by the Board to promulgate emergency regulations associated with enforcement of Senate Bill 88 should consider the following issues (among others that may arise):

1. There are many different methods of diversion of water in California. Measurement of these different methods of diversion will involve different methods, as well. Some may be simple and economically feasible, while others may be complex and unduly expensive. Some recognition of the relative feasibility and cost of methods must be included in emergency regulations.
2. California Waterfowl owns properties in the Suisun Marsh, which it manages for the benefit of migratory waterfowl, a public trust resource. Irrigation and flooding of managed wetlands in the Suisun Marsh depends on tidal flows of brackish water, and involves both diversions and returns of water to the water bodies from which water is diverted. This exchange takes place on a daily basis. Emergency regulations will have to consider how to measure the net diversions of water.
3. Emergency regulations will have to consider the effect the costs of compliance will have on federal, state, and private managed wetlands that provide the habitat to support the public trust resource of migratory birds, waterfowl, and wetlands-dependent species, including listed species.
4. Emergency regulations will also have to consider whether there is a benefit to the state of measuring the diversion of brackish water that has very little use other than the provision of habitat to migratory birds, waterfowl, and wetlands-dependent species, including listed species.
5. Effective hourly monitoring of diversions, as required by Senate Bill 88, may require the installation of transducers, which can be very costly. Where multiple diversions supply one parcel, compliance can be prohibitively expensive.

6. Stock ponds on cattle ranches are a source of habitat for migratory waterfowl. Stock ponds also provide groundwater recharge. Most ponds are not fed by defined streams or channels. A requirement that stock ponds that store more than 10 acre feet per year be measured on an hourly basis will be difficult to comply with and will be extremely difficult to enforce. Loss of the use of stock ponds to non-compliance will not only be a loss to agriculture, but also a loss to wildlife.
7. Emergency regulations will have to consider the loss of water in transit through ditches, canals, and other channels. The loss of water through unlined channels provides riparian habitat for wildlife and also contributes to groundwater recharge.
8. The alteration of current diversion structures to include measurement devices on streams or rivers that contain populations of listed species may require permits from the California Department of Fish and Wildlife, the National Marine Fisheries Service, the Army Corps of Engineers, and other agencies. Emergency regulations will have to consider the time required to obtain the necessary permits and alter the diversion structures.

All in all, this is a very ill-advised bill that will create multiple problems for water users, as well as enforcement and data management problems for the Board. Compliance and enforcement within the time frames set forth in Senate Bill 88 will be difficult at best. The Board would have benefitted from the normal and proper legislative process of hearing bills in legislative committees with subject matter jurisdiction and expertise.

California Waterfowl is willing to work with the Board to craft emergency regulations that would minimize the problems associated with Senate Bill 88, while providing the benefits of improved water measurement. California Waterfowl requests that the Board consider the effects compliance with Senate Bill will have on agencies, non-profits, and private landowners who provide the habitat on which migratory waterfowl and other public trust species depends and craft their emergency regulations accordingly.

If you have any questions or concerns, please contact Mark Hennelly by phone at (916) 648-1406 or by email at mhennelly@calwaterfowl.org, or Jeffrey Volberg by phone at (916) 217-5117 or by email at jvolberg@calwaterfowl.org.

Thank you for your consideration of these comments.

Sincerely,



Jeffrey A. Volberg
Director of Water Law & Policy
California Waterfowl Association

Wednesday, November 11, 2015

State Water Resources Control Board

Dear Water Boards,

I have received your notice dated October 23, 2015 and would like to provide testimony and comments for your consideration in developing regulations to implement the new requirements of SB88. For reference, I am the water right holder of the following licenses:

<i>Application</i>	<i>Permit ID</i>	<i>License ID</i>	<i>Status Date</i>	<i>Face Value Amount</i>
A016811	010721	006196	12/27/1955	28
A016601	010491	006195	09/14/1955	24
A024633	017176	011402	07/02/1974	24
A017981	011398	006197	02/07/1958	6.5
A027588	018926	012318	11/19/1982	6
A016812	010722	006409	12/27/1955	10
A025525	017367	011393	10/12/1977	10
A027589	018927	012319	11/19/1982	7

First, the notice explains that SB88 applies to diverters who divert more than 10 acre feet per year. Does this mean that my licenses that are 10 acre feet are exempt from, or subject to these requirements?

My licenses apply to reservoirs used primarily for stock watering and include wildlife and recreational uses. Currently, our diversions are measured monthly by manual recording from reading a staff gauge at each point of diversion. This is already a significant effort due to the remoteness and terrain required to traverse to access them. The new requirements, as we understand them, have the potential to cause a significant negative impact to our ranching business and may drastically inhibit our ability to exercise our licensed water rights.

In your proposed regulations, please consider that not all diverters are alike and the SB88 regulations may not be justly applicable to all diverters for the same reasons.

Due to the terrain and remoteness of our diversion points (reservoirs), access is not available year round due to weather and road conditions, even with an all-terrain vehicle. Frequent visits or manual measurements are not always possible. Any new regulations requiring collecting and to record time stamped measurements at hourly intervals or devices that would continuously monitor rates and quantity diverted would have to rely on costly instrumentation that would impose an excessive and undue financial burden. There is no electricity available at our diversion points to power such devices and the cost to provide power is also not feasible. In fact, the maintenance required on such devices

and equipment would impose a financial burden and would impact our ability to use our water rights.

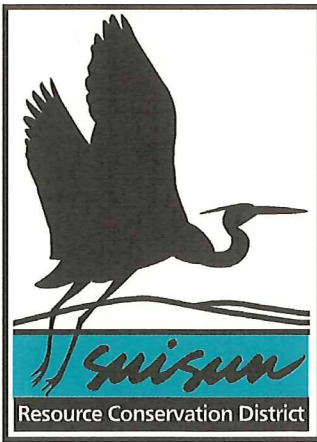
Finally, for such significant potential cost impacts, the results would reflect little or insignificant change in reporting stock watering use where the very small amount of water diverted is collected during storms or used by livestock.

In addition to the above mentioned factors, a waiver request or appeal process should be offered for those diverters who may have circumstances that should deserve special consideration as the new regulations are applied.

Please contact me if you need additional information and thank you for your consideration.

Sincerely,

Mike Bonnheim



November 12, 2015

State Water Resource Control Board
Ms. Barbara Evoy, Deputy Director
Division of Water Rights
1001 I St, 14th Floor, P.O. Box 100
Sacramento CA, 95812

Subject: Comment Letter for the Development of Emergency Regulation
for Measuring and Reporting the Diversion of Water

Dear Ms. Evoy,

The Suisun Resource Conservation District attended the State Water Resources Control Board (SWRCB) workshop in Sacramento on November 9th, 2015 and provided public comments on Senate Bill 88 and the Emergency Regulation for Measuring and Reporting the Diversion of Water. At this workshop it was requested that Suisun Resource Conservation District (SRCD) submit any additional comments in writing on the SWRCB 11 Concepts and Recommendations presented at the workshop.

The SRCD is a special district created by the California Legislature as a legal subdivision of the State of California (Public Resources Code, §§ 9003, 9960 et seq.). SRCD has the primary local responsibility for promoting wetland conservation of the Suisun Marsh through improvements in water management practices on private lands within the primary management area of the Suisun Marsh (*Id.* at § 9962.). These water management practices are directly related to the diversion of brackish water from the Suisun Marsh tidal slough channels.

The Suisun Marsh is located between the western edge of the Sacramento-San Joaquin Delta and the salt water of the San Francisco Bay. It lies within a unique geographic mixing zone that creates this brackish wetland complex. The Suisun Marsh has 52,000 acres of publicly and privately owned diked managed wetlands. These wetlands are managed using brackish water diverted by gravity from the adjacent tidal sloughs to provide wetland and wildlife habitat for resident and migratory wildlife. With the passage of the 2009 Delta Reform Act, the Suisun Marsh was included as part of the "Delta" and was required to file Statements of Water Diversion and Use for the first time under SB 8.

To protect Fish and Wildlife Beneficial Uses in Suisun Marsh, the SWRCB established numeric and narrative salinity standards for the Eastern and Western Suisun Marsh in Water Rights Decision 1485 (D 1485), Order 95-

Directors

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Tim Edmunds
Water Manager/Biologist
Jeff Taylor
Water Manager/Biologist
Dean Podolsky
Water Manager/Biologist
Steve Witherspoon
LJI Resident Caretaker

**SUISUN RESOURCE
CONSERVATION DISTRICT**

2544 Grizzly Island Road
Suisun, CA 94585-9539
(707) 425-9302
(707) 425-4402 FAX
srcd@suisunrcd.org
www.suisunrcd.org

6, and Decision 1641 (D1641) and required the USBR and DWR to meet these Salinity Standards. To further reinforce the protection of the Suisun Marsh from increased salinities, the Suisun Marsh Preservation Agreement, Monitoring Agreement, and Mitigation Agreement (SMPA) was signed by Department of Water Resources (DWR), the United States Bureau of Reclamation (USBR), the California Department of Fish and Wildlife, and SRCD. The primary objective of the SMPA is, “to assure that DWR and USBR *maintain a dependable water supply of adequate quantity and quality within the Marsh* to mitigate the adverse effects on the Suisun Marsh of the Central Valley Project (CVP) and State Water Project (SWP) and a portion of adverse effects of other upstream diversions.” To achieve this objective, DWR and USBR implemented the 1984 Plan of Protection for the Suisun Marsh and DWR continues to operate and maintain DWR’s initial facilities, the Suisun Marsh Salinity Control Structure, and water quality monitoring and compliance stations throughout the Suisun Marsh.

The SRCD offers the following questions and comments to address the 11 Concepts and Recommendations presented at Monday’s Workshop:

1. **Why is measuring the volume of brackish water diverted into the Suisun Marsh necessary? Will the measurement of brackish water diverted into managed wetlands provide any useful information to the SWRCB in making decisions about water availability of fresh water for water users upstream of the Suisun Marsh?**
The SWRCB has established salinity standards to protect the brackish nature Suisun Marsh. The water diverted into Suisun Marsh managed wetlands is downstream of the fresh water uses of the Central Valley and Delta. Can a consideration of this fact be addressed in the new Regulations with an exemption or fair consideration?
2. **Water Diversion measurement devices in Suisun Marsh are not feasible and will not be cost effective or produce reliable information for the following reasons:**
 - The Marsh is a corrosive environment for measurement devices due to the brackish salinity conditions.
 - The sizes of these diversions are relatively small and are used for Fish and Wildlife Beneficial use.
 - The diversion sites are in remote locations with limited seasonal access and generally do not have nearby power sources.
 - Daily and hourly extreme tidal stage variation (over 6 feet of vertical variation) at the point of diversion causes continually changing head pressure and flow rates at each diversion site.
 - Diversion flows stop daily for extended periods of time. This occurs at low tide when water levels are higher in the managed wetlands than the adjacent tidal slough.
 - Most all water diversion structures in the Marsh are dual purpose flood and drain structures. On high tide water may be diverted into the managed wetland, but at low tide water can be drained out of the same structure.
 - Fouling of measuring devices (barnacle growth, siltation, and growth of biological debris) occurs in water control structures that are inundated for most of the year.
 - Water control structures and bulkhead walls are permanently installed within the exterior levee profiles. The removal of these pipes and replacement is cost prohibitive (\$15,000 to \$35,000 each) and would have significant environmental

and regulatory constraints to avoid wetland impacts and protection of several Federal and State listed aquatic and terrestrial species.

- Utility of data provided by the installation of water reporting devices would be of limited value, due to the physical location of these diversions within the lower Bay-Delta Watershed.
- SRCD believes that the current estimate of flooded acreage and water level staff gauge measurements is adequate to “measure” the brackish water diverted for Suisun Marsh wildlife habitat management.

3. Can the implementation of the measurement of diversion requirement be phased in?

- The phasing could be based upon the geographic location (starting with upstream diversions first), prioritizing large diversions, or the fact that the water being diverted is brackish.

Thank you for your consideration of SRCD comments and we look forward to working with your staff in the development of Emergency Regulations for Measuring and Reporting the Diversion of Water.

Sincerely,



Steven Chappell,
Executive Director

Cc. SRCD Board of Directors
Michael George, Delta Watermaster
Paul Forsberg, DFW Water Branch
Pat Graham, DFW Manager Grizzly Island Wildlife Area
Mr. Bill Gaines, Gaines and Associates
Mark Hennelly, California Waterfowl Association

DWR-Measurement

From: Bob Pincus <rpincus@wqconsultants.com>
Sent: Thursday, November 12, 2015 2:51 PM
To: DWR-Measurement
Subject: SB 88 Regulations

After attending the recent SB 88 regulations discussion in Sacramento I have the following suggestions and comments.

1. It might be helpful for your forecasting model if the streamflow of the water source was measured just prior to the diversion.
2. Quarterly reporting, instead of annually, might assist in more rapidly adjusting to any changing streamflow conditions.
3. In this day and age, electronic reporting should be required.

Comments:

Concept 7. SWRCB is currently listing, since 2011, various types of measuring devices. Your web pages include the listing of a number of vendors and their websites. This seems to be a sensible way of informing the public on what types of measuring and reporting devices are available without the State having to make specific endorsements. You might want to consider continuing on with this policy.

Concept 8 . Collaborative measurements should lead, in time, to diversions taken in a sequential manner among the collaborators.

Concept 11. The manufacturer's statement of accuracy should probably be sufficient.

Bob Pincus
WQ Consultants
707.624.6679

~~AB~~
PW

STATE WATER RESOURCES
CONTROL BOARD

2015 NOV 17 PM 3:23

DIV OF WATER RIGHTS
SACRAMENTO

Linda Dismukes Boudier

Attorney at Law #099221
2660 16th Street
Sacramento, CA 95818
(916) 448-3416

Friday, November 13, 2015

**NOTICE REGARDING
DEVELOPMENT OF WATER MEASUREMENT AND REPORTING REGULATION
Cal EPA Headquarters Building
1001 I Street, Sacramento, CA 95812**

**Your Letter dated 10/26/215.
Postmarked 11/02/2015
Your Hearing held 11/09/2015
SBA 88**

**Attn: Barbara Evoy, Deputy Director
Division of Water Rights.**

With respect, I have serious legal concerns about the competency of the implementation plan for SB88. **Please notify your superiors of the following:**

The presentation for SB88 was shockingly condescending and remedial, at best. The presentation was very slow, as if the audience was inept or stupid. It is my opinion that you may qualify to talk to those farmers/diverters/ riparian rights owners if you can fix anything with WD-40 and a Craftsman's wrench.

I was horrified at the reading ability of 4th grade language bullet notes at the Sacramento hearing. The presentation appeared to consist of four hours of reading a pre-determined script. Taxpayers pay for this service?

NOTICE OF REQUEST FOR ACCOMMODATION

On behalf of a class to be defined by the Federal Court, described as all water rights owners, most specifically defined as pre-1914 riparian rights owners of land contiguous with, but not limited to, the following coastal rivers: Sacramento, Klamath, Smith and Russian Rivers, with the class to be expanded, if appropriate, upon request and application to Federal Court:

The Request is for an alternative to web-based reporting requirements. Your web-based reporting requirements are unconstitutional under both State and Federal Constitutions. My court-awarded rate is \$550 per hour if you need further guidance. I recommend State attorneys.

All this means is that the State of California must be able to scan a hand written document into their computer system. *If you can not do that and wish to shift the Internet burden to individual farmers, then you will establish legal justification for a class action*

Please understand and realize that rural farmers may not have access to the Internet.

In qualifying myself in the class, I am on an extended waiting list for rural internet access, of unknown duration, with insufficient ports for service by what appears to be the only internet service provider. Cell phone service is intermittent. Rural farmers have this burden and small farmers can not simply hire someone else to comply with SB88. The burden appears to run with the land, as do the water rights.

Any law, constitutional on its face, may be unconstitutional, as applied.

In listening carefully to the 4th grade presentation, you may lack the capacity to enforce SB88 in a constitutional manner without a more sophisticated computer staff and program.

In deference, please create a different reporting requirement that does not depend on the Internet nor the computer. On behalf of a class of riparian rights owners, typically farmers, this is not negotiable. I am required by the Code of Professional Ethics to request that you forward this Notice to your legal staff.

Your/their timely and reasoned response is greatly appreciated.

Sincerely,

A handwritten signature in cursive script that reads "L. Boudier". The signature is written in black ink and is positioned above the typed name.

Linda D. Boudier
Attorney at Law, #099221

DWR-Measurement

From: Ferguson, Bill <BFerguson@SantaBarbaraCA.gov>
Sent: Monday, November 16, 2015 11:56 AM
To: DWR-Measurement
Cc: Dyer, Kelley A.
Subject: Development of Water Measurement and Reporting Regulation

Thank you for conducting information meetings and providing an opportunity to provide input on development of regulations on diversion measurement. Please consider the following comments:

1. Our diversions are in remote locations and are typically set at fixed rate for periods of days or weeks at a time, but monitored and read daily. The regulations should provide an exception from the requirement for hourly observations or recordings for such situations, subject to a requirement that the diversion totals be calculated and regularly reported on a daily basis.
2. Regarding proposed standards for accuracy of measurements, the regulations should provide for the accuracy of a device to be determined based on the application of accepted estimates of accuracy for a given type of device, subject to confirmation by a qualified person that the device as installed can be expected to meet that level of accuracy. This is to address the fact that many measurement locations will have no feasible or cost effective means of conducting an actual test measurement to confirm accuracy.

Please feel free to contact us if you have questions. Thank you.

Bill Ferguson

Project Manager
City of Santa Barbara
(805) 560-7534
Water Resources Division, Public Works Department
P.O. Box 1990, Santa Barbara, CA 93102
Fax: (805) 897-2613
Email: BFerguson@SantaBarbaraCA.gov
Street Address: 630 Garden Street, Santa Barbara, CA 93101

November 17, 2015

To: California State Water Resources Control Board

Sent via Email to: dwr-measurement@waterboards.ca.gov

Re: Senate Bill 88 and the Emergency Regulation for Measuring and Reporting the Diversion of Water.

Thank you for the opportunity to comment on the proposed regulations to implement SB 88.

We appreciate you holding a hearing in Redding. Unfortunately, the notice of the hearing was received only a few days prior. Many water right holders were unaware of SB-88 and its significant impacts upon their ability to divert water, without fear of extreme fines and criminality. With the law going into effect on January 1, 2016 no one has time to prepare or even to know what is necessary to comply with the proposed regulation.

In writing the regulation, SWRCB must ensure that there is no erosion or forfeiting of water rights, which is an actual property right tied to the land owned, by this reporting process. Due to the drought or other factors, a water right holder may use less than their allotted right, that is a good action by the water right holder that should be honored, it should not be a penalty.

Water is diverted in many different ways in California. One size does not fit all. This process needs to be done over a long period of time, not all at once. Your regulation should address the ability to stagger requirements over several years. Just the ability to have the emergency regulation written, out for public comment and then in place by January 1, 2016 is not a reasonable expectation.

The burden for an estimated 12,000 water right holders across the state to install a "best available" technology measurement device is truly unreasonable. We encourage you to consider current, very simple and straightforward technologies that are cost effective. Otherwise, the cost to the water right holder and to SWRCB staff may be very large. That additional financial burden is unnecessary. I am submitting a picture of our very simple, straightforward and effective measuring device that both we and our water master use.

The requirements for the proposed rules for stock ponds should be raised to at least 50 acre feet and only for those ponds that have inlets and outlets or stockponds should be completely eliminated. Stockponds create riparian habitat that benefits wildlife and also contributes to ground water recharge.

We report our stockpond use and pay our \$150 fee. Often the SWRCB website does not allow reporting. Yet, no paper reporting is allowed. This is one example of the technical difficulties



that have been experienced. And yet, water right holders will be at risk of fines. Our two stockponds have NO inlet or outlet. They fill from precipitation that falls from the sky. That provide water for our livestock and wildlife. Stockponds such as these should be eliminated from the regulation.

Diverters may be required to get 1602 permits from CA Department of Fish and Wildlife to install a measurement device. Additionally if they are on a stream or river with steelhead or salmon they will need to consult National Marine Fisheries (and possibly obtain a permit) and may also need an Army Corps of Engineers permit. This process often takes years to complete. How can this work with the proposed regulation? The regulation must allow for flexibility and take into consideration other agency involvement.

It is difficult to understand how all of this information will enhance the ability for the SWRCB to manage water rights and diversions beyond what they currently have today? As I mentioned above, we currently report our use on the stockponds (when the website is cooperative). Our surface water rights are reported through the DWR water master. You have every bit of information you need from us. How is this new layer going to make any difference, except costing the state (taxpayers) and perhaps the water right holders money and time?

Not only will it become difficult and costly for the SWRCB and DWR to actually manage all of this data, it also appears that SB-88 has not been properly vetted through the hearing process It should be put on hold and revised into a workable piece of legislation that could be of benefit the people of California.

Sincerely,

A handwritten signature in blue ink that reads "Pam Giacomini". The signature is fluid and cursive, with a small mark above the "i" in "Giacomini".

Henry and Pam Giacomini

41363 Opdyke Lane

Hat Creek, CA 96040

pam@hatcreekgrown.com

530-335-7016

Cc: Nathan.weaver@waterboards.ca.gov

Brian.Dahle@asm.ca.gov

Ted.Gaines@sen.ca.gov



Shasta County

BOARD OF SUPERVISORS

1450 Court Street, Suite 308B
Redding, California 96001-1673
(530) 225-5557
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DAVID A. KEHOE, DISTRICT 1
LEONARD MOTY, DISTRICT 2
PAM GIACOMINI, DISTRICT 3
BILL SCHAPPELL, DISTRICT 4
LES BAUGH, DISTRICT 5

November 17, 2015

To: California State Water Resources Control Board Chair Felicia Marcus
Sent via email to dwr-measurement@waterboards.ca.gov

Subject: Senate Bill 88 and the Emergency Regulation
for Measuring and Reporting the Diversion of Water

Thank you for the opportunity to comment on the proposed regulations to implement Senate Bill (SB) 88.

We appreciate you holding a hearing in Redding. Unfortunately, the notice of the hearing was received only a few days prior. Most water rights holders were unaware of SB 88 and its significant impacts upon their ability to divert water without fear of extreme fines and criminality. With the law going into effect January 1, 2016, no one has time to prepare or to know what needs to be done.

In writing the regulation, the California State Water Resources Control Board (SWRCB) must ensure that there is no erosion or forfeiting of water rights (which are an actual property right tied to the land owned) by this reporting process. Due to the drought or other factors, a water rights holder may use less than their allotted amount; that is a good action by the water rights holder that should be honored and should not be penalized.

Water is diverted in many different ways in California; one size does not fit all. This process needs to be conducted over a long period of time, not all at once. Your regulation should address the ability to stagger requirements over several years. Just the ability to have the emergency regulation written, presented for public comment, and then in place by January 1, 2016 is not a reasonable expectation.

The burden for an estimated 12,000 water right holders across the state to install a "best available" technology measurement device is truly unreasonable. We encourage you to consider current, very simple and straightforward technologies that are cost effective. Otherwise, the cost to the water rights holder and to SWRCB staff may be very large. That additional financial burden is unnecessary.

The requirements for the proposed rules for stock ponds should be raised to at least 50 acre feet or completely eliminated. The 50 acre foot requirement needs to be for each pond. Most ponds do not have defined channels feeding them (or have several). It is difficult or almost impossible to monitor them. Stockponds create riparian habitat that benefits wildlife and also contributes to groundwater recharge. Water rights holders report their stockpond use and pay their \$150 fee. Often the SWRCB

Chair Felicia Marcus
November 17, 2015
Page 2 of 2

website does not allow for reporting. Yet, no paper reporting is allowed. This is one example of the technical difficulties that will be experienced. And yet, water rights holders will be at risk of fines.

Diverters may be required to get California Department of Fish and Game, Section 1602 permits in order to install a measurement device. Additionally, if they are on a stream or river with steelhead or salmon they will need to consult National Marine Fisheries (and possibly obtain additional permits) and may also need an Army Corps of Engineers permit. This process often takes years to complete. How can this possibly work with the proposed regulation? The regulation must allow for flexibility and take into consideration other agency involvement.

It is difficult to understand how this information will enhance the ability for the SWRCB to manage water rights and diversions beyond what they currently have today.

Not only will it become difficult and costly for the SWRCB and the Department of Water Resources to actually manage all of the data, but it also appears that SB 88 has not been properly vetted through the hearing process. It should be put on hold and revised into a workable piece of legislation that could be of benefit to the people of California.

Sincerely,



LEONARD MOTY, CHAIRMAN
Shasta County Board of Supervisors

cc: Congressman Doug LaMalfa
Assembly Member Brian Dahle
Senator Ted Gaines
Senator Dianne Feinstein
Senator Barbara Boxer



Mendocino County Farm Bureau

303-C Talmage Road • Ukiah, CA. 95482 • (707) 462-6664 • Fax (707) 462-6681 • Email: mendofb@pacific.net

Affiliated with the California Farm Bureau Federation and the American Farm Bureau Federation

November 18, 2015

State Water Resources Control Board
P.O. Box 2815
Sacramento, CA
95812-2815

Via Email: dwr-measurement@waterboards.ca.gov

RE: SB 88 and the Emergency Regulation for Measuring and Reporting the Diversion of Water

Dear Board Members and Staff,

The Mendocino County Farm Bureau (MCFB) is a non-governmental, non-profit, voluntary membership, advocacy group whose purpose is to protect and promote agricultural interests throughout the county and to find solutions to the problems facing agricultural businesses and the rural community. MCFB currently represents approximately 1200 members

After reviewing the language within SB 88 and the handouts provided by SWRCB staff at the public meeting held in Santa Rosa on November 12, 2015 to discuss the regulation development related to SB 88, MCFB would like to provide the following comments, questions and suggestions.

Concept 1 Recommendation: For water diverted in 2016 and after, the annual water use reports for permits, licenses, stock ponds and registrations should be filed prior to April 1 of the year following the diversion. Annual use reports for statements shall be filed prior to July 1 of the year following the diversion, as specified by statute.

Since reporting deadlines will potentially be changing for a number of diverters, MCFB requests that the SWRCB promptly notice all diverters of the required changes to reporting deadlines. It is also important that the eWRIMS online reporting system be altered in a timely manner in order for diversions to be reported prior to the deadline. Directions for how to properly report under the requirements of SB 88 and the related regulation should also be clearly described to diverters in future correspondence.

Concept 2 Recommendation: When flows or projected flows in a watershed or subwatershed are sufficient to support some but not all diversions, water diverters located within the watershed or subwatershed may be required to electronically submit monthly diversion records.

If changes to reporting frequency are to be implemented, sufficient evidence of a benefit to the watershed or subwatershed needs to be considered for the additional reporting and data processing requirements. Sufficient notice should be provided to diverters if any change in reporting frequency is anticipated.

Concept 4 Recommendation: Measurement should be required when the total amount of water diverted under an individual right, or an individual right in combination with other bases of right for the place of use, exceeds 10 acre-feet per year.

This concept will create monitoring standards for a number of diverters and will add layers of complexity to the reporting process. This is especially true for smaller diversions of stock ponds, small domestic and small irrigation registrations since these types of diversions, when combined under a place of use will trigger the need for multiple measuring devices and increased expenses to the diverter. The complexities of individual diversion systems and fiscal impacts to the diverter need to be considered. Will there be an economic impact report affiliated with this regulation?

Concept 7 Recommendation: The regulation should not list specific measuring devices or specify methods. Measurement devices and methods should be required to meet reasonable accuracy standards.

It is appreciated that the recommendation is to not overly limit the measuring devices or methods that can be used to meet compliance with the requirements of SB 88. However, there needs to be some guidance for both new and existing installations of metering devices so that diverters are not found to be out of compliance. In addition, since “best available technology” is constantly changing, there needs to be consideration for what will best meet water reporting needs without forcing diverters to upgrade measurement devices every time improved technology becomes available. Consideration also needs to be given for diversions that may be restricted from using “best available technology” due to location, topography, lack of electrical connection, etc.

It was mentioned at the public meeting that the definition of a reasonable accuracy standard is being based on existing DWR standards of 10% accuracy rate for new installations and 12% accuracy rate for existing installations. MCFB requests that a clear accuracy standard be defined so that diverters understand what is required.

MCFB also requests consideration for the significant amount of money that has been invested in the last ten years on metering devices for compliance with water use reporting. This regulation may make that investment obsolete. For those existing metering devices, there needs to be language included in the regulation that provides clarity on what is expected to be accepted for compliance for existing meters and/or flexibility within concept 9 for individual diverters to submit alternate plans for compliance.

In the language of SB 88, Section 15, Article 3. 1840(B)(2), it states that, “ *The permittee or licensee shall maintain a record of all diversion monitoring that includes the date, time and diversion rate at time intervals of one hour or less, and the total amount of water diverted. These records shall be included with reports submitted under the permit or license, as required under subdivision (c) or upon request of the board.* “

Regarding this section, it was mentioned at the public meeting that the SWRCB is not intending to require hourly metering, but accuracy and frequency of metering devices will be based on specific watershed needs. MCFB encourages the SWRCB to not require hourly meter reports as this will create an excessively large amount of data to collect and process with potentially little benefit. If there will be variations in frequency of water measurement intervals based on individual watersheds, this methodology needs to be scientifically based and discussed with the diverters within the watershed in question.

Concept 9 Recommendations:

Determinations of these circumstances is situation dependent.

The regulation should establish a framework for considering alternative approaches to compliance for a specific measuring device or measurement method, or for a type of measurement device.

When reviewing a request for an alternative, the State Water Board should consider the impact of diversions on the watershed based on watershed characteristics and the relative size of the diversion to the overall amount of natural stream flow.

A water user requesting an alternative approach should submit a reasonable plan for attaining compliance. A water user should be required to diligently implement the proposed plan.

Within SB 88, Section 15, 1840(b)(1)(A)(B) it states that the board may modify the monitoring and reporting requirements of subdivision (a) upon finding that:

(A) That strict compliance is infeasible, is unreasonably expensive, would unreasonably affect public trust uses or would result in a waste or unreasonable use of water;

(B) That the need for monitoring and reporting is adequately addressed by other conditions of the permit or license.

This section of SB 88 supports the need for inclusion in the regulation of some ability for diverters to apply for alternate means of compliance based on the needs of the individual situation related to their diversions. The regulation needs to expand upon the ability for a diverter to submit an alternative plan, what the approval process will look like and what will be required to submit to prove that the alternative plan is being implemented. This section also acknowledges that a number of existing conditions in permits or licenses already include metering requirements. This regulation should not create an additional layer of duplicative conditional metering requirements for diverters.

There also needs to be consideration of impacts to senior water rights holders that have older rights that may have the inability to easily comply with new metering standards because of the nature of the age of their diversions and related facilities.

Diverters that are required to install new metering devices may also be limited in how and when installations are performed based on additional regulatory requirements such as 1600 permits from the California Department of Fish and Wildlife.

Concept 10 Recommendations: The measurement requirements should be implemented on a staggered basis. Staggered implementation could lead to increased compliance. Timelines for compliance should consider the size of the diversion and the characteristics of the watershed that the diversion is located in.

Where appropriate, the regulation should allow for interim and multiyear plans to allow diverters to achieve full compliance.

MCFB appreciates the consideration for staggered implantation and multiyear plans for compliance. An extended time frame will allow for reduced cost impacts, the ability to order and install appropriate devices and an increased understanding of compliance requirements.

A clear time frame for the installation of metering devices, on a standard or staggered schedule, needs to be included in the regulation so that there is a clear process for diverters to use to analyze their own diversion situations and plan the best

pathway toward compliance. This schedule needs to consider and compliance timing differences for the various forms of diversion (licenses, statements, registrations, etc).

Concept 11 Recommendations:

The regulation should be flexible to allow qualified individuals to install and maintain water measurement devices that have been lab certified, provided the installation is made in accordance with the protocols specified by the manufacturer.

Where lab certification is not applicable, field certification of a measurement device or method should require a licensed engineer or other qualified professional.

The regulation should require periodic field inspections to verify the device or method continues to provide measurements meeting the regulation's accuracy standard.

The inspection process could be prioritized based on the size of a diversion or other criteria.

Qualified individual needs to be defined and not written to be overly restrictive so that property owners cannot install their own measurement devices while meeting the accuracy requirements of the regulation. This reiterates the need to clearly state what the regulations accuracy standard will be so that the inspection process and related requirements are consistent. The regulation also needs to define who will be accepted to perform the inspections of the metering devices and how the inspection related information needs to be submitted to the SWRCB.

MCFB appreciated the opportunity to provide comment on the development of the emergency regulation for measuring and reporting the diversion of water as related to SB 88 requirements. MCFB encourages the SWRCB and staff to consider the comments and suggestions above during the drafting process for the regulation language.

Sincerely,

A handwritten signature in cursive script that reads "Frost Pauli".

Frost Pauli
President

SHASTA COUNTY CATTLEMEN'S ASSOCIATION

P.O. BOX 494143
REDDING, CA 96049-2401

November 18, 2015

To: California State Water Resources Control Board

Re: Senate Bill 88 and the Emergency Regulation for Measuring and Reporting the Diversion of Water.

From: Shasta County Cattleman's Association

Thank you for the opportunity to comment on the proposed regulations to implement SB 88. We believe that SB-88 is unworkable and one of the worst pieces of legislation regarding water rights and diversions that we have seen. It is interesting that these sweeping changes are coincidental to the lingering drought compared to being straight forward on perhaps another agenda. We will however, comment on the proposed regulations.

1. First the notice of the hearings by the State Board where received only a few days prior to the hearings in our area. Most of our members were completely unaware of SB-88 or its draconian impacts upon their ability to divert water, without fear of extreme fines and criminality. With the law going into effect on Jan 1, 2016 no one has time to prepare or even to know what is needed to be done.
2. We believe that the State Water Resources Control Board (SWRCB) should request the Dept. of Water Resources to first place accurate measurement devices in rivers and streams so you know how much water is in a given stream at a given time. If we do not know how much water is available how you can know if diverters are taking too much?
3. In writing the regulation, SWRCB must ensure that there is no erosion or forfeiting of the water right, which is an actual property right tied to the land owned, by this reporting process. Due to the drought or other factors, a water right holder may use less than their allotted right, that is a good action by the water right holder, it should not be a penalty.
4. Water is diverted in many different ways in California. One size will not fit all. Any monitoring that is done should be done starting with largest diverters in a given watershed and work its way down to the smaller diverters. This process needs to be done over a long period of time-- not all at once.
5. The Shasta County Cattleman and the local UC Cooperative Extension Livestock Advisor have been working together over the last few years holding water education workshops and placing measuring devices on diversions in an effort to provide the local ranching community with information on measuring water and changes in regulations. There has been some failure of the equipment and data management has proved to be cumbersome. Downloading and summarizing transducer data to meet the monthly reporting is a herculean task. While the cost of the transducers is estimated at about

\$1500 this does not include a laptop computer or the time required to manage and summarize data. Nor does it include the cost and effort associated with the installation of a measurement weir.

6. Many ranches have numerous diversion points and the cost will be commensurate to that. We do not see an "economy of scale" associated with monitoring additional diversions.
7. In Shasta and Tehama counties a winter range ranch of 5,000 to 10,000 acres is not uncommon. Most ranches have multiple stock ponds. These ponds are necessary to provide water for cattle (water requirement for a mature cow estimated at 25 gallons a day). Installing measuring devices and managing the flow data for these ponds will be extremely burdensome and won't provide much additional information to the SWRCB. The requirements for the proposed rules for stock ponds should be raised to at least 50 acre feet or completely eliminated. The 50 acre foot requirement needs to be for each pond—not cumulative for each water right holder. Most ponds do not have defined channels feeding them (or have several). It is difficult or almost impossible to monitor them. Stock ponds create a lot of riparian habitat that benefit wildlife and also contribute to ground water recharge.
8. Many of the owners of farms and ranches in the mountains and foothills do not have the technical expertise, ability or internet access to communicate this information electronically to the state. Additionally, when water right holders try to report now, as is required for their stock ponds, the SWRCB website is often down and does not allow for reporting. Yet, no paper reporting is allowed. This is one example of the technical difficulties that will be experienced. And yet, water right holders will be at risk of fines.
9. Diverters may be required to get 1602 permits from CA Department of Fish and Wildlife to install a measurement device. Additionally if they are on a stream or river with steelhead or salmon they will need to consult National Marine Fisheries (and possibly obtain a permit) and may also need an Army Corps of Engineers permit. These can take years to get how does this fit into the regulations?
10. How does having this information (as all this data will be old news by the time SWRCB gets it) enhance the ability for the SWRCB to manage water rights and diversions today?
11. We question the ability of SWRCB and DWR to actually manage all of this data that is being asked for.

SB-88 has not been properly vetted through the hearing process. It is a terrible bill that the Governor should never have signed. We will be working with our local legislators to have it retracted.

Sincerely,


Rich Fischer, President

Shasta Co. Cattlemen's Association

Cc: Jack Rice, CA Farm Bureau Federation

Billy Flournoy, California Cattlemen's Association

Senator Ted Gaines

Assemblyman Brian Dahle,

DWR-Measurement

From: Suzanne Womack <jsagwomack@gmail.com>
Sent: Sunday, November 22, 2015 3:56 PM
To: DWR-Measurement
Subject: Decisions

I attended the 11/9/15 Water measurement meeting. My comments are not accurately reflected. Why isn't a court reporter taking accurate notes? I can find no information on how we are supposed to implement this plan or what is a realistic timeline. I request that the December 16th workshop have accommodations for all hard of hearing farmers. The average age of farmer is 61. My father was unable to participate in the 11/9 meeting due to lack of basic hearing accommodations. Isn't this in direct violation of ADA????

Suzanne Womack

DWR-Measurement

From: Rockwell, Marcia@Waterboards
Sent: Tuesday, November 24, 2015 7:55 AM
To: Emmy Cattani
Cc: DWR-Measurement
Subject: FW: Inquiry Regarding Senate Bill 88 - Adobe Valley, LLC
Attachments: SWRCB Notice_Adobe Valley.pdf

Dear Emmy,

I am forwarding your email to the email address on the letter you attached to answer your questions (below) and assist you.

Sincerely,

Marcia Rockwell

From: Emmy Cattani [<mailto:emmy@cattanifarming.com>]
Sent: Monday, November 23, 2015 4:11 PM
To: Rockwell, Marcia@Waterboards
Cc: Katie Cattani
Subject: Inquiry Regarding Senate Bill 88 - Adobe Valley, LLC

Dear Marcia,

I'm writing to inquire about the attached notice we received from the SWRCB regarding new reporting requirements for our property in the Adobe Valley. You corresponded last year with my sister Katie (now on maternity leave) regarding our water reporting requirements for Adobe Valley, LLC, so I thought you might be able to help us understand the new requirements alluded to in this notice.

The notice states that all diverters will now be required to report annually, but it does not provide a deadline for submitting reports or methodology for complying with the regulations. Will we receive another letter explaining how to comply with the law and where and how to submit our reports?

Adobe Valley, LLC has two licensed appropriative water rights (License #7271 and License #2622), for which we have been submitting annual reports, plus two riparian water rights (S016600 and S016001), for which we have been submitting tri-annual reports. Does this new law mean that we now must submit annual reports for the riparian as well as the appropriative rights?

The notice also mentions that we will be required to submit monthly reports during dry periods. Will we receive notification when this requirement is in effect and information on how to submit these reports?

Finally, the notice asks for feedback on the SB 88. I would suggest further automation of the reporting process. We currently receive paper notices in the mail with a single use user-name and password for reporting. It would be much more efficient to send electronic notifications and have an ongoing account for each water user where we can log in with the same user-name and password each time we need to submit a report.

I would also encourage the State Water Resources Control Board to consider lesser reporting requirements for isolated watersheds and groundwater basins where most or all of the water use is for livestock grazing and the basin has not been prioritized under the SGMA groundwater legislation. The Adobe Valley would fall into this category, as would many

of our neighboring watersheds and basins in eastern California. Our water use is much less intensive than in other parts of the state, with few users and little to no intensification since diversions began many decades ago. We have healthy perennial streams and a groundwater basin that is managed sustainably and is deemed low priority under the SGMA.

Thank you,
Emmy Cattani



PARADISE IRRIGATION DISTRICT

6332 Clark Road, Paradise CA 95969 | Phone (530)877-4971 | Fax (530)876-0483

November 23, 2015

State Water Resources Control Board
dwr-measurement@waterboards.ca.gov

Subject: Comments on the Emergency Regulation for Measurement and Reporting

Dear Sir or Madam:

Paradise Irrigation District (PID) has been following the development of the new measurement and reporting requirements contained in SB 88. PID writes to express its concern with the stated requirements and their application. Even with the use of best available technology it is impossible to achieve the required measurement accuracy over time intervals of one hour or less at PID facilities.

Background

SB 88 has created the requirement that water users begin new water measurement and recording efforts that include making hourly measurements of the rate of direct diversion, the rate of collection to storage, and the rate of withdrawal or release from storage. It further requires that these measurements must be "accurate measurements within an acceptable range of error." When asked to define what constitutes an acceptable range of error, Water Board staff indicated that the DWR standard would be applied. This standard apparently requires that a measurement should be accurate to within 10 percent for new measuring equipment, and within 12 percent for used equipment.

Article 3 of SB 88 lists 5 devices and methods for conducting these measurements. Considering these:

- The first method involves measuring pump output. For water right holders, like PID, that divert large flows of water by gravity, without pumping, this method is neither applicable nor practicable.
- Three methods involve making staff gage measurements. Measurements by staff gage are limited by various physical and practical conditions to a maximum accuracy of about ± 0.01 feet. For water right holders, such as PID, that divert continuously throughout the year, making hourly staff gage measurements is impractical due to the cost of providing the number of personnel necessary to carry out these measurements 24 hours per day/7 days per week/365 days per year. Also, in mountainous terrain, such as the territory in and around PID, at certain times of the year areas of the watershed and potential measurement points are inaccessible due to weather and other factors.

- The final method involves making stage measurements using a pressure transducer. When asked what level of error constitutes "best available technology" in pressure transducer equipment, State Board staff stated that an error of ± 0.1 percent could be considered to meet the best available technology standard. The sections that follow explain why hourly measurements are not feasible using best available pressure transducer technology.

Flow Measurement

Any method of measurement that uses water level data falls into one of two basic categories: stage/storage measurements or stage/flow-rate measurements. The use of stage/flow-rate measurements is problematic in PID's case because it owns and operates open, on-stream storage reservoirs. When measurements of stream flow are made there are several inflows that are not captured including overland flows, subsurface inflows, direct precipitation, and flows in streams judged too small to be feasible to instrument. Subsurface outflows and evaporation are also difficult to estimate and subsurface flows are impossible to measure.

Approximately 20 percent of the runoff from PID's watershed drains directly to one or the other of its two reservoirs. Since this is all water that cannot be measured by stream gages (since it does not flow in a stream) any stream flow measurement will necessarily understate the volume of water delivered to the reservoirs by at least 20 percent. This means that the error due to overland flow alone exceeds 10 percent of the measured flow and thus does not provide the mandated accuracy. While it is possible to apply a correction factor to *estimate* the overland flow (and other non-streamflow contributions) into the reservoirs it will not be possible to *measure* the total inflow. Once this estimate is formed it will be impossible to know whether the resulting data provide the required ± 10 percent accuracy.

Finally, there is the difficulty of accurately measuring flows across a wide range of values. Inflows to PID's reservoirs typically range from 0.1 cfs to 1,000 cfs. We are not aware of any practical metering device that can measure water flows, with the required accuracy, for flows that vary across four orders of magnitude.

Storage Measurement

PID has pressure transducers installed at each of its two reservoirs and the SCADA facilities to log this data, although telemetry is problematic due to the rugged terrain and heavy tree cover. These pressure transducers measure the water level over a range of 40 feet of elevation. Calculations of reservoir inflow have been prepared by solving mass balance equations on storage and outflow. Even for a thirty day measurement interval these calculations have been hindered by the limited accuracy of storage volume measurements. This is particularly true when flows are relatively low, as is typical during the months immediately preceding the interval of significant precipitation. The new regulation now

requires that the measurement interval be reduced by a factor of 720, from monthly readings to hourly readings.

Considering 0.1 percent accuracy to represent best available technology in pressure transducer water level measurement, the magnitude of error for pressure transducers operating over the 40 foot measuring interval mentioned above is ± 0.04 feet. But for the moment let us assume that it is possible to reduce the measurement error to ± 0.01 feet, consistent with careful staff gage readings. Even this level of accuracy is incapable of producing inflow rate measurements consistently in the range of $\pm 10\%$ error at flow rates below about 135,000 gpm (300 cfs) at PID's Paradise Lake reservoir, as shall be discussed below.

Paradise Lake reservoir has a surface area of about 240 acres when the water level is near spillway elevation. If the accuracy of a reading of water level is ± 0.01 feet this equates to an accuracy in volume measurement of $\pm 782,000$ gallons. District staff has modeled reservoir performance under various typical flow conditions and analyzed the ability of best available technology equipment to measure these flows. The results reveal that hourly readings will often produce data values of no meaning whatsoever, with hundreds to even thousands of percent errors under various typical conditions.

For example, if the water level in the reservoir is falling at a rate of 0.0025 ft/hour during a time when rate of inflow is 725 gpm and 4,000 gpm is being withdrawn for use, the hourly inflow calculation will overstate the inflow by 3,275 gpm for three hours (450% error) while the total reservoir level change remains too small to be detectable by best available technology. Then in the fourth hour, when the change in reservoir level finally becomes large enough to be detected, the inflow will be vastly understated (by 9,812 gpm, or 1350% error). Under these flow conditions the reservoir inflow calculation produces negative stream inflows; a physical impossibility.

Smoothing

District staff discussed their concerns regarding accuracy with water board staff at one of the measurement and reporting information meetings. Water board staff acknowledged that reservoir water level data will move in a stepwise manner and suggested smoothing the data to avoid the problems involved in performing a calculation that is inherently unstable.

While this may seem like a solution to the problem it is actually an admission that hourly measurements are generally not meaningful. The smoothing process would make use of reservoir level data collected over a longer time frame and attempt to interpolate reservoir levels in the intervening time steps. The result is not an hourly measurement, but an estimate of reservoir levels and flow rates. There is no way to know that the actual water level was indeed the same as the value estimated for any particular time

step, and the flow rate will no longer represent the value for a particular interval, but it will instead represent an average flow that fits the longer time interval.

Furthermore, the error in measurement is not simply a matter of being able to determine readings to a sufficiently small resolution. There is also the potential for a certain amount of random error in the resulting level data. An error of 782,000 gallons in an hourly measurement equates to an error in flow rate of almost 19,000,000 gallons per day, or 13,000 gpm. An error of 782,000 gallons in a daily measurement equates to an error of only 540 gpm. Random error will give the impression that reservoir volume is changing, when in fact the indicated change is not occurring. Random measurement errors can occur on any time scale but they will increase the magnitude of error in flow calculations as the reporting time scale becomes shorter.

Smoothing Interval

Based on the limitation on accuracy of the measurement of reservoir volume and on the allowable error in flow measurement, it is possible to calculate the time interval needed for smoothing. First, the required accuracy of flow measurement, A_F , (dimensionless) is:

$$A_F = \frac{|Q_a - Q_m|}{Q_a}$$

where: Q_a = Actual rate of inflow, gpm

Q_m = Measured rate of inflow, gpm

Then, the measured rate of inflow differs from the actual rate of inflow by:

$$Q_m = Q_a \pm \frac{E_V}{T_S}$$

where: E_V = Volumetric error, gallons

T_S = Smoothing Interval, minutes

Rearranging, and combining the two equations gives:

$$A_F = \frac{|Q_a - Q_m|}{Q_a} = \frac{E_V}{T_S Q_a}$$

Then, solving for the smoothing interval, T_S :

$$T_S = \frac{E_V}{A_F Q_a}$$

Analyzing the Paradise Lake reservoir, for a required 10 percent accuracy of flow measurement, an accuracy of volume measurement of $\pm 782,000$ gallons and an actual flow rate of 1 cfs (449 gpm) the smoothing interval is 290 hours, that is, 12 days. At an inflow rate of 12 cfs the smoothing interval is 24 hours.

At a smoothing interval of 1 hour or less (that is to say, with no smoothing of hourly readings) the inflow rate must be 300 cfs or more. Inflows in this range occur extremely infrequently. This demonstrates that most hourly measurements cannot provide the required $\pm 10\%$ accuracy. Since the value of Q_a is unknown in practice, it will not be possible to use the analysis above to make a determination of the appropriate smoothing interval to be used for calculating Q_m to the required level of accuracy.

Considering the technical obstacles to getting meaningful measurements on an hourly time scale, PID urges water board staff to reconsider the requirement to collect and report hourly diversion data for reservoir operations. Installation of best available technology for measurement of water diversions, while expensive, makes sense because the calculation of diversions will be hindered without good measurements of key parameters. However, an attempt to extend the accuracy of the resulting data beyond its natural limits does not make sense and is unscientific. Such an effort will be costly, without consequent benefit, and the data obtained will be misleading at best.

Reporting

The amendment to Section 5103 requires: "Each statement shall be prepared on a form provided by the board." Presumably this means an internet form on the board's website, as is the current practice. Assuming that a diverter provides hourly measurements, in compliance with the minimum requirement, this will comprise 8,760 points in time per year. Since the regulation requires that the date, time, rate of direct diversion, rate of collection to storage and rate of withdrawal from storage be reported, this means that, at a minimum, water right holders will be required to report 43,800 numerical values to the state each year, for each water right they hold.

Currently, the board's data reporting protocol requires that each data point be keyed into individual cells in an internet form. PID has three water rights to report. At a rate of 12,000 keystrokes per hour, a preliminary estimate of the time necessary for PID to complete the data entry task, under these conditions, for one year's measurements is 511 hours, or three person-months of fulltime employment.

If the proposed expansion in reporting is to take place, a streamlined process for data entry needs to be provided. A means must be available for diverters to upload the measurement data to the water board without re-keying it. This could be accomplished through the use of an electronic form (for example, a spreadsheet form) or by using a standard file format to upload and automatically populate the fields of the form on the board's website.

Conclusion

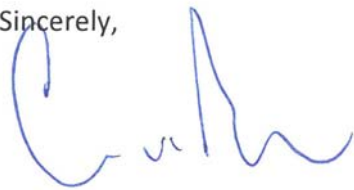
PID submits the following recommendations for implementation of the measurement and reporting regulations:

1. Remove the requirement for hourly measurement and reporting for any water rights holders for whom compliance with this requirement is impossible. This would include owners and operators of reservoir facilities where this requirement for reporting frequency, combined with the stated reporting accuracy of ± 10 percent, cannot be accomplished using best available technology.
2. Provide a streamlined method for reporting diversions data to the State. Eliminate the requirement for water rights holders to re-key data into the State's data collection system.

Thank you for giving consideration to our concerns regarding the development of the new measurement and reporting regulations. Paradise Irrigation District is committed to cooperating with the state water board to the extent possible. However, it would be unfortunate if the new regulations were implemented in a manner which makes compliance impossible.

If you have questions regarding these comments please contact the undersigned. Thank you.

Sincerely,



George Barber
General Manager, Paradise Irrigation District

Date: November 24, 2015

To: State Water Resources Control Board

John O'Hagan – john.o'hagan@waterboards.ca.gov

Paul Wells – paul.wells@waterboards.ca.gov

From: William A. Spence

P.O. Box 172

Altaville, CA 95221

E-mail: efischer1@hotmail.com

RE: SB88 Water Measuring Requirements

Dear Mr. O'Hagan & Mr. Wells:

I have four "stockponds". They are 40 acre feet, 36 acre feet; 23 acre feet and 18 acre feet; all are licensed and were designed by the Agricultural Stabilization and Conservation Service (forerunner of the Farm Service Agency).

The ponds do not have drain pipes in them. When they are full they drain through a man-made spillway. On a normal year it takes about 3 to 4 inches of rainfall to fill them. Most of the water that goes into these ponds come from our own land and in many cases they will fill in less than a week. The ponds are on unnamed creeks—there are two or three small drainages that come into the ponds plus runoff from the hillsides. If a pond is less than 25 acre feet it will not furnish water throughout the summer. Until the current drought we had fish in the ponds—Bass, Catfish and Crape variety.

I go online once a year and make a report on each pond. I cannot see any sense in trying to put devices on these ponds to measure the amount of water coming in. From my perspective the amounts of water coming into these small ponds (less than 25 acre feet) is a "drop in the bucket" and would be impossible to measure as they are filled with runoff from multiple sources (as stated above).

Before making decisions that would cost the rancher a considerable amount of money with very little benefit you should come out on the ground and see the situation.

Thank you for considering these comments on possible water measuring requirements.

Sincerely,



William A. Spence

DWR-Measurement

From: DeBernardi, Weegee@DOC
Sent: Tuesday, November 24, 2015 2:43 PM
To: DWR-Measurement
Subject: RE: LPWD notice

To whom it may concern. I am a member of the La Porte Water Board and recently we received the notice below. The town water is supplied by two natural springs (Barnes & Pike) outside of town. Are we to comply with this notice? It is nearly impossible to report the use once a month in the winter because of snow. We would have to dig out to every meter in the community, some by the way have no paved roads so we have to use snowmobiles or snow cat. Any advice you can supply us would be greatly appreciated.

p.s. This is the third time I have tried to reach someone there.

Regards,

Louis "Weegee" DeBernardi
Associate Governmental Program Analyst
Department of Conservation
Division of Oil, Gas, and Geothermal Resources
801 K Street, MS 18-04
Sacramento, CA 95814-3530
(916) 323-1775

Every Californian should conserve water. Find out how at:



SaveOurWater.com · Drought.CA.gov

From: "Patrick Reilly" <patnkat@comcast.net>
To: "Jed" <jedsfabracation@digitalpath.net>, "Steve W" <sew6chico@gmail.com>, "steveb" <steveb@digitalpath.net>, "Weegee" <tweetee@comcast.net>
Cc: "La Porte Water District" <laportewater@yahoo.com>
Sent: Friday, November 6, 2015 8:57:33 AM
Subject: RE: LPWD notice

Attached is a copy of a report that the district has been submitting to the State Waterboard for years. But I am confused with the term "Diverter", we really don't divert water we are spring fed and collect. I tried to get an answer from a gentleman at the phone number listed in the letter and he would not answer my question but referred me to the web page listed in the letter. That is 97 pages of Codes, Sections, and Subsections. If this does pertain to us, it looks like we

may be installing meters for water collection and usage. The meters would have to be monitored, recorded, and reported to the state on a monthly basis.

Oh Weegee, do you think anyone would talk to you???

Depending on what you all think, I may take the letter to our water attorney and let them figure it out.

Scroll down to see the letter recently received.

Kathy

From: LPWD [<mailto:laportewater@yahoo.com>]
Sent: Friday, November 6, 2015 8:15 AM
To: Kathy Reilly <patnkat@comcast.net>
Subject: Fwd: LPWD notice

Sent from my iPhone

Begin forwarded message:

From: La Porte Water District <laportewater@yahoo.com>
Date: November 5, 2015 at 9:10:14 PM PST
To: Steve Waters <sew6chico@gmail.com>, Jed Howard <jedsfabracation@digitalpath.net>, Weegee DeBernardi <tweetee@comcast.net>
Subject: Fw: Fw: LPWD notice
Reply-To: La Porte Water District <laportewater@yahoo.com>

Kathy was hoping the entire Board could take a look at the notice attached and the website mentioned in the notice

Angela

> ----- Forwarded Message -----
> From: Angela O'Rourke <amorfood@gmail.com>
> To: laportewater@yahoo.com
> Sent: Thursday, November 5, 2015 4:36 PM
> Subject: LPWD notice
>
>
>
>



CALIFORNIA
Water Boards

State Water Resources Control Board

October 26, 2015

DEVELOPMENT OF WATER

Responsible Party:

La Porte Water District
P.O. Box 287
Yuba City, CA 95992

Diverted: La Porte Water District

The purpose of this letter is to provide notice of a proposed project that will affect water right holders and other interested parties. The law includes a new reporting requirement for water right holders to file records each year. During drier than

reasonable beneficial use. The State Water Board will review riparian and pre-1914 claims of right.

Improved measurement and reporting requirements for the State Water Board and all water users.

- Increase understanding of water rights
- Improve water rights administration
- Provide more accurate data
- Improve forecasting of water availability
- Assure compliance with the Sustainable Groundwater Management Act
- Protect senior rights in accordance with the law
- Provide efficient management of water resources

Information Meetings for the Emergency

The following meetings are scheduled to discuss the emergency reporting requirements. The community is invited to attend.

DATE	
November 2, 2015 (Monday)	6:00
November 4, 2015 (Wednesday)	6:00

North Eastern California Water Association

P.O. Box 367, McArthur, CA 96056

NECWA's Mission is to protect and enhance water rights, water quality and riparian areas to the benefit of agriculture, the environment, recreation, and wildlife in the Northeastern California region

November 24, 2015

To: California State Water Resources Control Board

Sent via Email to: dwr-measurement@waterboards.ca.gov

Re: Senate Bill 88 and the Emergency Regulation for Measuring and Reporting the Diversion of Water.

From: North Eastern California Water Association

The North Eastern California Water Association (NECWA) appreciates the opportunity to comment on the proposed regulations to implement SB-88. NECWA represents landowners in the Upper Pit River Watershed with 80,723 acres currently enrolled in the Irrigated Lands Regulatory Program.

NECWA thanks you for holding a hearing in Redding, CA. Unfortunately, the meeting notice was received only a few days prior. Many of our water right holders within the Upper Pit River Watershed are unaware of SB-88 and its significant impacts.

... "Commencing January 1, 2016, Senate Bill 88 would require a person who diverts 10 acre-feet of water per year or more under a permit or license to install and maintain a device or employ a method capable of measuring the rate of direct diversion, rate of collection to storage, and a rate of withdrawal or release from storage. This bill would also require a person who diverts water under a registration, permit, or license to report to the state board, at least annually, and authorize the state board to adopt regulations requiring measurement and reporting of water diversions." ..

SWRCB needs to make sure that the proposed law is not forfeiting any water rights that are tied to the actual property right. In the last few years, our landowners have shown good stewardship and used less than their allotted water right. Conscientious and respectful should be awarded not penalized. Remember that California water is diverted in many ways. One size does not fit all.

SB-88 may require diverters to obtain a 1602 permit from California Department of Fish and Wildlife to install a measurement device. Additionally, if steelhead or salmon are present they may need to consult the National Marine Fisheries (and possibly obtain a permit) and may also need an Army Corps of Engineers permit. Permits can take years to obtain with substantial cost to the landowner. How does this fit into the regulation?

NECWA is an advocator for education. Bi-Annual workshops are held in conjunction with the local UC Cooperative Extension to reinforce the importance of water management. Workshops include water volume to crop yield, options and implementation of water flow measuring devices, downloading and summarizing transducer data, and changes in water regulations. NECWA landowners have proven to be conscientious and respectful stewards of the environment and the land.

January 1, 2016 does not allow those affected by the law to educate themselves or prepare for the proposed regulation. Numerous landowners in our watershed are not on-line and have multiple diversion points, exploiting the financial and technical difficulties that these water right holders will face.

SB-88 should be put on hold and revised into a workable piece of legislation that benefits the people of California.

Sincerely,

A handwritten signature in cursive script that reads "Ted deBraga". The signature is written in dark ink and is positioned above the printed name.

Ted deBraga
North Eastern California Water Association, President



Shasta County Farm Bureau

P.O. Box 907 ♦ Palo Cedro, CA 96073 ♦ (530)547-7170 ♦ E-mail: shastacountyfarm1@frontiernet.net

November 25, 2015

Via U.S. Mail and E-mail

California State Water Resources Control Board
P.O. Box 100
Sacramento, Ca 95812-0100

Att: Kathy Mrowka and Paul Wells

RE.: SB 88 Regulations

To Whom It May Concern:

The Shasta County Farm Bureau representing 670 farmers, ranchers, timberland owners, and supporting businesses offers the following comments on behalf of our members who will be affected by SB 88 and the implementing regulations:

TIME LINE: SB 88 was pushed through the legislature without benefit of the normal legislative hearing process as an emergency measure and was signed by the Governor on June 24, 2015. Yet the Notice for Development of Water Reporting Regulations was dated October 26, 2015, a full four months after signature. The Notice announced Information Meetings for the Emergency Regulations ranging from November 2 to November 9, 2015. For regulations scheduled to become effective January 1, 2016, this is simply an inadequate time frame for the regulated public to: 1) respond and offer comments on the regulations; and 2.) make preparations in the field for compliance especially with the winter period approaching. The prolonged lag time between the authorizing legislation and notice to the public is unacceptable and leaves those regulated persons in an impossible compliance position. The implementation and enforcement of the Regulations must account for the serious delay in notification.

BEST AVAILABLE TECHNOLOGIES: A one size fits all requirement for measurement and recording technology will not work for most of our members. In Shasta County, as in most other rural counties, many diversion sites are in remote locations with limited, often walk-in only, access. Most of these sites represent small diversion volumes although they are over the 10 acre foot threshold. These sites are far removed from commercial electrical and telephone service. Even cellular coverage is not available at many sites. Battery or solar powered devices, even if affordable, are not a practical solution as they would be exposed to theft, vandalism, damage from large animals, and loss due to weather including flooding. Also consider that the diversion point of many water right holders are not on his/her the property. Many of these diversions and the served ditch systems are over 100 years old and the rights for use are prescriptive. An "improvement" at a diversion point to accommodate an off stream device could likely be beyond the prescriptive right and as such create a civil problem between the diverter and the landowner. The regulations concerning an appropriate measuring device must be flexible enough to account for the various conditions that exist at any given diversion.

EQUIPMENT RELIABILITY, DATA MANAGEMENT & COSTS: There is also equipment failure and data management to consider. Downloading and summarizing transducer data to meet the monthly



Shasta County Farm Bureau

P.O. Box 907 ♦ Palo Cedro, CA 96073 ♦ (530)547-7170 ♦ E-mail: shastacountyfarm1@frontiernet.net

reporting requirement is a herculean task. To determine flow, the hourly elevation measurement data must be inserted (in the appropriate place) into the equation that is specific for the diversion being measured. Then the flow data must be summarized to meet SWRCB reporting requirements. While the cost of the transducers is estimated at about \$1,500, this does not include a laptop or the time required to manage and summarize data. Nor does it include the cost and effort associated the installation of a measurement weir.

Thank you for your attention to these matters.

Sincerely,
Shasta County Farm Bureau

Mark Lathrop
President

CC:
John O'Hagan
Paul Wenger
Danny Merkley
Assemblyman Dahle
Senator Nelson
Senator Gaines
Shasta County Board of Supervisors



November 25 2015

By U.S. Mail and E-mail
(dwr-measurement@waterboards.ca.gov)

Ms. Katherine Mrowka
Division of Water Rights, Enforcement Section
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812-2000

Re: Comments on Senate Bill 88 Emergency Regulation Recommendations

Dear Ms. Mrowka:

This letter presents Yuba County Water Agency's (YCWA) comments on the recommendations by State Water Resources Control Board (SWRCB) staff for emergency regulations to implement Senate Bill 88 (SB 88).

YCWA strongly supports complete, accurate reporting for water diversions. We appreciate the recommendations by SWRCB staff that would promote complete and accurate reporting, as well as the stakeholder outreach efforts being conducted by SWRCB staff.

Concept 1 concerns the deadline for annual submission of diversion reports. SWRCB staff recommend that, for water diverted in 2016 and after, the annual water use reports for permits, licenses, stock ponds and registrations must be filed prior to April 1. SWRCB staff recommend that annual use reports for statements of diversion must be filed prior to July 1.

During the stakeholder workshop on November 9, 2015, you stated that the reason SWRCB staff were recommending the April 1 deadline is that, because SB 88 will require many water right holders to submit annual reports for the first time, staff believe the SWRCB's computer network would be overloaded if the deadline for all reports was July 1. Therefore, the proposed April 1 deadline would stagger the reporting deadlines and reduce the load on the SWRCB's computer network.

It would be very difficult for holders of water rights for complex water projects like YCWA's to submit annual diversion numbers by the proposed April 1 deadline. For this reason, YCWA requests that SWRCB staff revise its recommendation for Concept 1 as follows:

For water diverted in 2016 and after, the annual water use reports for permits, licenses, stock ponds and registrations should be filed prior to June 15 of the year following the diversion. Annual use reports for statements shall be filed prior to July 1 of the year following the diversion, as specified by statute.

This revised recommendation would recognize SWRCB staff's belief that staggered reporting deadlines for permits and licenses and statements of diversion will be needed once SB

88 takes effect. It also would reduce the risk that, for holders of water rights for complex projects like YCWA's, the proposed April 1 reporting deadline would not be achievable.

Thank you for the opportunity to comment on SWRCB staff's recommendations. Please contact me or Alan Lilly, Bartkiewicz, Kronick & Shanahan, at (916) 446-4254 should you have questions.

Very truly yours,



Curt Aikens
General Manager

cc: Alan Lilly (by email)

7021\Water Rights\L111815ajr

DWR-Measurement

From: coz@1access.net
Sent: Sunday, November 29, 2015 8:28 PM
To: DWR-Measurement
Subject: State Water Board - Measurement Regulation - Public Comment

State Water Board - Measurement Regulation - Public Comment

Submitted To: dwr-measurement@waterboards.ca.gov

11/11/2015

As we are unable to attend meetings several hundred miles away, the following requested public comments are being submitted through the Water Board website referenced email address.

With the passage of Senate Bill 88, the escalation of requirement, confiscation, crime, authority, and punishment, imposed upon vested right holders continues unabated. Engineered under a water 'crisis' in no small part, intentionally or incompetently bureaucratically exacerbated*, the impositions which bypass public protections through 'emergency' action unsurprisingly make permanent regulations which constitute a 'taking' of public and private vested interests without compensation, accountability, or sufficient stated benefit. Therefore, whether claimed to be a prejudicial tax without required 2/3rds vote, or a condemnation without compensation, its application is highly questionable both legally and morally. *(In only two out of many 'flushes' occurring in a 'crisis' water year, the Stanislaus for 6 hypothetical fish and the Trinity for a 'prescribed' flush with no quantified significant proven need or benefit, enough water was wasted to the ocean to accommodate well over 5,000,000 people for over a year, in 'pulses' exceeding 7,000% of the historically known flows for that period in a 'normal' water year.)

In carrying out the bureaucratic resource appropriation aspects of Senate Bill 88, DWR steps upon prior promise that the previously 'approved' registration program would only be used for informational purpose, now incrementing usage reporting 'crime' and 'requirement' while inferring the 'right' to dictate 'Board determined' allocation even to pre-1914 water rights. Even if the courts would sustain SB 88 regulatory interpreted 'taking' of private property, use, and value, there appears to be no exemption from a requirement for condemnation and compensation for the damages and costs consequent to those edicts. Many even primary vested water right owners will be economically destroyed through this assumptive taking, being overcome by compounding imposed costs, heuristic demands, and resource insecurity. With the DWR potentially unilaterally 'determining' the 'appropriate' diversion measurement method based upon 'best available technologies' emphasizing higher cost options when historically acceptable engineering practices (output table/head/kw usage) would prove more than adequate in the vast majority of cases, DWR inappropriately escalates even greater uncompensated cost upon the affected. This issue was addressed in depth with public comment in the previous mandated 'registration' program finding such methods acceptable, and the technological rationales have certainly not changed. Even in the proposed 'exceptions' still allowing conventionally calculated methods, requirements for periodic 'retest' or 'calibration' places extraordinary cost for outputs in which pumped volumes gradually decrease through long term wear and tear but which would still be more than adequate for informational purposes. The only apparent explanation for dramatically increased burden of uncompensated cost and threat placed upon vested owners would be the intent for bureaucratic usurpation, reallocation, and attrition of those private rights previously protected under judicial process. If this were not the case, any acknowledged 'taking' of private property and vested interest for claimed public good 'informational' purpose would and should be concomitant with compensation for incurred cost and loss.

Sincerely,

Siskiyou County Water User's Association

Submitted By: Rex Cozzalio

December 3, 2015

Susan F. Petrovich
Attorney at Law
805.882.1405 tel
805.965.4333 fax
SPetrovich@bhfs.com

VIA EMAIL TO DWR-MEASUREMENT@WATERBOARDS.CA.GOV

State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

RE: Proposed Emergency Regulation for Measuring and Reporting the Diversion of Water

Dear Honorable Board Members:

Brownstein Hyatt Farber Schreck represents a wide range of clients who divert surface water. We write this letter on behalf of agricultural clients whose livelihoods rely upon the use of rural surface water diversions and groundwater extractions.

Farming and ranching is always economically challenging. Tight profit margins and hard physical labor, combined with the vagaries of the market, competition from foreign imports, and rising costs of labor and equipment place on-going stresses on farmers' and ranchers' revenues. The prolonged drought is just one more source of stress and economic hardship. The time and expense involved in compliance with expanded, more frequent and more intensive reporting regulations could be the final straw for many cattle ranchers who rely on stock ponds.

For that reason, we concur with the recommendation that smaller diverters not be subject to the proposed new emergency regulations. Our clients suggest that the exemption, now recommended to be 10 AFY, be increased to 20 AFY cumulatively to include all surface water diversions on a parcel, regardless of size. Cattle operators use more than one stock pond so a 10-acre exemption simply isn't enough to avoid imposing overly-burdensome reporting requirements on property owners who cumulatively divert relatively small amounts of water.

We urge you, therefore, to increase the exemption from the new emergency regulation to 20 AFY.

If you have any questions or require further information, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Susan F. Petrovich". The signature is written in black ink and is positioned above the printed name.

Susan F. Petrovich

**PROPOSED EMERGENCY REGULATION FOR MEASURING AND REPORTING
DECEMBER 7, 2015 AGENCY DRAFT FOR PUBLIC COMMENT**

California Code of Regulations

Title 23. Waters

Division 3. State Water Resources Control Board and Regional Water Quality Control Boards

CH 2.7 WATER DIVERSION AND USE REPORTS

§ 907. Definitions.

(a) “Board” when used in this chapter means the State Water Resources Control Board.

(b) “Reports” when used in this chapter refers to the following documents:

(1) Supplemental Statement of Water Diversion and Use Forms. ~~P~~pursuant to Water Code section 5104, ~~supplemental statements of water diversion and use shall be filed at three year intervals, prior to July 1 of the year succeeding the end of each three year interval.~~

(2) Reports of Permittee and Licensee. ~~P~~pursuant to sections ~~847~~ 925 and 929 of this title, ~~prior to issuance of license, annual progress reports shall be filed promptly by the permittee upon forms provided by the board. After issuance of a license, reports shall be made when requested by the board upon forms provided by the board.~~

(3) Reports of Registration and Certificate Holders pursuant to section 924 of this title.

(34) Notices of Extraction and Diversion of Water. ~~P~~pursuant to Part 5 of Division 2 of the Water Code, ~~e~~each person in the counties of Riverside, San Bernardino, Los Angeles and Ventura who, after 1959, extracts ground water in excess of 25 acre-feet in any year shall file with the board, within six months of the succeeding calendar year, a “Notice of Extraction and Diversion of Water” on a form provided by the board.

(45) Forms indicating a change of name, address or ownership.

(c) “Twelve month reporting period” when used in this chapter means a calendar year beginning January 1 and ending December 31.

(ed) “Website” when used in this chapter means www.waterboards.ca.gov.

Authority: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Sections 1003.5, 1395, 1396, 1397, 4999, 5001, 5105 and 12261, Water Code.

§ 910. Purpose.

Note: Proposed additions to the California Code of Regulations are shown in underline. Proposed deletions are shown in strikethrough

PROPOSED EMERGENCY REGULATION FOR MEASURING AND REPORTING DECEMBER 7, 2015 AGENCY DRAFT FOR PUBLIC COMMENT

The regulations contained in this chapter are adopted for the purpose of implementing and carrying out provisions of Chapter 2.7 of Division 1 of the Water Code and Parts 2, 5 and 5.1 of Division 2 of the Water Code. The regulations identify requirements for the mandatory electronic filing of reports on the board's internet website. Reports subject to mandatory electronic filing include: supplemental statements of water diversion and use, Water Right Progress Reports by Permittees, Reports of Licensees, Reports of Registration and Certificate Holders, Notices of Groundwater Extraction and Diversion, and reports filed by watermasters pursuant to Water Code section 5101, subdivisions (d) and (e).

Authority: Sections 348(a) ~~and 1058~~, 1058, 1840, and 1841 Water Code.

Reference: Sections 348(a), 5101, 5103 and 5104, Water Code.

§ 911. Construction.

- (a) To the extent authorized by federal law, this chapter applies to the federal government and any reports filed by the federal government for rights claimed under permits, licenses, registrations, statements of water diversion and use, stockpond certificates, and non-reserved and reserved rights on file with the board.
- (b) Nothing in this chapter shall be construed to limit or modify the board's authority to obtain information under any other lawful authority.

Authority cited: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Sections 348, subdivision (a), 5101, 5103, 5104, Water Code.

§ 915. Changes in Name, Address or Ownership.

Pursuant to sections 691, 830, 831, and 1074 of this title, changes in name, address or ownership shall be immediately reported to the board electronically using a change of name, address or ownership form or the supplemental statement of change form available on the board's website.

Authority cited: Sections 348(a) and 1058, Water Code.

Reference: Section 348(a), Water Code.

§917. Reporting – Insufficient Flows to Support All Diversions

When flows or projected available supplies in a watershed or subwatershed are sufficient to support some but not all projected diversion demand, the Deputy Director for the Division of Water Rights may require water diverters located within the watershed or subwatershed to electronically submit monthly or more frequent reports of water diversion.

- (a) Reports of water diversion shall be submitted in accordance with a schedule approved by the Deputy Director for the Division of Water Rights. The schedule may require

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PROPOSED EMERGENCY REGULATION FOR MEASURING AND REPORTING DECEMBER 7, 2015 AGENCY DRAFT FOR PUBLIC COMMENT

monthly, daily, or more frequent reporting. In determining the frequency of reporting, the Deputy Director for the Division of Water Rights shall not exceed the frequency of recording required under section 933, subdivision (b)(1), of this title.

(b) Water right diversion demand projections made under this section may be based on reported diversion and use data, including but not limited to data submitted with Progress Reports by Permittees, Reports of Licensees, Reports of Registration and Certificate Holders, Supplemental Statements of Water Diversion and Use, and reports filed by watermasters pursuant to Water Code section 5101, subdivisions (d) and (e).

(c) Water availability projections may be based on:

(1) Projected full natural flow data supplied by the Department of Water Resources or its successor;

(2) Projections from the National Weather Service, California Nevada River Forecast Center, and similar sources;

(3) Stream gage data; and

(4) Other data the Deputy Director for the Division of Water Rights determines is appropriate, given data availability, data reliability, and staff resources.

(d) The failure to electronically submit diversion reports requested in accordance with the applicable schedule approved by the Deputy Director for the Division of Water Rights is a violation subject to civil liability of up to \$500 per day pursuant to Water Code section 1846.

Authority: Sections 348, subdivision (a), 1058, 1840, and 1841 Water Code.

Reference: Sections 348, subdivision (a), 1846, 5101, 5103 and 5104, Water Code.

§ 920. Supplemental Statements of Water Diversion and Use.

(a) Supplemental statements of water diversion and use shall be filed on forms available at the board's website. A supplemental statement shall be filed annually within six months of the close of the twelve month reporting period~~triennially~~, or promptly if there is a change in the name or address of the person diverting water, or more frequently as directed under section 917. Notice to the board of changes in name, address or ownership must also be reported electronically on the ~~change of name, address or ownership~~supplemental statement of change form on the board's website. Filing the ~~change of name, address or ownership~~supplemental statement of change form does not eliminate the requirement to file a supplemental statement of water diversion and use.

(b) After the board has received an initial statement of water diversion and use as required by Water Code section 5101, the board will provide a user name and password to the person required to file supplemental statements of water diversion and use. The electronic supplemental statement form will be pre-populated with current ownership information made available to the board. Failure to receive a notice providing a user name and password does not exempt the filer from the requirement to file a supplemental

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PROPOSED EMERGENCY REGULATION FOR MEASURING AND REPORTING DECEMBER 7, 2015 AGENCY DRAFT FOR PUBLIC COMMENT

statement of ~~changewater diversion and use~~. Persons required to file a supplemental statement should notify the board prior to the ~~annual~~triennial reporting date to request a user name and password if the board has not already provided such information.

(c) The completed supplemental statement form shall include the following information:

- (1) ~~Changes to~~ The name(s), address, or ownership information on record with the board;
- (2) The type of water right being claimed for the water diverted under the statement;
- (3) The maximum rate of diversion achieved at any time during each month of the year, if available;
- (4) The amount of water directly diverted and collected to storage in each month and the total annual amount diverted. Each month must contain an entry. If no diversion occurred, a "0" should be entered;
- (5) A description of the diversion works, including type of diversion and capacity of direct diversion and/or storage facility.
- ~~(5) On or after January 1, 2012, the~~ (6) The amount of water beneficially used in each month and the total annual amount beneficially used. Each month must contain an entry. If no beneficial use occurred in a given month, a "0" should be entered;
- ~~(6)~~ (7) The purpose(s) for which the water was diverted and used;
- ~~(7)~~ (8) Any changes in the other information contained in the preceding statement;

(d) If a substitute or alternative water supply, such as groundwater, contract water, or recycled water, is being used in lieu of surface water to be reported under a statement, the report should indicate the source and amount of substitute or alternative water used and the amount of surface water offset on a monthly basis.

(e) If ~~the use of an alternative supply of water or any~~ water conservation efforts have resulted in a cessation or reduction in use, the report should include a description of the conservation efforts employed and indicate the extent and monthly amount of the reduction in water use due to these water conservation efforts.

Authority: Sections 348, subdivision (a), 1058, 1840, and ~~4058~~1841, Water Code.

Reference: Sections 348, subdivision (a), 1010, 1011, 1011.5, 5100, 5101, 5103 and 5104, Water Code.

§ 921. Watermaster Reports Filed with the Board.

(a) Watermasters that elect to file annual reports with the board shall file the reports in an electronic format acceptable to the board.

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**PROPOSED EMERGENCY REGULATION FOR MEASURING AND REPORTING
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(b) Reports filed with the board by a watermaster pursuant to Water Code section 5101(d) shall include the following information:

- (1) Identity of the person(s) diverting water
- (2) Description of the general purposes of use
- (3) Description of the place of use
- (4) The type of use
- (5) The quantity of water diverted from each source.

(c) Reports filed with the board by a watermaster pursuant to Water Code section 5101(e) shall include the following information:

- (1) Identity of the person(s) diverting water
- (2) Description of the place of use
- (3) The quantity of water diverted from each source.

(d) Reports filed with the board by a watermaster pursuant to Water Code section 5001 shall include the following information:

- (1) Identity of the persons who have extracted or diverted water
- (2) Description of the general place of use
- (3) Quantity of water extracted or diverted from each source.

(e) Additional reporting criteria may be included if such criteria are included pursuant to an agreement between the board and the watermaster. Additional requirements may include: the diverter's mailing address, assessors parcel number(s), tract number, monthly diversion amounts, and total diversion amounts.

Authority: Sections 348(a) and 1058, Water Code.

Reference: Sections 348(a), 5001, 5101(d) and 5101(e), Water Code.

§ 924. Water Use Reports of Registration and Certificate Holders.

(a) Reports of registration and certificate holders shall be filed annually within three months of the close of the twelve month reporting period. Provisional streamflow data may be used in preparing the water use report if final streamflow data is not available by the reporting deadline. If provisional streamflow data is used in the water use report, an amended report based on final streamflow data should be filed within six months of the close of the of the twelve month reporting period. Any report not timely amended shall be deemed final. The report shall be filed electronically on a form available at the board's website. Compliance with the requirement to file a water use report is a condition of every registration or certificate. A failure to file a report under this section is a violation of registration and certificate terms, as applicable.

(b) The annual reports shall include the following information:

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PROPOSED EMERGENCY REGULATION FOR MEASURING AND REPORTING DECEMBER 7, 2015 AGENCY DRAFT FOR PUBLIC COMMENT

(1) A statement of compliance or of noncompliance with the terms and conditions of the registration or certificate;

(2) The quantity of water diverted from each point of diversion by month (or shorter timeframe if otherwise required);

(3) The maximum rate of diversion from each point of diversion achieved at any time during each month of the year, if available;

(c) The first reports of registration and certificate holders shall be for diversion and use of water made during calendar 2016. The report for 2016 shall be filed prior to April 1, 2017.

Authority: Sections 348, subdivision (a), 1058, 1228.6, 1840, and 1841, Water Code.

Reference: Sections 348, subdivision (a), 1226.1, 1226.2, 1228.2, 1228.3, and 1846, Water Code.

§ 925. Progress Reports by Permittee.

(a) As specified in section 847 of this title, water right permit holders are required to file annual progress reports. Section 846 of this title provides that permittees may also be required to submit a written statement of the quantities of water beneficially used. Annual reports required under this section are in addition to any specific reporting requirements in a water right permit.

(b) Annual progress reports by permittee shall be filed within three months of the close of the twelve month reporting period ~~no later than July of the next year succeeding the year of diversion~~ on forms available at the board's website. Provisional data and information may be used in the progress report if final data is not available by the reporting deadline. If provisional streamflow data are used in preparing the progress report, an amended report based on final data shall be filed within six months of the close of the twelve month reporting period. Any reports not timely amended shall be deemed final. A failure to file a progress report is a violation of permit terms.

(c) The annual reports shall include the following information:

(1) A statement affirming compliance or non-compliance with permit terms and conditions;

(2) The construction status of the permitted project and status of current water use;

(3) The purpose(s) for which water is diverted and used. Use information to be provided includes:

(A) irrigation, including crop type and acreage;

(B) frost protection, including acres covered;

(C) heat control, including acres covered;

(D) industrial, including type of activity;

(E) stock watering, including number and type of animals;

(F) municipal, including approximate population served, and seven digit public water system number or other identifier;

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**PROPOSED EMERGENCY REGULATION FOR MEASURING AND REPORTING
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(G) domestic, including number of persons served, lawn or garden area, etc., and seven digit public water system number or other identifier, if applicable;

(H) power generation, including installed capacity in kilowatts, megawatts or horsepower;

(I) recreational, including boating, fishing or other water sports;

(J) additional uses not named above, including environmental use;-

(4) The amount of water taken from each point of diversion in each month (or shorter timeframe if otherwise required) from the source, including amount directly diverted and amount collected to storage, and the total annual amount of water diverted. Each month must contain an entry. If no diversion occurred in a given month, a “0” should be entered;

(5) The maximum rate of diversion achieved from each point of diversion at any time during each month (or shorter timeframe if otherwise required) of the year, if available;

(6) For permits that authorize collection of water to storage, the annual report shall also include the measurement data required to be collected in section 933 of this chapter.

(d) If a substitute or alternative water supply, such as groundwater, contract water, or recycled water, is being used in lieu of surface water that is required to be reported under this ~~section~~report, the report should indicate the source and amount of substitute or alternative water used and the amount of surface water offset on a monthly basis.

(e) If ~~the use of an alternative supply of water or any~~ water conservation efforts have resulted in a cessation or reduction in use, the report should include a description of the conservation efforts employed and indicate the extent and monthly amount of the reduction in water use due to these water conservation efforts.

Authority: Sections 348, subdivision (a), 1058, 1840, and 1841~~1058~~, Water Code.

Reference: Sections 348, subdivision (a), 1010, 1011, ~~and~~ 1011.5, and 1846, Water Code.

§ 929. Reports of Licensee.

(a) As specified in section 847 of this title, water rights license holders are required to file reports when requested by the board. Annual reports required under this section are in addition to any specific reporting requirements in a water right license.

(b) Reports of licensee shall be filed annually within three months of the close of the twelve month reporting period ~~and not later than July of the next year succeeding the year of diversion~~ on forms available at the board's website. Provisional data and information may be used in the report of licensee if final data is not available by the reporting deadline. If provisional streamflow data is used in preparing the report of licensee, an amended report based on final streamflow data shall be filed within six months of the

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PROPOSED EMERGENCY REGULATION FOR MEASURING AND REPORTING DECEMBER 7, 2015 AGENCY DRAFT FOR PUBLIC COMMENT

close of the twelve month reporting period. Any reports not timely amended shall be deemed final. A failure to file a licensee report is a violation of license terms.

(c) The annual reports shall include the following information:

- (1) A statement affirming compliance with license terms and conditions;
- (2) The amount of water diverted;
- (3) The purpose(s) for which water is diverted and used. Use information to be provided includes:
 - (A) irrigation, including crop type and acreage;
 - (B) frost protection, including acres covered;
 - (C) heat control, including acres covered;
 - (D) industrial, including type of activity;
 - (E) stock watering, including number and type of animals;
 - (F) municipal, including approximate population served, and seven digit public water system number or other identifier;
 - (G) domestic, including number of persons served, lawn or garden area, etc., and seven digit public water system number or other identifier, if applicable;
 - (H) power generation, including installed capacity in kilowatts, megawatts or horsepower;
 - (I) recreational, including boating, fishing or other water sports;
 - (J) additional uses not named above, including environmental use;
- (4) The amount of water taken from the source from each point of diversion in each month (or shorter timeframe if otherwise required), including direct diversion amount and amount collected to storage, and the total annual amount of water diverted. Each month must contain an entry. If no diversion occurred in a given month, a "0" should be entered.
- (5) The maximum rate of diversion achieved from each point of diversion at any time during each month (or shorter timeframe if otherwise required) of the year, if available;
- (6) For licenses that authorize collection of water to storage, the annual report shall also include the measurement data required to be collected in section 933 of this chapter.

(d) If a substitute or alternative water supply, such as groundwater, contract water, or recycled water, is being used in lieu of surface water that is required to be reported under this report, the report should indicate the source and amount of substitute or alternative water used and the amount of surface water offset on a monthly basis.

(e) ~~If the use of an alternative supply of water or any water conservation efforts have~~ resulted in a cessation or reduction in use, the report should include a description of the conservation efforts employed and indicate the extent and monthly amount of the reduction in water use due to these water conservation efforts.

Authority: Sections 348, subdivision (a), 1011, 1058, 1840, and 1841~~1058~~, Water Code.

Reference: Sections 348, subdivision (a), 1010, 1011, ~~and~~ 1011.5, and 1846, Water Code.

Note: Proposed additions to the California Code of Regulations are shown in underline. Proposed deletions are shown in strikethrough

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§ 930. Notices of Extraction and Diversion.

(a) Annual notices of groundwater extraction and diversion required pursuant to Part 5 of Division 2 of the Water Code shall be submitted to the board electronically, within six months after the close of the succeeding calendar year, on the forms available at the board's website. A failure to file an annual notice of groundwater extraction and diversion is considered non-use of water.

(b) The report shall include the following information:

- (1) Type of diversion;
- (2) Amount of groundwater extracted during the calendar year;
- (3) Amount of surface water diverted and used, if applicable;
- (4) Method of measurement;
- (5) Supplemental information, if applicable.

(c) Electronic reporting of groundwater extraction and diversion does not apply to those persons reporting to local oversight agencies pursuant to section 5009 of the Water Code.

(d) As specified in Section 1070 of this title, a filing fee is required. The fee must be submitted separately from the electronic report. Filing is not complete until the board receives the filing fee.

(e) If the use of an alternative supply of water or any water conservation efforts have resulted in a cessation or reduction in use, the report should indicate the extent and amount of the reduction in water use due to water conservation efforts.

Authority: Sections 348, subdivision (a), 1058, and 1529, Water Code.

Reference: Sections 1005.1, 1005.2, 1005.3, 1005.4, 1011, 1011.5, 1530, 4999, 5000, 5001, 5002, 5003, and 5004, Water Code.

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CH 2.8 MEASURING AND MONITORING

§931 Definitions – the following definitions apply to the terms as they are used in this Chapter.

(a) “Accuracy” means the measured volume relative to the actual volume, expressed as a percent, and determined at the same frequency as is specified for monitoring in section 933, subdivision (b) of this title. The percent shall be calculated as $100 \times (\text{measured value} - \text{actual value}) / \text{actual value}$.

(1) “Measured value” is the value indicated by the device or determined through calculations, such as flow rate combined with duration of flow.

(2) “Actual value” is the value as determined through laboratory, design, or field testing protocols.

(b) “Board” means the State Water Resource Control Board

(c) “Deputy director” means the Deputy Director for the Division of Water Rights. Within the Delta, as defined in section 12220 of the Water Code, the term “deputy director” means either the Deputy Director for the Division of Water Rights or the Delta Watermaster.

(d) “Executive director means” the Executive Director of the board.

(e) “Measurement method” means a method capable of measuring the rate of direct diversion, rate of collection to storage, and rate of withdrawal or release from storage where the method is likely to achieve accuracy standards comparable to those of individual measuring devices as described in section 933 subdivision (d) of this chapter.

(f) “Measuring device” means a device by which a water right holder determines and records the numeric value of flow rate, velocity or volume of the water passing a designated and calibrated observation point during a specific time period. A measuring device may be a manufactured device, on-site built device, or in-house built device.

(g) “Qualified individual” means:

(1) For diversions greater than or equal to 100 acre-feet per year:

(A) A California-licensed contractor authorized by the State License Board for C-57 well drilling or C-61 Limited Specialty/D-21 Machinery and Pumps; or

(B) a California-registered Professional Engineer.

(C) a professional subject to oversight by a California-registered Professional Engineer and employed to install, operate, and maintain water measurement and reporting devices or methods.

(2) For diversions less than 100 acre-feet per year, a person trained and experienced in water measurement and reporting. This may include the water right holder or the water right holder’s agent.

(h) “Twelve month reporting period” has the same meaning as in section 907, subdivision (c) of this title.

(i) “Type of measuring device” means a class of measuring devices manufactured or built to perform similar functions. For example, inline flow meters, rectangular, v-notch, and broad crested weirs are types of measuring devices. Submerged orifice gates are another type of measuring device.

(j) “Water right holder” means:

(1) Any person authorized to divert water under a permit or license; or

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(2) Any person required under Water Code Part 5.1 to file a Statement of Water Diversions and Use; or

(3) Any person authorized to divert under a registration; or

(4) To the extent authorized by federal law, this chapter applies to the federal government and any reports filed by the federal government for rights claimed under permits, licenses, registrations, statements of water diversion and use, stockpond certificates, and non-reserved and reserved rights on file with the board.

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 5103, Water Code.

§932 Applicability.

(a) Except as provided in subdivision (d), the following water right holders shall install and maintain a measuring device or employ a measurement method capable of measuring the rate of diversion, rate of collection to storage, the rate of withdrawal or release from storage, and the total volume of water diverted or collected to storage:

(1) Any person authorized to divert greater than 10 acre-feet of water per year under a permit or license.

(2) Any person who has previously diverted or intends to divert greater than 10 acre-feet of water per year and is required under Water Code Part 5.1 to file a Statement of Water Diversions and Use.

(3) Any person authorized to divert greater than 10 acre-feet of water per year or to have a storage facility with a capacity greater than 10 acre-feet under a registration.

(b) Determination of Diversion Threshold for Requiring Measurement – the determination of whether a diversion meets the threshold for required measurement (stated in subsection (a) of this section or as adopted in accordance with subsection (d) of this section) shall be made by the deputy director. When making such a determination, the deputy director shall consider:

(1) Multiple points of diversion for a water right used by the same person or serving the same place and purpose of use.

(2) Multiple water rights with shared point or points of diversion.

(c) Effective Dates. The deadlines for the installation and certification of measuring devices or method shall be:

(1) On or before July 1, 2016, for a water right holder with a right or a claimed right to divert 1000 acre-feet of water per year or more.

(2) On or before January 1, 2017, for a water right holder with a right or a claimed right to divert 100 acre-feet of water per year or more.

(3) On or before January 1, 2018, for a water right holder with a right or a claimed right to divert greater than 10 acre-feet of water per year.

(d) Increasing the Measurement Threshold

(1) Beginning January 1, 2017, [t]he executive director may issue orders to increase the 10 acre-feet reporting threshold of subdivision (a) in a watershed or subwatershed incrementally

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to or above 25 acre-feet. The executive director may authorize an increased reporting threshold after:

(A) Considering the total monthly quantities diverted in relation to the monthly quantity of water available within the watershed or subwatershed; the requirements of any policy, decision or order of the board or a court; and the need for diversion and bypass information to evaluate impacts to public trust resources; and

(B) Reviewing any relevant information submitted by affected water right holders or other interested parties regarding a proposed increase in reporting threshold; and

(C) Determining the benefits of the additional reporting information at a specific reporting threshold are substantially outweighed by the cost of installing measuring devices or employing methods for measurement.

(D) The executive director shall not increase the measurement threshold in a watershed or subwatershed above those established in any other regulation, policy, decision, order or other legal requirement adopted by the board, a Regional Water Quality Control Board, or a court, unless the change is authorized by previous requirements.

(3) The executive director may review each proposal to increase the reporting threshold on a case-by-case basis.

(4) The executive director may authorize an increased reporting threshold for a period not to exceed five years. If changing conditions warrant, the executive director may modify or cancel any such authorization.

(5) The executive director shall maintain a list of reporting thresholds for watersheds or subwatersheds greater than 10 acre-feet.

(6) A decision or order issued under this section by the executive director is subject to reconsideration under article 2 (commencing with section 1122) of chapter 4 of part 1 of division 2 of the Water Code.

(e) Other Measurement and Monitoring Requirements.

(1) Any person with a water right identified in or subject to a statute, order, policy, regulation, decision, judgment or probationary designation of the board, a Regional Water Quality Control Board, or a court is responsible for meeting the terms and conditions of the statute, order, policy, regulation, decision or judgment and the requirements of this Chapter. If there is any conflict or inconsistency between the measurement and monitoring requirements subject to the statute, order, policy, regulation, decision, judgment or probationary designation and the requirements of this Chapter, the more stringent requirement or requirements shall control in each instance.

(2) A permit, license, or registration holder is responsible for meeting the conditions of the permit, license, or registration and the requirements of this Chapter. If there is any conflict or inconsistency between the permit, license, or registration condition for measurement and monitoring and the requirements of this Chapter, the more stringent requirement or requirements shall control in each instance.

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 1122, 1123, and 5103, Water Code.

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§933 Measuring Device Requirements.

(a) Measurement Options. A water right holder may choose any measuring device, or combination of devices, that meets the requirements of this section.

(b) Data

(1) Data Recording. The measuring device shall be capable of recording the date, time, and at least one of the following: total volume of water diverted, flow rate, water velocity, or water elevation. The data shall be recorded in a format retrievable and viewable using Microsoft Xcel, Microsoft Access, or other software program authorized by the Deputy Director. The measuring device shall be capable of recording the required information as follows:

 (A) For direct diversion:

 i. On an hourly or more frequent basis for a water right holder with a right or a claimed right to divert 1000 acre-feet of water per year or more.

 ii. On a daily or more frequent basis for a water right holder with a right or a claimed right to divert 100 acre-feet of water per year or more.

 iii. On a weekly or more frequent basis for a water right holder with a right or a claimed right to divert more than 10 acre-feet of water per year.

 (B) For storage in a reservoir or pond:

 i. On a daily or more frequent basis for a reservoir or pond with a storage capacity of 200 acre-feet or more.

 ii. On a weekly or more frequent basis for a reservoir or pond with a storage capacity of 50 acre-feet or more but less than 200 acre-feet.

 iii. On a monthly or more frequent basis for a reservoir or pond with a storage capacity of greater than 10 acre-feet and less than 50 acre-feet.

(2) Data Submittal.

(A) Each water right holder to which a measurement requirement applies shall submit the data from each measuring device to the board as required by chapter 2.7 of division 3 of this title, and within 30 days of any request or order by the board.

(B) By January 1, 2020, a water right holder who either diverts more than 10,000 acre-feet annually or, on a monthly basis diverts more than 50 percent of the monthly median flow of the watershed (Hydrologic Unit Code (HUC) 10 as shown on the Division's eWRIMS database) where the diversion is located shall provide real-time telemetered diversion data via a public website that displays the data on at least a daily bases, that is updated weekly, at minimum. The data shall be provided to the board upon the request of the executive director in a format retrievable and viewable using Microsoft Xcel, Microsoft Access, or other software program authorized by the deputy director.

(C) For a reservoir subject to drawdown and refill during the collection to storage season, or that is otherwise operated in a cyclical manner, the maximum and minimum water surface elevations, the corresponding reservoir volume, and the monitoring dates shall be measured and the maintained.

(D) For each reservoir, if water is diverted or flows into the reservoir under more than one basis of right, including groundwater or water purchased under a contract, the amounts reported to the board shall be limited to the amounts covered by the water right being reported. A record of the alternative supplies entering the reservoir throughout the year shall be maintained to demonstrate that water stored is under a separate basis of right or contract.

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(3) Data Retention. Each water right holder shall keep records of the data from each measuring device for a period of no less than 10 years.

(c) Calculating Volume from Recorded Data. If a measuring device measures the flow rate, water velocity, or water elevation, and does not report the total volume of water diverted or delivered, the water right holder shall report the conversion method used to convert the measured value to volume. The conversion method shall be approved by a qualified individual.

(1) For a measuring device that measures flow-rate, the report shall describe protocols used to record the duration of operation where volume is derived by the following formula: Volume = (flow rate) x (duration).

(2) For a measuring device that measures flow velocity only, the report shall describe protocols used to determine the cross-sectional area of flow and the duration of operation, where volume is derived by the following formula: Volume = (velocity) x (cross-section flow area) x (duration).

(3) For a measuring device that measures water elevation at the device (e.g. flow over a weir or differential elevation on either side of a device), the report shall describe protocols used to derive flow rate at the measuring device and the method or formula used to derive volume from the measured elevation value(s).

(d) Required Accuracy. The accuracy for each measuring device applies to the volume diverted or stored.

(1) A device installed on or before January 1, 2016, shall be certified to be accurate to within ±15 percent by volume.

(2) A device installed or replaced after January 1, 2016 that is used to measure the diversion or bypass of water shall be certified to be accurate to within:

(A) ±5 percent by volume in the laboratory if using a laboratory certification.

(B) ±10 percent by volume in the field if using a non-laboratory certification for a water right holder with a right or a claimed right greater than or equal to 100 acre-feet per year.

(C) ±15 percent by volume in the field if using a non-laboratory certification for a water right holder with a right or a claimed right greater than or equal to 10 acre-feet per year.

(3) A device installed or replaced after January 1, 2016 that is used to measure the water stored in a reservoir or pond shall be certified to be accurate to within:

(A) ±10 percent by volume in the field for a reservoir or pond with a storage capacity of 200 acre-feet or more.

(E) ±15 percent by volume in the field for a reservoir or pond with a storage capacity greater than 10 acre-feet and less than 200 acre-feet.

(e) Certification of Measuring Device Accuracy. The accuracy of a measuring device shall be initially certified and documented as follows:

(1) For a measuring device installed prior to January 1, 2016, the accuracy required shall be initially certified and documented by field-testing performed by an individual trained in the use of relevant field-testing equipment. The results from the field testing shall be documented in

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a report approved by a qualified individual and shall be filed with the next subsequent water use report.

(2) For a measuring device installed or replaced after January 1, 2016, the accuracy shall be initially certified and documented by either:

(A) Laboratory certification prior to installation of a measuring device as documented by the manufacturer or an entity, institution or individual that tested the device following relevant industry-established protocols. Documentation shall include the manufacturer's literature or the results of laboratory testing of an individual measuring device or type of measuring device; or

(B) Non-laboratory certification after the installation of a measuring device in the field, as documented by either:

(i) The affidavit or declaration of a qualified individual documenting the design and installation of the measuring device at a specified location; or

(ii) A report approved by a qualified individual documenting the field-testing performed on the installed measuring device by an individual trained in the use of field testing equipment.

(f) Protocols for Field-Testing and Field-Inspection and Analysis. Field-testing shall be performed for a measuring device according to the manufacturer's recommendations or design specifications and be overseen by a qualified individual. Field inspection and analysis protocols shall be performed and the results shall be approved by a qualified individual for each measuring device to demonstrate the following:

(1) The design and installation standards used for each measuring device meets the accuracy standards of subdivision (d) of this section; and

(2) The operation and maintenance protocols will ensure compliance with the accuracy standards of subdivision (d) of this section.

(g) Installation, Maintenance and Performance Requirements. A measuring device shall be installed, maintained, operated, inspected, and monitored to ensure the accuracy standards of subdivision (d) of this section are met. The installation of a measuring device shall be performed by a qualified individual.

(h) Calibration. The measuring device shall be calibrated by a qualified individual upon installation and at least once every three years thereafter. The water right holder shall be responsible for more frequent calibration of measuring device(s) as necessary to ensure the accuracy requirements of subdivision (d) of this section are met.

(i) Measuring Device Location. No delivery or use of water shall occur between the point of diversion and the location of the measuring device, unless otherwise measured.

(j) Accessibility. The measuring device shall be installed in a manner such that it is readily accessible for reading, inspection, testing, repair or replacement. The water right holder shall make the measurement device available for inspection by an authorized representative of the board upon request. The water right holder shall provide the board's representative with

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reasonable access to inspect the measuring device. Failure to provide such access is a violation of this regulation.

(k) Verification of Measuring Device. The board may conduct a field inspection or request additional information from the water right holder to determine if the measuring device has been installed and meets the requirements of this section. Failure to timely install a measuring device or verify its accuracy is a violation of this regulation.

(l) Inadequate Measuring Device. If a measuring device fails to meet the accuracy requirements of subdivision (d) of this section, the water right holder shall repair or replace the measuring device to meet such requirements.

(1) Notification. A water right holder shall timely notify the board in writing upon detecting that the holder's measuring device does not comply with the accuracy requirements of subdivision (d) of this section. The notification shall include the water right holder's plan to take appropriate, timely corrective action to comply with the accuracy requirements of subdivision (d) of this section.

(2) Enforcement. Failure to timely repair or replace a measuring device that does not comply with the accuracy requirements of subdivision (d) of this section is a violation of this regulation.

(m) Nothing in this section shall be construed to limit or modify the board's authority to obtain information under any other lawful authority.

Authority: Sections 183, 1051, 1058, 1840, and 1841, Water Code.

Reference: Sections 1846 and 5103, Water Code.

§934 Measurement Method. A measurement method is a protocol for measuring water diversions, other than through a measuring device at each authorized point of diversion, where the method is found by the deputy director to reasonably achieve the accuracy requirements of subdivision (d) of this section. The board encourages water right holders on a local or regional basis to cooperate and establish a measurement method or methods to measure direct diversion, diversion to storage, and withdrawal or release from storage in an efficient and cost effective manner which meets the accuracy requirements of subdivision (d) of this section. Any measurement method must be able to quantify the amount of water diverted under all separate priorities of rights being exercised.

(a) Request for Measurement Method.

(1) Form and Content. A Request for Approval of Measurement Method shall be prepared by a California-registered Professional Engineer. The request shall describe how the measurement method will meet the requirements of this Chapter and include, at a minimum, the following information:

(A) Name and contact information of all participants, including designation of a manager to serve as the primary contact person.

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(B) Map showing location of participants and covered lands (including all assessor parcel numbers). The map shall conform to the mapping requirements of article 7 of chapter 2 of division 3 of this title.

(C) Description of the measurement method, including how the method will be capable of measuring the volume of water diverted, rate of direct diversion, rate of collection to storage, and rate of withdrawal or release from storage.

(D) Documentation required under subdivision (d) of this section verifying the accuracy of the measurement method.

(E) A detailed description of how installing and maintaining a measuring device at each point of diversion is not feasible, would be unreasonably expensive, would unreasonably affect public trust resources, or would result in the waste or unreasonable use of water.

(F) Description of the permitted, licensed, registrations, certificates and water right claims covered by the measurement method including: file number, owner name, water right type, priority of diversion, monthly and annual diversion amounts, place of use, purpose of use, and alternative sources of water.

(G) Evaluation of public trust needs including minimum in-stream flows and water quality concerns or bypass requirements of any of the water rights involved.

(H) Evaluation of enterprise income of the water users if claiming installing and maintaining measuring and monitoring devices would be unreasonably expensive.

(2) Action by the deputy director. Only complete forms accompanied by maps will be accepted for review. No action will be taken on incomplete requests.

(A) The measurement method will be reviewed and, if found to reasonably meet the purposes of this section, authorized by the deputy director. A measurement method may be conditionally authorized if it meets the requirements of this Chapter.

(B) A measurement method shall not be authorized for any project with an existing or prior gage, or where any requirement of any contract, , policy, order, decision, judgment, determination, or other regulatory requirement of the board, a Regional Water Quality Control Board, or a court requires that diversions be gaged. A measurement method shall not be authorized for any project where it can reasonably be interpreted that gaging is necessary to meet such regulatory requirements.

(3) Initial Term and Renewal. The deputy director may authorize a measurement method for a period not to exceed five years. Any request for renewal shall be on a form available on the board's website, and shall not be deemed complete unless the accuracy of the measurement method has been reviewed and re-certified by a California-registered Professional Engineer.

(b) Data

(1) Data Recording. The measurement method shall be capable of recording the date, time, and total amount of water diverted in accordance with the requirements of section 933 subdivision (b) of this title. The data shall be recorded in a format retrievable and viewable using Microsoft Xcel, Microsoft Access, or other software program authorized by the deputy director.

(2) Data Submittal. Each water right holder or claimant shall submit data from the measurement method to the board pursuant to chapter 2.7 of division 3 of this title, or within 30 days of request of the board. Water use data for each -twelve month reporting period shall be submitted on a form available on the board's website with the appropriate water use report

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including a Progress Report by Permittee, Report of Licensee, Supplemental Statement of Water Diversion and Use, and Water Use Reports of Registration and Certificate Holders.

(c) Required Accuracy. The accuracy of the measurement method to determine the volumes of water diverted, diverted to storage, and withdrawn or released from storage shall reasonably achieve accuracy standards comparable to the standards listed in section 933 subdivision (d) of this title for individual measuring devices. The accuracy of the measurement method shall be determined by a California-registered Professional Engineer.

(d) Certification of Measurement Method Accuracy. The accuracy of a measurement method shall initially be certified and documented by field-testing performed by an individual trained in the use of relevant field-testing equipment. The results from the field testing shall be documented in a report approved by a California-registered Professional Engineer and shall be filed with the subsequent water use report. When the measurement method applies to water diverted for agricultural use, the certification shall be based on a statistically significant number of sampling points based on field size, include field testing and measurement during multiple phases of the crop-growth cycle, include all factors which influence water consumptive use demands, and calculate tailwater return flows. Field notes, calculations, and other materials used in the certification shall be included in the report.

(e) Shared Measurement Point Upstream of the Delivery Point or Farm Headgate. A group of water right holders may measure water diverted at a location upstream of their respective delivery points or farm headgates or at shared points of diversion if an agreement accepted by the deputy director is in place for the water right holders to share a measuring device located at the shared point of diversion. Water right holders using a shared measuring device under this subdivision shall report the following additional information to the board on an annual basis:

(1) The methodology used to apportion the volume of water delivered from the shared point of diversion to each downstream water right holder.

(2) The field or flow condition at each individual water right holder's delivery point downstream of the point of measurement including the duration of water delivery to the individual water right holder, annual water use patterns, irrigated acreage (including GIS map showing assessor's parcel number and USDA field identification number), crops planted, on-farm irrigation system, and other relevant distinctions in beneficial uses and water management practices.

(3) Any differences in consumptive use of water among the individual water right holders.

(f) Operation and Performance Requirements. A measurement method shall be operated and maintained to ensure the accuracy standards of subdivision (c) of this section are met. Field testing and re-analysis that the measurement method meets the requirements of this section shall be performed by a California-registered Professional Engineer upon installation, and at least once every three years thereafter.

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(g) Inadequate Measurement Method. If a measurement method fails to meet the accuracy standards of subdivision (c) of this section or the conditional approval by the deputy director, the measurement method shall be corrected to ensure it complies with these requirements.

(1) Notification. The water right holders employing a measurement method shall notify the board in writing within 30 days of finding a measurement method does not comply with the accuracy standards of subdivision (c) of this section or the conditional approval by the deputy director. The notification shall include a plan to take appropriate, timely corrective action.

(2) Enforcement. Failure to correct defects or to ensure the measurement method complies with the accuracy standards of subdivision (c) of this section is a violation of this regulation.

(3) Measuring Devices Required. If defects in the measurement method are not timely corrected, measuring devices shall be installed at each point of diversion previously covered by a measurement method within 90 days of notification from the board that such measurement method has been deemed inadequate.

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 1846 and 5103, Water Code.

§935 Alternative Compliance for a Measuring Device or Measurement Method Requirement.

(a) The deputy director may consider alternative compliance to one or more of the requirements of section 933 and section 934 of this title upon finding that strict compliance is not feasible, would be unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water.

(b) The deputy director may authorize alternative compliance for a specific measuring device or measurement method, for a type of measuring device, or for similar measurement methods.

(c) Request from a Water Right Holder for Alternative Compliance. A water right holder may file a request alternative compliance with the deputy director.

(1) The request shall be filed electronically on a form available on the board's website.

(2) The request shall describe how strict compliance with one or more of the requirements of section 933 and/or section 934 of this title is not feasible, would be unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water:

(3) The request shall describe how the proposal is a reasonable alternative to one or more of the requirements of section 933 and/or 934 of this title.

(4) The deputy director may review each request for alternative compliance on a case-by-case basis. Alternative compliance proposals may be conditionally approved.

(5) The deputy director may require a water right holder to submit annual reports or a compliance plan to ensure the conditions of approval of the alternative compliance are met.

Authority: Sections 1058, 1840, and 1841, Water Code.

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Reference: Sections

§936 Request for Additional Time.

A water right holder may submit a request for additional time to comply with the provisions of this Chapter on a form available on the board's website. Additional time may be granted by the deputy director upon a showing of good cause. The additional time granted by the Deputy Director shall not exceed 24 months, combined, under all extension requests.

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections

§937 Report of Water Measuring Device.

(a) Report - Filing Requirements. A report of water measuring device shall be filed electronically on a form available on the board's website.

(1) For measuring devices installed on or before January 1, 2016, a water right holder shall submit a report of water measuring device to the board on or before July 1, 2016.

(2) For measuring devices installed after January 1, 2016, a water right holder shall submit a report of water measuring device to the board with the first water use report submitted after installation of the device.

(3) After the initial report has been submitted, the water right holder shall provide the board with a Report of Water Measuring Device or Measurement Method at five year intervals.

(4) The water right holder shall submit a report of water measuring device to the board within 30 days of installation or calibration of a new or replacement measuring device.

(5) The water right holder shall submit a report of water measuring device to the board within 30 days of request from the board.

(b) Form - Content. The report of water measuring device shall contain the following information, as applicable:

(1) Name of water right holder

(2) Contact information for person testing performance of device, including email address

(3) Water right identification number, if assigned

(4) Type of measuring device.

(5) Make, model number and serial number of the measuring device.

(6) Type of recording device.

(7) Make, model number and serial number of the recording device.

(8) Units of measurement.

(9) The date of installation.

(10) Certification of accuracy

(11) Name of the person who installed the measuring device.

(12) Date of most recent calibration or recalibration of the measuring device.

(13) Maintenance schedule for the measuring device and the recording device.

Note: Proposed additions to the California Code of Regulations are shown in underline. Proposed deletions are shown in strikeout

**PROPOSED EMERGENCY REGULATION FOR MEASURING AND REPORTING
DECEMBER 7, 2015 AGENCY DRAFT FOR PUBLIC COMMENT**

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections

**Note: Proposed additions to the California Code of Regulations are shown in underline.
Proposed deletions are shown in strikeout**



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Public Comments regarding Senate Bill 88 and Draft Emergency Regulation for Measuring and Reporting on the Diversion of Water

→ [Public Notice](#)

→ Deadline to receive comments by: **December 17, 2015** by 12:00 noon

Commenter(s):	Submitted by:
Brownstein Hyatt Farber Schreck on behalf of agricultural clients	Susan Petrovich
Calaveras County Water District	Peter Martin
California Cattlemen's Association	Kirk Wilbur
California Coastkeeper Alliance	Rickey Russell Sean Bothwell
California Department of Fish and Wildlife	Scott Cantrell
California Farm Bureau Wine Institute	Jack Rice Tim Schmelzer
California State Senate, Fourth Senate District	Senator Jim Nielsen
Central Delta Water Agency	Dante John Nomellini
City of Santa Barbara	Bill Ferguson
Clifton Court, L.P.	Suzanne Womack
County of Trinity	Keith Groves
El Dorado County Farm Bureau	Renee Hargrove
El Dorado Irrigation District	Brian Poulsen, Jr.
General Public	T. Connick
Herum Crabtree Suttgart on behalf of the West Side Irrigation District, Banta Carbona Irrigation District, West Stanislaus Irrigation District, and Patterson Irrigation District	Jeanne Zolezzi
Hydro Sierra Energy	Andy Stevenson
Kings River Water Association	Steven Haugen
Law Offices of Patrick J. Maloney	Thomas Virsik
Local Agencies of the North Delta	Osha Meserve
Los Angeles Department of Water and Power	James Yannotta
MBK Engineers	Gary Kienlen
Mendocino County Farm Bureau	Frost Pauli
Nevada Irrigation District	Remleh Scherzinger

North Eastern California Water Association	Ted deBraga
Northern California Power Agency	Randy Bowersox
Northern California Water Association	Todd Manley
O'Laughlin & Paris LLP on behalf of the San Joaquin Tributaries Authority	Valerie Kincaid
Paradise Irrigation District	George Barber
PPIC Water Policy Center and UC Davis Center for Watershed Sciences	Henry McCann Elisa Blanco AlvarÂ Escrova-Bou Ellen Hanak Jay Lund Bonnie Magnuson-Skeels Andrew Tweet
San Francisco Water Power Sewer	Steven Ritchie
San Luis & Delta-Mendota Water Authority	Jon Rubin
San Luis Obispo County Farm Bureau	Dan Sutton
Shasta County Board of Supervisors	Leonard Moty
Shasta County Department of Public Works	Charleen Beard
Sonoma County Farm Bureau	Jeff Carlton
Sonoma County Water Agency	Todd Schram
Southern California Edison Company	Paul Teensma
Spaletta Law PC on behalf of over 40 individual landowners and companies who divert water	Jennifer Spaletta
Trout Unlimited The Nature Conservancy California Trout	Brian Johnson Jay Ziegler Curtis Knight
United States Department of the Interior, Fish and Wildlife Service	Tim Mayer
United States Forest Service, Pacific Southwest Region	Randy Moore
WQ Consultants	Robert Pincus
Yuba County Water Agency	Curt Aikens

For further information on this topic, please contact:

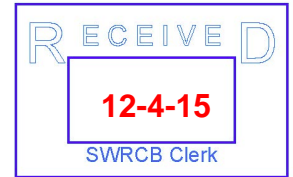
Paul Wells at (916) 323-5195 or email at Paul.Wells@waterboards.ca.gov

(Updated 12/17/15)

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the authority of the California Environmental Protection Agency
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**Brownstein Hyatt
Farber Schreck**



December 3, 2015

Susan F. Petrovich
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805.965.4333 fax
SPetrovich@bhfs.com

VIA EMAIL TO DWR-MEASUREMENT@WATERBOARDS.CA.GOV

State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

RE: Proposed Emergency Regulation for Measuring and Reporting the Diversion of Water

Dear Honorable Board Members:

Brownstein Hyatt Farber Schreck represents a wide range of clients who divert surface water. We write this letter on behalf of agricultural clients whose livelihoods rely upon the use of rural surface water diversions and groundwater extractions.

Farming and ranching is always economically challenging. Tight profit margins and hard physical labor, combined with the vagaries of the market, competition from foreign imports, and rising costs of labor and equipment place on-going stresses on farmers' and ranchers' revenues. The prolonged drought is just one more source of stress and economic hardship. The time and expense involved in compliance with expanded, more frequent and more intensive reporting regulations could be the final straw for many cattle ranchers who rely on stock ponds.

For that reason, we concur with the recommendation that smaller diverters not be subject to the proposed new emergency regulations. Our clients suggest that the exemption, now recommended to be 10 AFY, be increased to 20 AFY cumulatively to include all surface water diversions on a parcel, regardless of size. Cattle operators use more than one stock pond so a 10-acre exemption simply isn't enough to avoid imposing overly-burdensome reporting requirements on property owners who cumulatively divert relatively small amounts of water.

We urge you, therefore, to increase the exemption from the new emergency regulation to 20 AFY.

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bhfs.com

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main 805.963.7000

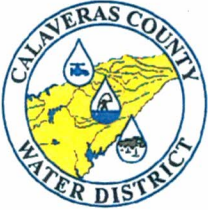
Brownstein Hyatt Farber Schreck, LLP

If you have any questions or require further information, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script, reading "Susan F. Petrovich". The signature is written in black ink and is positioned above the printed name.

Susan F. Petrovich



CALAVERAS COUNTY WATER DISTRICT

120 Toma Court • P O Box 846 • San Andreas, CA 95249 • (209) 754-3543

December 17, 2015

Paul Wells, WRCE
State Water Resources Control Board
P.O. 2000
Sacramento, CA 95812
Via e-mail: paul.wells@waterboards.ca.gov



Re: CCWD Comments Draft Emergency Regulation for Measuring and Reporting on the Diversion of Water

Dear Mr. Wells:

The Calaveras County Water District (CCWD) appreciates the opportunity to comment on the "Proposed Emergency Regulation for Measuring and Reporting on the Diversion of Water, December 7, 2015 Agency Draft for Public Comment," pursuant to Senate Bill 88 (2015) (SB 88). CCWD is a special district responsible for administering water, wastewater, and hydroelectric power throughout Calaveras County. The district has fragmented water service areas spread out across Calaveras County in three watersheds. The District has six distinct and separate water service areas with approximately 13,000 connections, many of which are within economically disadvantaged communities, and six different points of diversion that we maintain measurement devices on for reporting on a suite of complex consumptive water rights. Additionally, the District is a project owner/licensee on two separate hydroelectric generation projects, the North Fork Stanislaus River Hydroelectric Project and Hogan Dam Hydroelectric Project. The District partners with the Northern California Power Agency (NCPA) and Modesto Irrigation District respectively on the projects, and they are responsible for the hydroelectric development, management, and operation of the various facilities, including the maintenance of appropriate water measurement devices.

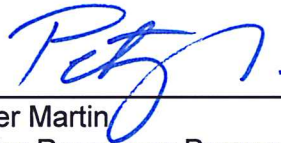
CCWD is mostly supportive of the draft regulations. SB 88 was well-intentioned in protecting California's water resources through improved accuracy of reporting for water diversions. However, CCWD has significant concerns regarding the costs and outcomes stemming from the bill's draft regulations. As written, the draft regulations will be financially burdensome on the District and our partner hydroelectric project operators, with no commensurate benefit. The District asks that the State Board consider that any additional costs related to the measurement of water use on a more rigorous basis be linked to a desirable benefit to the public, rather than an arbitrary length of time or quantity. Based on the information that was presented at the draft regulation workshops, the State Board's analysis has failed to provide this vital connection with the regulatory costs CCWD will incur.

As a result of the outlined concerns, CCWD requests a categorical exclusion from some of the enhanced reporting requirements for hydropower projects that divert water for non-consumptive uses and return full flows back to the stream. Monthly, weekly, or daily measurement provides little if any useful data for the purpose of determining flow availability in these cases.

Additionally, CCWD respectfully offers the comments as "Attachment A" to this letter on the "Draft Emergency Regulation for Measuring and Reporting on the Diversion of Water". We fully support the State Water Board's efforts to implement this important legislation but are concerned that agencies such as ours who largely serve disadvantaged communities realize some meaningful benefit for the additional costs to be incurred in meeting the new requirements.

If you have any questions, please feel free to contact me at (209) 754-3094 or peterm@ccwd.org.

CALAVERAS COUNTY WATER DISTRICT



Peter Martin
Water Resources Program Manager

Cc:

Chris Tuggle, Generation Supervisor, Modesto Irrigation District
David Cameron, Downey Brand
John S. Mills
Randy Bowersox, Hydroelectric Manager, Northern California Power Agency

Attachment A - Calaveras County Water District Comments on "Draft Emergency Regulation for Measuring and Reporting on the Diversion of Water"

- 1) **The regulations include the potential for more routine measurement of hydropower projects that divert water for non-consumptive uses and return full flows back to the stream in dry years, which provides negligible benefit to determining the water balance for a watershed.**

CCWD requests an exclusion from hydropower projects that divert and return all flows back the watercourse. The data would not provide useful to the SWRCB as outlined in SB 88 because, ultimately, water is still fully intact for preservation of downstream flows.

Additionally, many of the FERC regulated hydropower projects in California are already cooperating with the United State Geological Survey (USGS) in fulfillment of the requirements of their licensing. The USGS has contracts with us for the collection of reservoir and streamflow data, and to assist our partner agency NCPA's operational and management needs. This also provides data that is available to the public. This should satisfy the needs of the SWRCB for this exercise. Any unnecessary burden of additional data aggregation should not fall on hydropower projects that don't consume water or impact the greater water balance. CCWD reports on these hydropower rights on an annual basis to the SWRCB; additional monthly, weekly, or daily data would be unessential to determining water availability.

Suggested Language: We request the following change to part (b) of "Section §933 Measuring Device Requirements":

Add the following subsection (1) Data Recording, (B) as follows:

(B) For the purposes of this requirement, water right holders that divert water for non-consumptive uses, including but not limited to hydropower generation, and return full flows back to the stream shall be excluded from data recording and data submittal requirements. Diverters subject to this exclusion must continue to comply with any water rights reporting requirements including but not limited to filing Progress Report by Permittee, Report of Licensee, Supplemental Statement of Water Diversion and Use, and Water Use Reports of Registration and Certificate Holders.

- 2) **The regulations include the potential for reporting to the State Board on a monthly, daily, or more frequent reporting. This would be potentially extremely time consuming for CCWD.** CCWD requests that the SWRCB limit the regulations to no more than monthly reporting. If not, very limited circumstances should be prescribed in this regulation to justify this level of reporting. CCWD has a limited technical staff of one working on water rights reporting with the assistance of consultants, and about 25-30 field staff working at 20 different facilities, across a 1000 square mile county, that possibly could be available to physically pull information to report measurements. *Recording* measurement on this basis is feasible, but It would be infeasible for a small water District like CCWD to track and *report* on all of our six different diversions on anything less than a monthly basis. CCWD requests changes to the draft regulations to require reporting on frequency not to exceed a monthly basis. If not, the SWRCB should delineate what specific situations would require reporting on this frequency, and how this data would provide beneficial to the preservation of water supplies.

Attachment A - Calaveras County Water District Comments on “Draft Emergency Regulation for Measuring and Reporting on the Diversion of Water”

Suggested Language: We request the following change to “§917. Reporting – Insufficient Flows to Support All Diversions”:

§917. Reporting – Insufficient Flows to Support All Diversions

When flows or projected available supplies in a watershed or subwatershed are sufficient to support some but not all projected diversion demand, the Deputy Director for the Division of Water Rights may require water diverters located within the watershed or subwatershed to electronically submit monthly or more frequent reports of water diversion.

(a) Reports of water diversion shall be submitted in accordance with a schedule approved by the Deputy Director for the Division of Water Rights. The schedule may require monthly, daily, or more frequent reporting. In determining the frequency of reporting, the Deputy Director for the Division of Water Rights shall not exceed the frequency of recording required under section 933, subdivision (b)(1), of this title.

- 3) **The requirement for a “qualified individual” to install, test, and maintain measuring devices as defined in the regulation is unreasonable and does not consider site-specific circumstances. It is also not at the SWRCB’s discretion according to Porter-Cologne.** Furthermore, this requirement would preclude many of the hydrographers that are utilized by USGS, which has numerous contracts to provide water measurement for statewide projects. A high profile example would be the State Water Project and Central Valley Project.

Suggested Language: We request the changes to “§931. Definitions (2)(g) as follows:

(g) “Qualified individual” means: an individual of suitable discipline that is competent in the field of water measurement

(1) For diversions greater than or equal to 100 acre-feet per year:

(A) A California-licensed contractor authorized by the State License Board for C-57 well drilling or C-61 Limited Specialty/D-21 Machinery and Pumps; or

(B) a California-registered Professional Engineer.

(C) a professional subject to oversight by a California-registered Professional Engineer and employed to install, operate, and maintain water measurement and reporting devices or methods.

(2) For diversions less than 100 acre-feet per year, a person trained and experienced in water measurement and reporting. This may include the water right holder or the water right holder’s agent.

- 4) **The regulations would require a three month turnaround on the “calendar year” water use, which will probably result in unattainable or unusable data for mountainous regions due to weather and inaccessibility of measuring devices.** Section 929(b) requires water usage reporting within three months of the close of the twelve month reporting period. This means that December data could be due by March. This is sometimes infeasible, as some High Sierra reservoirs and stream flow data collection sites may not even be accessible during winter and spring runoff conditions. The regulations should consider that data collection in mountainous regions is difficult due to topography (radio communication and telemetry devices don’t always work, especially in snow), and many access roads are impassable or closed. The regulations allow for provisional data to

Attachment A - Calaveras County Water District Comments on "Draft Emergency Regulation for Measuring and Reporting on the Diversion of Water"

be submitted, but this would be equivalent to zeroes for extended periods. A better timeframe would be July 1 to ensure complete data with proper quality control is submitted. In the workshop, State Board Staff suggested an April 1 submission date so that everything doesn't come in July and inundate the servers, but there is a more gainful technical reason why the July submission date should remain.

Suggested Language: We request that Sections §924, 925, and 929 be changed back to the original July submission date.

- 5) **The regulations should allow considerations for reporting on the "water year" which is the preferred industry hydrologic measurement utilized for annual water measurement.** The "water year" also more closely aligns with California's weather patterns, where precipitation and snowpack picks up in late fall and winter, and dwindles in spring and summer. Our project partner agency, NCPA utilizes measurements from gauges monitored by the United State Geological Survey (USGS) and they utilize "water year" measurements from October 1 to September 30. This data is also available in the public domain. Assuming, the SWRCB intends to release this data to the general public, allowing for two types of measurement to be out in the public for consumption could be confusing.

The "water year", not calendar year could be useful to align with the rest of the industry (USGS) as well as California's normal weather patterns and provide useful information to the public. The regulations should allow for this option.

Requested Change: We request the following change in section "§ 907. Definitions. (5)(c)" as follows:

(c) "Twelve month reporting period" when used in this chapter means a calendar year beginning January 1 and ending December 31, or a "water year" beginning in October 1 and ending on September 30.

We request that all other references to calendar year be changed to include this alternative measurement, and include language that states this alternative is subject to approval by the Deputy Director.

- 6) **The requirement in Section §934 to provide quantification for separate priorities in measurement is infeasible.** CCWD and other diverters typically have a "suite" of water rights that have multiple priorities. Quantifying the amount of water diverted under all separate priorities of rights being exercised at an "exact" moment in time, through one singular point, is impossible, as diversions fluctuate considerably and multiple priority rights are being passed through. Truing this up on a monthly or yearly basis is possible based on models, analysis, or best available technology, but anything more finite would be guesswork. Additionally, this goes above and beyond the intended scope of the regulation and would lead to watershed-wide conflicts (potentially legal) between users in a watershed due to differing opinions on what "portion" of water is passing through each point. Leaving the reporting at basic water measurement would be prudent.

Requested Change: We request the State Board strike out the following sentence in section "§ 934: ... "Any measurement method must be able to quantify the amount of water diverted under all separate priorities of rights being exercised."

- 7) **A regionalized approach, which was discussed in the concepts released prior to the draft regulations, is not clearly outlined in the language.** The ability to report collectively on a "basket of rights" rather than each individual right, especially in situations where there

Attachment A - Calaveras County Water District Comments on "Draft Emergency Regulation for Measuring and Reporting on the Diversion of Water"

is a common destination such as a large reservoir, and no intermediate points of diversion or diverters, would be beneficial. However, the regulations do not clearly articulate the terms for which this could apply. We have several partnerships with other diverters in the Stanislaus River watershed that could benefit from basic measurement at the lowest common reservoir collection point, Melones Reservoir. CCWD requests that the State Board provide more guidance within the regulations or as a follow up to the finalized regulations on how regional reporting approach could be realized.

CALIFORNIA CATTLEMEN'S ASSOCIATION

1221 H STREET - SACRAMENTO, CALIFORNIA - 95814-1910

SERVING THE CATTLE
COMMUNITY SINCE 1917



PHONE: (916) 444-0845
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www.calcattlemen.org

December 16, 2015

Submitted via email to commentletters@waterboards.ca.gov

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814



Re: Emergency Regulation for Measuring and Reporting the Diversion of Water

The California Cattlemen's Association (CCA) appreciates the opportunity to provide feedback to the State Water Resources Control Board (SWRCB) regarding draft emergency regulations implementing SB 88 to regulate the measuring and reporting of water diversions within the state. CCA is a statewide trade organization representing more than 1,700 cattle ranchers and beef producers throughout California whose ranching operations rely in part on water diversions directly impacted by the proposed emergency regulations. To ensure that the emergency regulations achieve the purpose of SB 88 without unduly burdening California's beef producers, we propose the following clarifications and amendments to the draft emergency regulations, which we urge the SWRCB to incorporate before adopting emergency regulations.

Section 924 should clarify that the annual reporting requirement does not alter the five-year renewal for registrations

While § 924 changes existing regulations by requiring registration holders to report annually rather than every fifth year, it does not appear to alter the registration or five-year renewal process. To clarify that the annual reporting requirement is divorced from the renewal process (and registration fee), however, CCA suggests that the SWRCB add to § 924 clarifying language to the effect that "such annual reporting does not have any impact upon the renewal process for registrations, which remains unchanged at a five-year period."

The SWRCB should clarify how it arrived at the accuracy requirements of the emergency regulations, and ensure that such requirements are feasible in practice

It is unclear from the fact sheet and other materials which have been made available regarding the draft emergency regulations how or why the SWRCB arrived at the various measurement device accuracy requirements included in the regulations. CCA lacks expertise in measurement devices, and consequently lacks knowledge of what would constitute "normal" ranges of accuracy for such devices upon a variety of diversions. Such information is vital in determining whether the 10% and 15% accuracy requirements of the emergency regulations are feasible. Thus, CCA requests that, prior to adoption of emergency regulations, the SWRCB release its process for arriving at the accuracy standards required within the draft emergency regulations.

- | | | | | |
|---|---|--|--|---|
| BILLY FLOURNOY
PRESIDENT
LIKELY | ROB VON DER LIETH
TREASURER
COPPEROPOLIS | BILLY GATLIN
EXECUTIVE VICE PRESIDENT
HERALD | MIKE WILLIAMS
SECOND VICE PRESIDENT
ACTON | MARK LACEY
SECOND VICE PRESIDENT
INDEPENDENCE |
| DAVE DALEY
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CHICO | BILL BRANDENBERG
FEEDER COUNCIL CHAIR
EL CENTRO | | JACK LAVERS
SECOND VICE PRESIDENT
GLENNVILLE | MIKE SMITH
FEEDER COUNCIL VICECHAIR
SELMA |

There are a number of reasons why the measured value (i.e. the value indicated upon the device) might vary from the “actual value” diverted, such as percolation and evaporation from stock ponds. In order to determine whether 10% or 15% are acceptable accuracy values, it is necessary to understand how much measured value and actual value tend to vary in practice across a variety of diversions and types of storage, considering these and other factors. CCA requests that the SWRCB provide such information to stakeholders, and carefully examine whether the 10% and 15% accuracy requirements are feasible across the wide range of diversion types throughout the state prior to moving forward to formalize the proposed accuracy requirements.

Section 935 of the emergency regulations should provide for “alternative compliance” via limited categorical exemptions

A rancher with one or more stock ponds may comply with the draft emergency regulations by installing a staff gauge on his or her stock ponds, so long as the rancher (1) records the date, time, and water elevation of the stock pond at the required frequency, (2) is capable of calculating the volume of the pond based on this water elevation, and (3) inputs that data into an electronic document submitted to the SWRCB.

This requirement becomes significantly onerous for stock ponds and other points of diversion which are inaccessible for a portion of the year, and the draft emergency regulations provide insufficient relief for a rancher who cannot access these diversions during part of the year.

For instance, ranchers who pasture their cattle at high elevations during the summer may maintain stock ponds on that summer pasture. When the cattle are moved to lower elevations in the winter months, those stock ponds will divert water during the rainy season. However, winter weather (icy roads, significant snowfall, etc.) can make those often-remote stock ponds impossible for ranchers to safely access in the winter months. As a result, a manually-read standard staff gauge would not satisfy the emergency regulations’ requirements, as the rancher would not be able to obtain the required data on a daily, weekly, or monthly basis. In order to comply with the emergency regulation, then, the rancher would need to invest in an electronic measuring device capable of auto-recording the pond’s elevation (or comparable metric) at the required intervals. This investment would be *significantly* more costly for the rancher than a standard staff gauge, and this cost would multiply with the total number of stock ponds on the summer pasture. If a more advanced electronic measuring device is required, under the same circumstances it would be unfeasible to also verify the accuracy of the device during the winter months.

While § 935 of the draft emergency regulations makes it clear that a rancher in such a circumstance could *request* alternative compliance with the deputy director, it is not certain that such alternative compliance would be *granted*. CCA urges the SWRCB to enumerate within § 935 of the emergency regulations certain common circumstances under which alternative compliance will be granted, such as for reservoirs or points of diversion which are inaccessible for a significant portion of the year as a result of their remoteness and/or inclement weather. Such categorical exemptions should be available upon notice to the deputy director, but without the requirement for case-by-case approval.

Including clear exemptions under § 935 would have the added benefit of reducing the work burden upon SWRCB staff, and reducing the turnover time between a request and a decision for remaining requests for alternative compliance.

Section 921 watermaster reports ought to be explicitly recognized as fulfilling the requirements of the emergency regulations for all diverters served by the watermaster

It is not clear from the proposed emergency regulations whether reports of watermasters would satisfy the measurement and reporting requirements of the proposed emergency regulations for those diverters served by the watermaster. It may be that such reports qualify as an appropriate “measurement method” under § 934 of the proposed emergency regulations, which “encourages water rights holders on a local or regional basis to cooperate and establish a measurement method or methods to measure direct diversion, diversion to storage, and withdrawal or release from storage in an efficient and cost effective manner,” or § 934(e) which allows for a “shared measurement point upstream of the delivery point or farm headgate.” However, watermaster reports are not explicitly referenced in § 934, and § 934 also stipulates that such cooperative methods must be approved by the deputy director in response to a formal Request for Measurement Method filed with the Board pursuant to § 934(a).

CCA urges the Board to accept watermaster reports filed with the Board pursuant to the requirements of 23 CCR § 921 as fulfilling the requirements of proposed emergency regulation §§ 933(b)(2) and 934, and to clarify that watermaster reports satisfy the proposed emergency regulations via an amendment to either § 921 or § 934.

Much of the information required by the § 934(a) Request for Measurement Method is duplicative of the requirements of § 921, and thus watermaster reports complying with § 921 would substantially fulfill the reporting obligations of the proposed emergency regulations.

Additionally, CCA requests that those water rights holders served by such watermasters be explicitly exempted within the emergency regulations from the individual monitoring and reporting requirements of §§ 932 and 933, and from the “additional requirements” imposed upon water rights holders using a shared measuring device enumerated in § 934(e)(1)-(3) of the proposed emergency regulations.

CCA appreciates the opportunity to provide the above feedback to the SWRCB as it considers adoption of emergency monitoring and reporting regulations, and urges SWRCB to incorporate the above suggestions into the emergency regulations prior to adoption.

Sincerely,



Kirk Wilbur
Director of Government Affairs
California Cattlemen’s Association



December 17, 2015

Chair Felicia Marcus and Board Members
c/o Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814



Sent via electronic mail to: commentletters@waterboards.ca.gov

RE: Comment Letter – Emergency Regulation for Measuring and Reporting the Diversion of Water

Dear Chair Marcus and Board Members:

California Coastkeeper Alliance (“CCKA”) is a network of twelve Waterkeeper organizations working to protect and enhance clean and abundant waters throughout the state, for the benefit of Californians and California ecosystems. We appreciate the opportunity to provide comments to the State Water Resources Control Board (“State Water Board”) on the Emergency Regulation for Measuring and Reporting the Diversion of Water (“Emergency Diversion Regulation”). CCKA and our network of California Waterkeepers are actively involved in developing solutions and strategies to improve how the state measures, reports and manages its water resources throughout the state.

Authorized by Senate Bill 88, the Emergency Diversion Regulation provides a long overdue opportunity for the state to move forward critically-needed reforms for the better management of the state’s water resources. The development and adoption of regulations that provide accurate data on diversions of more than 10 acre feet a year (“AFY”) of water will provide long-term benefits for diverters, and more broadly, to protect beneficial uses.

CCKA supports many provisions of the State Board’s proposed Emergency Diversion Regulation. As drafted, the Emergency Diversion Regulation will provide a framework for the timely submission of needed diversion data, while imposing reasonable costs on diverters in exchange for benefits. The Emergency Diversion Regulation will build a foundation for real time reporting on water diversions in the state. Specifically, we strongly support the State Water Board’s provisions that:

- Require a frequency of diversion measurement of no less than monthly intervals;
- Place tiered measuring device requirements on diverters of more than 10 AFY, 100 AFY and 10,000 AFY;
- Propose a tiered compliance schedule that provides smaller diverters with time to implement the required monitoring and diversion regulations;
- Require the measurement of water diverted for storage; and
- Clarify what will be considered under alternative compliance.

The State Water Board should also ensure that the Emergency Diversion Regulation requires adequate monitoring and management of diversions in small streams and coastal watersheds. Minor diversions in small streams and coastal watersheds can have large cumulative impacts that can significantly impair

beneficial uses. Cumulative diversions that threaten beneficial uses often occur on an individual level at a scale of less than 10 AFY. As described below, CCKA strongly encourages the State Water Board to revise the Emergency Diversion Regulation to:

- Ensure the evaluation of potential impacts to beneficial uses includes consultations with the California Department of Fish and Wildlife before the 10 AFY measurement and reporting threshold is raised;
- Make financial assistance available in cases of cost infeasibility rather than grant exemptions to compliance with the Regulation;
- Require diverters of more than 100 AFY in small streams and coastal watersheds to provide real time telemetered diversion data by January 1, 2020; and
- Utilize the public trust doctrine to require measuring and reporting of diverters down to 1 AFY when necessary to protect beneficial uses.

A. THE STATE WATER BOARD SHOULD RETAIN DIVERSION MEASURING AND REPORTING REQUIREMENTS.

We support the majority of the State Board’s proposed measures for the Emergency Diversion Regulation. The retention of these provisions will play a critical role in developing a system of diversion monitoring and reporting that will allow the state to better manage its water resources throughout years of varying conditions. The proposed provisions will build a foundation for eventual real time data measurements and reporting on water diversions, allowing California to add a degree of predictability as the state faces a drier, less predictable climate.

1. The State Water Board should retain monthly diversion measurements.

California’s water resource agencies lack the data necessary to inform water management decisions. It is recognized that “there is a growing information gap regarding water in the state”.¹ The California Water Plan acknowledges this information gap and the need “to improve water resources information and analysis”.² Collecting adequate data is critical in California given the exceptionally high degree of variability across seasons, years and geographic locations. Therefore, it is essential that the State Water Board require water diverters to provide accurate and robust data to inform water management decisions.

Furthermore, the reporting of monthly measurement data is essential to account for how diversions might be impacting beneficial resources during months of the year when river and stream flows are at their lowest points, or in instances when diversions are occurring within a narrow timeframe. Therefore, the State Water Board should continue requiring diverters to report at least monthly diversion measurements.

2. The State Water Board should retain tiered measuring for diverters, but combine the telemetered measuring device requirements for diverters of 1000 AFY and 10,000 AFY.

The Emergency Diversion Regulation contains tiered requirements in order to alleviate potential financial hardships that may be incurred. Tiered requirements allow diverters with less than 1000 AFY to avoid burdensome costs. Tiered provisions also ensure that diverters with resource constraints avoid undue financial hardships in meeting the Emergency Diversion Regulation.

The requirement to adopt telemetered measuring devices should be lowered from the current 10,000 AFY threshold to those diverting 1,000 AFY. Diversions of 1,000 AFY or more represent significant operations. For example, 1,000 AFY is sufficient to irrigate a 300 acre almond orchard, or 2,000 acres of

¹ Hanak, Ellen. Managing California's water: from conflict to reconciliation. Public Policy Instit. of CA, 2011. 131.

² California Water Plan, Update 2013, Chapter 6 –Integrated Data and Analysis. October 30, 2014. p 6-18; available at http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/07_Vol1_Ch06_Integrated_Data_Analysis.pdf.

vineyard.³ Requiring diverters of 1,000 AFY or more to install telemetered measuring devices by January 1, 2020, in most instances would not impose an undue financial burden. A five-year timeframe should be sufficient for diverters of 1,000 AFY or more to install telemeter capable measuring devices.

Few watersheds in the state support multiple diversions of 10,000 AFY or more; such a high threshold for telemetered devices will fail to provide the state with the data necessary to make water management decisions based on real time data. Requiring a greater percentage of water diverters to make real-time water diversion data available will benefit all diverters over time in a given watershed, as the state will be able to stretch limited supplies in a more arid, less predictable future.

The State Water Board should retain the tiered requirements for measuring devices at thresholds of 10 AFY and 100 AFY, and consolidate the measuring device requirements of the 1,000 AFY and 10,000 AFY thresholds, including the provision requiring telemetered capable devices by January 1, 2020.

3. *The State Water Board should retain the proposed phased Emergency Diversion Regulation compliance schedule based on 10 AFY, 100 AFY and 1,000 AFY tiers.*

Acknowledging potential resource constraints, phasing in deadlines is an appropriate strategy to ensure that diverters of less than 1,000 AFY have adequate time to come into compliance with the Regulation. A timeline of January 1, 2018, for example, should provide both the State Water Board and diverters with time to identify means of financial assistance as necessary to meet all measuring device installation and certification requirements. This can be done without granting exemptions. The State Water Board should retain the proposed phased compliance schedule based on 10 AFY, 100 AFY and 1,000 AFY tiers to ensure that adequate resources can be secured to allow all diverters to meet compliance deadlines.

4. *The State Water Board should retain the provisions requiring measurement and reporting requirements for storage diversions.*

Diversions for storage should be measured. Diversions for storage can represent significant quantities of water, especially when accounting for demands to refill storage due to seepage and evaporation. Taken cumulatively across a watershed, these diversions for storage can add up to significant total amounts of surface water diversion. This is critical in small streams and coastal watersheds, where significant amounts of water are known to be diverted for stock ponds, marijuana cultivation, and other uses associated with storage.⁴ Therefore, the State Water Board should retain the provisions for measurement and reporting requirements for storage diversions.

5. *The State Water Board should clarify what constitutes “unreasonably expensive” in the Emergency Diversion Regulation.*

The Emergency Diversion Regulation states that alternative compliance for measuring devices or measurement methods may be authorized by the Deputy Director when meeting the stipulated requirements would be “unreasonably expensive.” The State Water Board needs to explain what considerations will be given in determining what is “unreasonably expensive,” including the criteria by which such determinations will be made.

³ Water Use in Wineries & Vineyards, Northern California. University of Colorado, 2014. Available at http://www.colorado.edu/geography/class_homepages/geog_4501_sum14/Presentations/StExample-NCal%20Spr11.pdf.

⁴ Bauer, Scott, Jennifer Olson, Adam Cockrill, Michael van Hattem, Linda Miller, Margaret Tauzer, and Gordon Leppig. "Impacts of surface water diversions for marijuana cultivation on aquatic habitat in four northwestern California watersheds." PLoS one 10, no. 3 (2015): e0120016.

B. THE STATE WATER BOARD SHOULD ENSURE ADEQUATE MEASURING AND REPORTING REQUIREMENTS IN SMALL STREAMS AND COASTAL WATERSHEDS.

We recommend several changes to the Emergency Diversion Regulation in order to ensure that adequate information is provided to fully manage and protect small streams and coastal watersheds. These changes will ensure that minor diversions, when considered cumulatively across all diversions in a given watershed, are not adversely impacting beneficial uses.

- 1. The State Water Board should consult with the California Department of Fish and Wildlife before raising the 10 AFY measurement and reporting threshold.*

In small streams and coastal watersheds, diversions of 10 AFY can represent significant portions of a waterbody's total flow. Such scenarios can be especially pronounced when 10 AFY diversions occur simultaneously in a concentrated time period coinciding with seasonably low flow periods. For example, Mark West Creek, a tributary of the Russian River, is on the brink of losing its fish spawning beneficial use when concentrated diversions occur across specific periods of the viticultural season. Even relatively small annual diversions of 1 AFY, have significant cumulative impacts on Mark West Creek and the retention of beneficial uses. Similar circumstances throughout the coast, from the San Luis Rey River in San Diego to the Van Duzen River in Humboldt County, demonstrate the need to monitor all diversions down to 10 AFY in small streams and coastal watersheds for the successful protection of beneficial uses.

When assessing whether the 10 AFY measuring and reporting threshold should be raised, the State Water Board should undertake a comprehensive evaluation of how an individual 10 AFY diversion, and cumulative 10 AFY diversions across the watershed, impact beneficial uses. Such an evaluation should include close consultations with the California Department of Fish and Wildlife (CDFW) and when applicable, staff from the CDFW's Coastal Watershed Planning & Assessment Program.

- 2. The State Water Board should provide financial assistance for instances of cost infeasibility rather than exemptions.*

The Emergency Diversion Regulation states that the 10 AFY measurement threshold may only be raised when the Executive Director makes the determination that "the benefits of the additional reporting information...are substantially outweighed by the cost of installing measuring devices..."⁵ Given the substantial long term benefits of measuring and reporting diversions, instances when the 10 AFY threshold are raised should be rare. In those instances, the State Water Board should offer financial assistance to the diverter to ensure compliance; rather than exempting them from the Emergency Diversion Regulation. When State Water Board funding is not directly available, alternative sources of financial assistance with outside agencies should be explored. Two examples of potential alternative financial assistance are natural resource conservation districts, and funds that may be available through the State Water Board's participation in the California Financing Coordinating Committee.

- 3. The State Water Board should require diverters of more than 100 AFY in small streams and coastal watersheds to provide telemetered diversion data by January 1, 2020.*

The measurement and reporting provision that requires diverters of more than 10,000 AFY to install telemetry compatible devices by January 1, 2020 should also apply to those diverting more than 100 AFY in coastal watersheds and small streams. Telemetered measuring devices down to a threshold of 100 AFY in small streams and coastal watersheds would prove critical real time diversion data to protect ecosystems and species during drought conditions. Furthermore, real time diversion data from diverters of small streams and coastal watersheds would assist all water rights holders to better manage limited water

⁵ Proposed Emergency Regulation for Measuring and Reporting December 7, 2015 Agency Draft For Public Comment, p.12. Available at http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/docs/dec7_draft_measure_reg.pdf.

supplies. In small streams and coastal watersheds, a threshold of telemetered capable devices at 10,000 AFY, or even 1,000 AFY, would capture information from few diverters, and provide insufficient real time data for responsible water resource management decisions.

Generally, the cost of installing telemetered capable measuring devices for diverters of more than 100 AFY in small streams and costal watersheds would provide substantial benefits that would far outweigh costs. In addition, a deadline of January 1, 2020 provides a reasonable timeframe for compliance, and in the case of cost infeasibility, allow diverters of more than 100 AFY suitable time to work with the State Water Board to explore avenues of financial assistance.

4. *The State Water Board can utilize the public trust doctrine to require measuring and reporting of diverters down to 1 AFY.*

The State Water Board can protect coastal watersheds from diversions of 1 AFY by requiring monitoring and reporting. The California Constitution declares that the general welfare of the state requires that the water resources of the state be put to beneficial use to the fullest extent of which they are capable, and that the right to the use of water does not extend to the waste or unreasonable use, method of use, or method of diversion of water. Existing law requires the State Board to take all appropriate proceedings or actions to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water in this state. Existing law reflects the intent of the Legislature that the state take vigorous action to enforce the terms and conditions of permits, licenses, certifications and registrations to appropriate water, to enforce state board orders and decisions and to prevent the unlawful diversion of water. Given the State Water Board's broad authority to prevent the unreasonable method of diversion, the Emergency Diversion Regulation should require all diverters of 1 AFY or more to measure and report diversions.

Senate Bill 88 does not preclude the State Water Board from including 1 AFY diverters into the Emergency Diversion Regulation. While we recognize that Senate Bill 88 only requires 10 AFY and up diverters to measure and report, that does not limit the State Water Board's state constitutional authority and responsibility to prevent all unreasonable methods of diversion. Senate Bill 88, Section (3), contains two general provisions. First, Section (3) includes a direct mandate to:

“Require a *person* who diverts 10 acre-feet of water per year or more under a permit or license to install and maintain a device or employ a method capable of measuring the rate of direct diversion...”

This requirement is a specific command directed at any individual – not the State Water Board. In *California Trout, Inc. v. State Water Resources Control Board (California Trout)*,⁶ the court ruled that while the Legislature has the authority to fashion rules concerning reasonableness, likening Legislative rules of reasonableness to negligence per se.⁷ However, *California Trout* went further to hold that the Legislature has the power to enact general rules governing the reasonable use of water, the State Water Board has a similar regulatory authority.⁸ The Water Code authorizes the State Water Board, in carrying out its statutory duty to administer the state's water resources, to “exercise the adjudicatory and regulatory functions of the state.”⁹ In that role, the State Water Board is granted “any powers . . . that may be necessary or convenient for the exercise of its duties authorized by law”.¹⁰ Given the State Water Board's statutory charge to “prevent waste, unreasonable use, unreasonable method of use, or unreasonable

⁶ *California Trout, Inc. v. State Water Resources Control Bd.* (1989) 207 Cal.App.3d 585 (*California Trout*).

⁷ *Id.* at p. 624.

⁸ *Light v. State Water Board*, First Appellate District, pg. 16 (June 16, 2014).

⁹ California Water Code § 174.

¹⁰ California Water Code § 186, subd. (a).

method of diversion of water in this state”¹¹ and the recognized power of the Legislature to pass legislation regulating reasonable uses of water, the State Water Board’s mandate to “exercise the . . . regulatory functions of the state”¹² necessarily includes the power to enact regulations governing the reasonable use and diversion of water. Therefore, while the Legislature may have created its own per se rule for requiring 10 AFY diverters to measure and report, *California Trout* holds that the State Water Board has broader authority to regulate the rules governing reasonable use – including the authority to require diverters of less than 10 AFY to measure and report diversions.

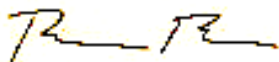
The Reasonable Use Doctrine and the Public Trust Doctrine dictates that the State Water Board has an affirmative duty to protect all public trust resources. Water use by both riparian users and appropriators is constrained by the rule of reasonableness, which has been preserved in the state Constitution since 1928.¹³ Existing alongside the rule of reasonableness is a second doctrine imposing at least a potential limit on private uses of water. As the Supreme Court has explained that doctrine, the state holds the navigable waterways in “public trust” for the benefit of state residents.¹⁴

In defining the role of the public trust doctrine in water rights policy, *Audubon Society* recognized that “the public trust doctrine and the appropriative water rights system administered by the Water Board developed independently of each other. In bringing the two together, the court held that the doctrine (1) prevents any party from acquiring a vested right to appropriated water in a manner harmful to the interests protected by the public trust; and (3) “[t]he state has an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible.”¹⁵ Measuring and reporting water diversions is a fundamental principle for “planning and allocation of water resources.” Therefore, the State Water Board has an affirmative duty to require measuring and reporting of small streams and coastal waterways to ensure public trust resources are protected. Thus, the State Water Board should require all 1 AFY diverters in coastal watersheds to measure and report diversions as part of the Emergency Diversion Regulation.

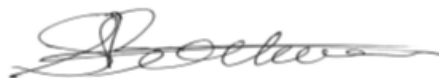
Drought conditions have underscored the fact that California is in urgent need of better data on water use, from all sectors, to allow for better management of water resources. We thank State Water Board staff and Members for work to develop Emergency Diversion Regulations to place California on a path of better informed water resource management decisions, for the protection and profit of all beneficial uses in the state.

We look forward to continued work together to ensure clean, abundant water for California.

Sincerely,



Rickey Russell
Policy Analyst
California Coastkeeper Alliance



Sean Bothwell
Policy Director
California Coastkeeper Alliance

¹¹ California Water Code § 275.

¹² California Water Code § 174.

¹³ Cal. Const., art. X, § 2; hereafter Article X, Section 2.

¹⁴ *National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419, 434, 437 (*Audubon Society*).

¹⁵ *Audubon Society*, at pp. 445–446, fn. omitted.



State of California – Natural Resources Agency
 DEPARTMENT OF FISH AND WILDLIFE
 Ecosystem Conservation Division - Water Branch
 830 S Street
 Sacramento, CA 95811
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
 CHARLTON H. BONHAM, Director



(12/17/15) Public Workshop
 Emergency Reg for Measuring & Reporting Diversions
 Deadline: 12/17/15 by 12:00 noon

December 16, 2015

Jeanine Townsend
 Clerk to the Board
 State Water Resources Control Board
 1001 I Street, 24th Floor
 Sacramento, CA 95814



Dear Ms. Townsend:

COMMENTS ON THE DRAFT EMERGENCY REGULATION FOR MEASURING AND REPORTING ON THE DIVERSION OF WATER

As trustee for California’s fish and wildlife resources, the California Department of Fish and Wildlife (Department) has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (FGC §1802). The Department has reviewed the Draft Emergency Regulation for Measuring and Reporting the Diversion and Use of Water and provides the following comments.

Watermaster Reports Filed by the Board (CCR §921)

A person who diverts water included in annual reports filed with a court or the board by a watermaster, which contains certain information described in Water Code sections 5101(d) and 5101(e), is not required to file a statement of diversion and use. If not for this exemption, those who divert in excess of 10 acre-feet a year would be required to file a statement of diversion and use and comply with the proposed measuring and reporting requirements.

Recommendation – To ensure compliance with the requirements of Water Code sections 5101(d) or 5101(e) has been achieved, the regulations should specify that Watermasters shall notify diverters and provide access to annual reports at the time of filing with the court or the State Water Resources Control Board (State Water Board).

Progress Reports by Permittee (CCR §925) and Reports of Licensee (CCR §929)

Annual reports of permit and license holders must include the source and amount of any substitute or alternative water supplies “such as groundwater, contract water, or recycled water” that were used in lieu of the water being reported under the permit or license. Permittees and licensees that have their rights curtailed could also switch to an alternative basis of right, such as a claim of riparian or pre-1914, in addition to using groundwater, contract water, or recycled water.

Recommendation – Information on all types of substitute or alternative water supplies, including water diverted under an alternative basis of right (i.e., claim of riparian or pre-1914), that is used in lieu of the permitted or licensed right should be included in annual reports.

Qualified Individual (CCR §931(g))

The installation, calibration, field-testing and field-inspection and analysis, and certification of accuracy of measuring devices described in section 933(e-h) must be overseen, approved, or conducted by a qualified individual. For diversions less than 100 acre-feet, a qualified individual is defined as “a person trained and experienced in water measurement and reporting. This may include the water right holder or the water right holder’s agent.” Terms such as “trained and experienced” can be interpreted very loosely.

Recommendation – Provide a standard for the level of training and experience required to be deemed a “qualified individual.”

Applicability (CCR §932(a-b))

A diverter serving the same place or purpose of use with multiple rights that are each authorized to divert less than or equal to 10 acre-feet, but when combined can divert in excess of 10 acre-feet, seems to be exempt from measurement requirements since the greater than 10 acre-feet threshold for requiring measurement is based on the amount diverted under a single basis of right.

Recommendation – Diversifiers with multiple water rights should be required to comply with the measurement requirements in section 932(a) based upon the total amount of water they are capable of diverting to serve the same place or purpose of use.

Increasing the Measurement Threshold (CCR §932(d))

The executive director may authorize increasing the 10 acre-feet reporting threshold in a watershed or subwatershed after considering “the total monthly quantities diverted in relation to the monthly quantity of water available within the watershed or subwatershed; the requirements of any policy, decision, or order of the board or a court; and the need for diversion and bypass information to evaluate impacts to public trust resources” and “determining the benefits of the additional reporting information at a specific reporting threshold are substantially outweighed by the cost of installing measuring devices or employing methods for measurement.”

Recommendation – The executive director should also use the same consideration and determination to *decrease* the reporting threshold in watersheds or subwatersheds potentially impacted by individual diversions less than or equal to 10 acre-feet that, when cumulatively considered, are negatively affecting public trust resources. A new

section titled "Decreasing the Measurement Threshold" could be added and should include elements that the executive director will consider when determining "the need for diversion and bypass information to evaluate impacts to public trust resources," such as the presence of state or federally listed species; Fully Appropriated Stream status; streams with any minimum instream flow requirements in place or where the Director of Fish and Wildlife has established proposed streamflow requirements pursuant to Section 10002 of the Public Resources Code; or streams listed as critical habitat in a species recovery plan. An appropriate frequency of data recording and reporting should be required that would provide the necessary information needed for regulatory purposes.

Data Recording (CCR §933(b)(1))

The frequency of data recordation is determined by the method of diversion, either direct diversion or diversion to storage, and the maximum annual amount that can be diverted under the right. A diversion to a reservoir or pond with a storage capacity that is greater than 10 acre-feet but less than 50 acre-feet is required to record data at monthly intervals, while direct diversions greater than 10 AF but less than 100 AF must record weekly. Monthly diversion data would not provide the level of detail needed to analyze adverse impacts to public trust resources in watersheds with high numbers of 10-50 acre-foot diversions to storage.

Recommendation – At a minimum, weekly data should be required for all diversions and more frequently if it is determined that there is a "need for diversion and bypass information to evaluate impacts to public trust resources" in specific watersheds (see above recommendation).

Additionally, the Fact Sheet for the Draft Emergency Regulation states that the State Water Board is seeking input on whether real-time telemetered monitoring should be required of diversions in the future and if so under what circumstances. Real-time telemetered monitoring should be required when it is determined that such data is needed to ensure protection of public trust resources or proper administration of the water rights system.

Measurement Method (CCR §934)

Request for Measurement Method – A Request for Approval of Measurement Method will be reviewed and approved by the deputy director. All requests must include, among other things, an "evaluation of public trust needs including minimum instream flows and water quality concerns or bypass requirements of any of the water rights involved." Depending on the location of the diversions and the individual water rights covered by the measurement method, minimum instream flows and/or bypass requirements may not exist.

Recommendation – The deputy director should consult with the Department during the evaluation of public trust needs prior to approval of a measurement method.

Data Recording and Required Accuracy – The measurement method shall be capable of recording the total amount of water diverted in accordance with the requirements of section 933(b) and shall reasonably achieve accuracy standards comparable to the standards listed in section 933(d). However, the various water rights covered by a measurement method may be a combination of direct diversions and diversions to storage, each individually capable of diverting different quantities of water.

Recommendation – Clarification is needed on how the frequency of data recording and required accuracy will be determined for proposed measurement methods. The Department suggests that the individual rights covered by a measurement method be totaled and viewed cumulatively as one large right and require data recordation at the shortest frequency and highest level of accuracy applicable. Additionally, the need for diversion and bypass information to evaluate impacts to public trust resources should be considered when determining the appropriate frequency and accuracy.

Shared Measurement Point Upstream of the Delivery Point or Farm Headgate - A group of water right holders may measure water diverted at a location upstream of their respective delivery points or farm headgates or at shared points of diversion if an agreement accepted by the deputy director is in place for the water right holders to share a measuring device located at the shared point of diversion.

Recommendation – Clarification is needed on how the frequency of data recording and required accuracy will be determined for a group of water right holders using a shared measuring device. The Department suggests that the water rights using a shared point of diversion be totaled and viewed cumulatively as one large right and require data recordation at the shortest frequency and highest level of accuracy applicable. Additionally, the need for diversion and bypass information to evaluate impacts to public trust resources should be considered when determining the appropriate frequency and accuracy.

Alternative Compliance for a Measuring Device or Measurement Method Requirement (CCR §935)

The deputy director may consider alternative compliance to one or more of the requirements of sections 933 and 934 upon finding that strict compliance is not feasible, would be unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water.

Recommendation – Similar to the requirements of the executive director before increasing the measurement thresholds in specific watersheds (CCR §932(d)), the deputy director should consider “the need for diversion and bypass information to

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
December 16, 2015
Page 5

evaluate impacts to public trust resources” when reviewing requests for alternative compliance under this section, and consult with the Department regarding potential impacts to public trust resources prior to approval of any alternative compliance.

Thank you for the opportunity to provide comments on the Draft Emergency Regulation for Measuring and Reporting the Diversion and Use of Water. The Department looks forward to working with the State Water Board to ensure that public trust resources are adequately protected as the emergency regulations are implemented. Questions regarding this letter or further coordination should be directed to James Rosauer, Environmental Scientist, at (916) 445-8360 or James.Rosauer@wildlife.ca.gov.

Sincerely,



for Scott Cantrell
Chief, Water Branch

cc: California Department of Fish and Wildlife

Sandra Morey, Deputy Director
Ecosystem Conservation Division
Sandra.Morey@wildlife.ca.gov

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Sent via Email

commentletters@waterboards.ca.gov

December 17, 2015

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

RE: Comment Letter – Emergency Regulation for Measuring and Reporting the Diversion of Water

Dear Ms. Townsend:

The California Farm Bureau Federation (Farm Bureau) and the Wine Institute submit these comments for your review. Farm Bureau is a non-governmental, non-profit, voluntary membership California corporation whose purpose is to protect and promote agricultural interests throughout the state of California and to find solutions to the problems of the farm, the farm home and the rural community. Farm Bureau is California's largest farm organization, comprised of 53 county Farm Bureaus currently representing more than 53,000 agricultural, associate and collegiate members in 56 counties. Farm Bureau strives to protect and improve the ability of farmers and ranchers engaged in production agriculture to provide a reliable supply of food and fiber through responsible stewardship of California's resources. Wine Institute serves as the voice for the California wine Industry, representing over 1,000 California wineries and affiliated members. Our mission is to initiate and advocate public policy that enhances the ability to responsibly produce, promote and enjoy wine.

This letter was written jointly with Nick Bonsignore and Paula Whealen of Wagner and Bonsignore Consulting Civil Engineers, and Peter Kiel of Ellison, Schneider & Harris. Farm

Bureau appreciates the opportunity to comment on the Proposed Emergency Regulation for Measuring and Monitoring (regulation).

While the need to comply with the provisions of Senate Bill 88 is clear, the regulation adopted by the State Water Resources Control Board (SWRCB) should strive to make the process as practical, efficient, and understandable as possible. Much has changed for water users in California over the past few years and while most people are trying to comply, the number and significance of changes make full understanding and compliance very difficult, particularly for small farming operations and homeowners who may not have sufficient time or resources to engage fully in the process. Please consider the practical implications of the requested changes along with the pressures those changes put on smaller operations.

General Comments:

Technical Capacity – There are a limited number of individuals with the qualifications and skills necessary to assist the thousands of affected water users in complying with this regulation. Nearly all of these individuals are already very busy, particularly given the numerous recent changes, and it is likely that the availability of qualified expertise will constrain the ability of water users to comply with the regulations. For this reason the time frames for installation and certification of devices should be extended.

Clarification – The impact of the regulations on water users must be conveyed in a format more understandable to the typical layperson. The SWRCB estimates there will be approximately 12,000 water users impacted by these regulations, nearly all of whom are more focused on the holidays than the technical language of the regulation. While accurate technical language is necessary, such language should be accompanied by plain language summaries explaining the practical implications of the regulation and how water users will be expected to comply. For example, a person should be able to look at a single chart and see what has changed for them based on the type and size of their diversion. There should also be a summary of which forms a water user must fill out under what circumstances, accompanied by copies of the forms so it is easier to understand what will be expected. Additionally, the distinction between annual supplemental statements required under Water Code §5104 and the occurrence of additional reporting under section 917 of the regulation should be clarified – currently it is somewhat difficult to understand the different changes. This clarification should be provided prior to the SWRCB meeting when the regulations will be adopted so that water users can have a working knowledge of the regulations and will be better prepared to provide the SWRCB with field information to help improve implementation of the regulations.

Measurement by Method – The regulations do not appear to adequately allow for methods of measurement as identified in Water Code § 1840(a)(1)(B). Instead of providing for measurement by device or method, and then providing for a means of alternative compliance, the regulations focus on requiring devices and describe “methods” as a distinct alternative approach with more expansive requirements. For example, Water Code § 1840(a)(1)(B)(i) identifies electrical records dedicated to a pump and recent pump test as an appropriate method of

measurement, but this is not clear in the regulation that this is an acceptable means of measurement. This and other methods are effective and efficient options that should clearly be identified as acceptable methods of measurement. Additionally, the information required for certification of a “method” should be streamlined and stripped of information unrelated to the adequacy of method vis-à-vis Water Code section 1840(b) (e.g., “public trust” evaluation, “enterprise income” data, informational order-level detail, etc.). Requirements for a “method” should not bias the regulations in the direction of a “device,” or otherwise result in a *de facto* device-oriented standard (e.g., mandatory data submission is a downloadable spreadsheet format, etc.).

Season of Diversion – The regulation should clarify that the reporting requirement does not apply if a person is not actively diverting. For water users whose season of diversion is not during the period of time when there is a shortage, it is not necessary to report. If such reporting is required, there should be a simple means of compliance that does not involve, for example, hourly reporting of zeros.

Appeals – Additional provisions should be added providing for the ability to appeal decisions of the Deputy Director, including requests for measurement methods, requests for alternative compliance, and requests for additional time under sections 934, 935, and 936. The ability to appeal decisions should be similar to that authorizing appeal of an order on an increase in the measurement threshold, which is defined in section 932(d)(6) as being “subject to reconsideration under section 1122, et seq.” (Administrative appeal of a board decision or order.)

Editorial comments – References to “Xcel” should be changed to “Excel”. In Section 920(b) sentence 3 – add the word “form” after “statement of change”. Section 933(b)(2)(B) – are HUC 10 water basins available to the public on the SWRCB database?

Forfeiture Concerns – One of the key concerns water users have is that the new reporting requirements will increase the risk of forfeiture of their water rights when they implement conservation practices or use in lieu water. To alleviate this concern the regulations should clarify and streamline how water users should report conservation and in lieu water use to avoid risk of unintentional forfeiture. As with the comment above regarding the need for clarity, this issue in particular needs straightforward, plain language summaries so water users can understand how reporting under this regulation fits in with reporting conservation or in lieu use.

Specific Comments:

Section 917:

- ***Decision Maker*** – The determination to require additional reporting should be made by the Executive Director to ensure the appropriate legal and policy review is conducted.
- ***Additional Reporting Trigger*** – The trigger for additional reporting, described in the regulation as “when flows or projected available supplies in a watershed or subwatershed

are sufficient to support some but not all projected diversion demand,” is too broad. As a practical matter, most watersheds experience times when water is unavailable to certain users, but this is generally dealt with by the watermaster, compliance with permit/license terms, custom, or the simple fact there is no water to divert. These typical situations differ significantly from the conditions of the past two years where the SWRCB issued curtailment notices. Consequently, it is not appropriate for the additional reporting trigger to be anytime projected demand is not to be met. Additional reporting should only be required during a declared drought emergency.

- **Water Availability** – Language in the draft regulation concerning the use of water measurement information in determinations of water availability exceed the scope of Senate Bill 88 and the emergency regulations, have been improperly noticed as part of the scope of the current action, include no adequate due process protections, and are needless and potentially in conflict with existing section 879 of the board’s regulations.
- **Monitoring vs. Reporting** – The requirement to report water diversion on a more frequent schedule than annually may be significantly more onerous than the requirement to install devices that are capable of recording diversion data. For example, while it may be feasible to install a device capable of recording hourly measurement (e.g. pressure transducer data logger), arranging for this information to be electronically reported on a daily or more frequent basis would require a significantly more advanced system. This would require essentially real-time monitoring that is not necessary to achieve appropriate management and would be extremely costly to install and maintain.
- **Frequency of Reporting** – The potential frequency of reporting requirements should be clarified. The reporting requirement in 917 indicates that the reporting frequency “shall not exceed the frequency of recording required under section 933, subdivision (b)(1).” Section 933, subdivision (b)(1) then provides that recording for large diversions shall be “on an hourly or more frequent basis” (emphasis added). It should be clarified that the reporting will not be required on a “more frequent basis” even if the data recording is provided more frequently.
- **Penalties** – Because this is a new and significantly different requirement, and because there is no truly reliable way for the SWRCB to reach and explain to all water users the implications of the regulations, the potential fine should be changed. For example, instead of up to \$500 per day, the fine should be limited to \$500 for failing to report, and then once notified of noncompliance by the SWRCB, fines would then accrue on a daily basis.

Section 924

- There should be no additional reporting requirements for registrations and certificates. The amount of water utilized by registrations, particularly for stockponds, is not sufficient to warrant the additional reporting requirements.

- For many stockponds, the maximum rate of diversion would be very difficult to identify. As a practical matter, this occurs during the largest rainfall event of the year (unless the pond is already full) and would require significant investment to measure, while providing little benefit.

Section 931

- In subdivision (g), and elsewhere in the regulation (including Section 932(b)), it is not clear whether the term “diversion” applies to the actual amount diverted or the face value of the right. Use and application of the term “diversion” in section 931 (g) should be coordinated with other parts of the regulation, particularly sections 932 and 933.

Section 932

- Subsections (a) and (b) would be more consistent and clear with the following edits to Subsection (a):

(a) Except as provided in subdivision (d), ~~the following~~ water right holders shall install and maintain a measuring device or employ a measurement method capable of measuring the rate of diversion, rate of collection to storage, the rate of withdrawal or release from storage, and the total volume of water diverted or collected to storage for the following:

(1) A diversion under a permit or license authorizing a diversion greater than 10 acre-feet of water per year. Any person authorized to divert greater than 10 acre-feet of water per year under a permit or license.

(2) A diversion that is required under Water Code Part 5.1 to be reported in a Statement of Water Diversions that has been greater than 10 acre-feet of water per year. Any person who has previously diverted or intends to divert greater than 10 acre-feet of water per year and is required under Water Code Part 5.1 to file a Statement of Water Diversions and Use.

(3) A diversion under a registration authorizing a diversion greater than 10 acre-feet of water per year. Any person authorized to divert greater than 10 acre-feet of water per year or to have a storage facility with a capacity greater than 10 acre-feet under a registration.

- As shown in the proposed edit above, subsection (a)(3) should be amended to delete “or to have a storage facility with a capacity greater than 10 acre-feet” to parallel the structure of (a)(1) for permits and licenses. Water Code section 1228.1 limits diversions under livestock stockpond and small domestic registrations to 10 acre-feet or less per year; however, there are livestock stockpond and small domestic registrations for storage facilities with a volume greater than 10 acre-feet, but with maximum diversion limits of 10 acre-feet or less.

- Subsection (c): The deadline to install and certify a measuring device on water rights of 1,000 acre-feet per year or more should be changed from July 1, 2016 to January 1, 2017. First, in many instances it will likely be unnecessarily disruptive to complete the installation work during the irrigation season when facilities need to be operating. Second, if the work is conducted in a stream channel, there may be permits required that are not readily obtained in such a short time frame and which conditions may prevent work during much of the winter and spring. Third, installation of measuring devices in a reservoir is best accomplished when the reservoir is empty or at least significantly drawn down, which typically occurs in the fall after irrigation season is over. The deadline to install and certify a measuring device on water rights of 1,00 acre-feet per year or more should be changed from January 1, 2017 to July 1, 2017. Section (c) should be updated to include the following edits:

(c) Effective Dates. The deadlines for the installation and certification of measuring devices or method shall be:

(1) On or before **January 1, 2017** ~~July 1, 2016~~, for a water right holder with a right or a claimed right to divert 1000 acre-feet or more of water per year.

(2) On or before ~~January 1~~ **July 1**, 2017, for a water right holder with a right or a claimed right to divert 100 acre-feet of water or more per year, **but less than 1000 acre-feet of water per year.**

(3) On or before January 1, 2018, for a water right holder with a right or a claimed right to divert greater than 10 acre-feet of water per year, **but less than 100 acre-feet of water per year.**

Section 933

- **Data Retention** (b)(3) – A 10-year document retention period is unreasonably long. Typical document retention periods for regulatory permits and tax records are two or three years, and do not exceed five years. It is unclear why the raw device data must be retained for such a long period given the requirements to report synthesized data annually or more frequently to the Board.
- **Accuracy** (e) – While accuracy is important, before creating a “smog certificate” process for water diversion, the SWRCB should do a cost benefit analysis to identify how frequently, if at all, it is actually necessary to recertify the accuracy of certain devices. Additionally, there should be a simple process to certify existing staff gauges and similar measurement devices.
- **Certification Date** (e)(1) – This section unfairly burdens diverters who have already installed measuring devices (before January 1, 2016). These diverters must submit certification of accuracy with the next "water use report" which would be by June 30, 2016. Alternatively, Sections 932(c)(2) and (3), and (1), if the SWRCB agrees to change it, allow diverters without devices already in place to have until 2017 or 2018 to install and certify devices. A diverter that already has a device in place should not be required to submit certification sooner than a diverter that that does not have a device.

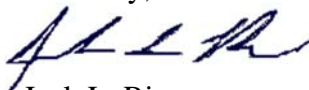
- **Accessibility** (j) – Devices should be installed in a manner that is “reasonably” accessible, not “readily” accessible. Many points of diversion are not “readily” accessible due to their remote location, so it may be impossible to comply with a regulatory requirement for the device to be “readily” accessible, to the extent that term is commonly understood. Beyond these practical considerations, there are significant, unaddressed legal difficulties associated with the regulation’s assumed authority for access to land without adequate notice or the landowner’s consent.

Section 934

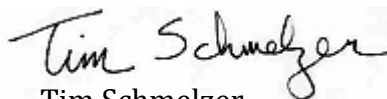
- The statutory language clearly provides that both devices and methods are appropriate, whereas the language of section 934 imposes additional requirements unrelated to the accuracy of the method. For example, (a)(1)(E), (G) and (H)) are not relevant to the accuracy of a method to measure diversion and more appropriately belong in the section providing for alternative compliance.
- Section 934(b)(1) requires data “recording” at the same frequency as measuring devices set forth in Section 933(b). An accepted measurement ‘method’ should have some flexibility in the frequency of determining the amount of water diverted, rather than being held to the same standards as those employing one of the acceptable measuring devices.

Thank you for considering these comments. If you have any questions please feel free to contact Jack Rice at (916) 561-5667 or jrice@cfbf.com.

Sincerely,



Jack L. Rice
Associate Counsel
California Farm Bureau Federation



Tim Schmelzer
Wine Institute

CAPITOL OFFICE
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California State Senate



SENATOR
JIM NIELSEN
FOURTH SENATE DISTRICT

COMMITTEES
APPROPRIATIONS
BUDGET & FISCAL REVIEW
VICE CHAIR
HEALTH
VETERANS AFFAIRS
CHAIR

(12/17/15) Public Workshop
Emergency Reg for Measuring & Reporting Diversions
Deadline: 12/17/15 by 12:00 noon



December 14, 2015

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Subject: Comment Letter – Emergency Regulation for Measuring and Reporting the Diversion of Water

Dear Ms. Townsend:

When I opposed Senate Bill 88, the so-called “drought trailer bill,” in Budget Committee and on the Senate Floor, it was because it proposed major policy changes to water rights laws, local enforcement authority, broad new state and local powers which lessen individual control, increased civil penalties, and other problematic issues that are being disguised as necessary emergency drought actions. A particular concern was that SB 88 contained the expansion of the existing water diversion measurement and reporting requirements to those who divert 10 acre feet of water or more in a year.

One of the assurances that proponents of the bill touted is that the State Water Resources Control Board (SWRCB) has the discretion to “modify the requirements” if “strict compliance is infeasible, is unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water.” They may also “increase the 10-acre-foot reporting threshold to 25 acre-feet or above if they find that the benefits of the additional information within the watershed or subwatershed are substantially outweighed by cost of installing measuring devices or employing methods for measurement for diversion at the 10-acre-foot threshold.”

In conversations with stakeholders in my district, it has become clear that some equipment and methods for measuring water diversions for remote irrigation diversions, small irrigation ponds and small livestock ponds is impractical, infeasible, or cost prohibitive. Often there is no remote power at diversion points, and some points are not even accessible during inclement weather. And, more universally, the simple cost is burdensome: from the initial purchase of the meter and related equipment, to the maintenance.

It is imperative that the SWRCB clearly defines the approved devices and methods of calculation. A standardized list of approved equipment will ensure statewide efficiency and equality.

I hope that the SWRCB will listen to the specific concerns of the agricultural community and water rights holders as you create the SB 88 regulations.

You are welcome to contact me if you would like to discuss this matter further. Thank you for your consideration.

Sincerely,

A handwritten signature in blue ink that reads "Jim Nielsen". The signature is written in a cursive style with a large initial "J".

JIM NIELSEN
Senator, Fourth District



CENTRAL DELTA WATER AGENCY

235 East Weber Avenue • P.O. Box 1461 • Stockton, CA 95201
Phone (209) 465-5883 • Fax (209) 465-3956

DIRECTORS
George Biagi, Jr.
Rudy Mussi
Edward Zuckerman

COUNSEL
Dante John Nomellini
Dante John Nomellini, Jr.

December 16, 2015

Via email commentletters@waterboards.ca.gov

Jeanine Townsend, Clerk of the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814



**Re: Comment Letter - Emergency Regulation for Measuring and Reporting the
Diversion of Water**

Section 917

The authority to require more frequent reports than monthly should be deleted from the opening paragraph, and from subsection (a).

Section 917(b)

This section should be changed to read "Water right demand projection shall be based on the best and most accurate available data specific to the particular location of the diverter groups, and may be based on reported diversion and use data, including but not limited to data submitted with progress reports by permittees, reports of licensees, reports of registration and certificate holders, supplemental statements of water diversion and use, reports filed by water masters pursuant to Water Code § 5101(d) and (e) with adjustments to eliminate duplication, adjustments to exclude demand served with stored water or foreign water and adjustments to account for demand served from the Delta pool including natural flow from the west.

Section 917(c)

Section 917(c) should be changed to read "Water availability projections shall be based on the best and most accurate available data specific to the particular location of the diverter groups and may be based on: (1) projected full natural flow data supplied by the Department of Water Resources or any less biased source; (2) projections from the National Weather Service California/Nevada River Forecast Center and similar sources; (3) stream gage data; (4) good faith estimates of accretions; (5) natural flow available in the Delta pool including natural flow from the west; and (6) other data the Deputy Director for the Division of Water Rights determines is appropriate given data

availability, data reliability and staff resources.

Section 300(b)(1)(A)

Consideration should be given to eliminating hourly measurement capability as such is of limited value. For small reservoirs and ponds less than 200 acre-feet consideration should be given to monthly or less frequent measurement. For the smaller reservoirs in remote locations which intercept water only in the wetter periods and those that constitute a depression, exemption from measurement should be considered.

Section 933(b)(2)(B)

Section 933(b)(2)(B) should be limited to a point of diversion rather than a diverter which either directs more than 10,000 acre-feet annually or on a monthly basis diverts more than 50 percent of the monthly median flow. The difficulty and cost of real-time telemetered diversions on multiple points of diversion is excessive.

Section 934 second to the last line the word "separate" should be eliminated. In cases where multiple rights including riparian rights overlap it is impossible to separate the quantity.

Section 934(E), (G) and (H)

These subsections should be deleted as measurement methods should be allowed without meeting such conditions

Section 934(d) - Certification

The third sentence should be deleted until we gain more experience working with the results of the study of the Delta currently in progress.


Section 934(g)(3)

Section 934(g)(3) the 90 days should be extended to at least 12 months.

Lastly, the annual reporting for Permits and Licenses and Statements of Diversion and Use should be on or before July of the following year.

These comments are submitted on behalf of Central Delta Water Agency and South Delta Water Agency.

Thank you for your consideration


Dante J. Nomellini Sr.
Manager and Counsel

commentletters



From: Ferguson, Bill <BFerguson@SantaBarbaraCA.gov>
Sent: Wednesday, December 16, 2015 8:17 PM
To: commentletters
Cc: Haggmark, Joshua N.; Dyer, Kelley A.
Subject: Comment Letter - Emergency Regulation for Measuring and Reporting the Diversion of Water

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board,

Thank you for the opportunity to comment on the subject draft regulations. We request that the Board consider the following as the regulations are finalized:

1. As noted in our previous comments, our diversions are in remote locations and are typically set at a fixed flow rate for periods of days or weeks at a time, but monitored and read daily. Hourly visits to the site would yield little information of value, but would consume a large portion of the available staff resources. The regulations should provide an exception from the requirement for hourly observations or recordings for such situations, subject to a requirement that the diversion totals be calculated for daily intervals in a manner that reflects any adjustments in diversion rates made during the 24-hour period.
2. It is not clear that the proposed regulations would consider manual recording of a flow rate, followed by entry into an electronic spreadsheet for submittal to the Board, to be a suitable means of complying with the measurement requirement, in lieu of an automated recording device. We request that the regulations acknowledge that this approach is adequate.

Please feel free to contact us if you have questions.

Thank you.

Bill Ferguson
Project Manager
City of Santa Barbara
(805) 560-7534
Water Resources Division, Public Works Department
P.O. Box 1990, Santa Barbara, CA 93102
Fax: (805) 897-2613
Email: BFerguson@SantaBarbaraCA.gov
Street Address: 630 Garden Street, Santa Barbara, CA 93101

commentletters



From: Suzanne Womack <jsagwomack@gmail.com>
Sent: Wednesday, December 16, 2015 5:14 PM
To: commentletters
Subject: Comment Letter - Emergency Regulation for Measuring & Reporting the Diversion of Water

Suzanne Womack
Clifton Court, L.P.
3619 Land Park Drive
Sacramento, CA 95818
(916) 448-7102

December 16, 2015

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Dear Ms. Townsend,

Clifton Court was first farmed by Native Americans and later farms were established in the 1870's. Today our farm is the last remaining property. The rest of Clifton Court was condemned for the Clifton Court Forebay. Our farm is located between the intake for the SWP at Clifton Court Forebay and the Federal Fish Screen and pumping plant for the Delta Mendota Canal. Because of our unique location, we are asking to be treated differently. We have two major concerns with the Emergency Regulations requiring measuring devices for our farm pumps.

1. When the State and Federal pumps are pumping up to 15,000 cfs, Old River flows very rapidly and can even have its natural flow reversed. We pump less than 7 cfs. We would like to know what measuring devices the State recommends that can accommodate this huge, unpredictable change in water flow? Will we have to buy special devices? What do these devices cost? Are the devices more expensive than what other farmers will be able to use? We ask that the State not place an unfair burden on our farm.

2. Our farm, Clifton Court, L.P. is under threat of condemnation for the State Water Fix. We ask that our farm be exempt from any measurement devices until all threats of condemnation pass.

We look forward to the State Water Resources Control Board addressing our very specific concerns.

Sincerely,
Suzanne Womack
Clifton Court, L.P. general partner

County of Trinity

Weaverville CA 96091
District 1 Supervisor
Keith Groves
530-623-8368



12/14/15

California State Water Control Board
1001 I Street, 24th Floor
Sacramento CA 95814

To whom it concerns:

I have just learned of your proposed reporting requirement through SB 88. This proposed requirement would be devastating and onerous to the small farms in Trinity County. We have many diverters in Trinity County that use a 100 times the thresh hold number of 10 that are eking out a modest living. We are a VERY rural county and some of the diversions can be 20 miles from the nearest electricity, and hours of travel to get to. Most of the diversions are pre 1914 and have been used since the 1880's or earlier

To demand these farms to spend 10's of thousands of dollars that accomplish nothing of value is outrageous at best. Due to our counties unique geology the vast majority of diverted water flows back into the drainages where it is reused for environmental or human uses. **There for I strongly urge that a broad interpretation of Sec 15 article 3 1840 #2* be used for all of Trinity County.**

* "The board may increase the 10-acre-foot reporting threshold of subdivision (a) in a watershed or sub watershed, after considering the diversion reporting threshold in relation to quantity of water within the Watershed or sub watershed. The board may increase the 10-acre-foot reporting threshold to 25-acre feet- **or ABOVE** if it finds that the benefits of the additional information within the watershed or sub watershed are substantially outweighed by the cost of installing measuring devices or employing methods for measurement for diversions at the 10-acre-foot-threshold"

Thank you for your consideration
Keith Groves
Trinity County Supervisor
District 1



2460 Headington Road
Placerville, CA 95667-5216
Phone: 530.622.7773
Fax: 530.622.7839
Email: info@edcfb.com

December 17, 2015

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814



RE: Comment Letter – Emergency Regulation for Measuring and Reporting the Diversion of Water

Dear Ms. Townsend:

The El Dorado County Farm Bureau (EDCFB) concurs with the letter and sentiments that the California Farm Bureau Federation has crafted regarding the above-mentioned issue. It reads: The California Farm Bureau Federation (Farm Bureau) is a non-governmental, non-profit, voluntary membership California corporation whose purpose is to protect and promote agricultural interests throughout the state of California and to find solutions to the problems of the farm, the farm home and the rural community. Farm Bureau is California's largest farm organization, comprised of 53 county Farm Bureaus currently representing more than 53,000 agricultural, associate and collegiate members in 56 counties. Farm Bureau strives to protect and improve the ability of farmers and ranchers engaged in production agriculture to provide a reliable supply of food and fiber through responsible stewardship of California's resources.

This letter was written jointly with Nick Bonsignore and Paula Whealen of Wagner and Bonsignore Consulting Civil Engineers, and Peter Kiel of Ellison, Schneider & Harris. Farm Bureau appreciates the opportunity to comment on the Proposed Emergency Regulation for Measuring and Monitoring (regulation).

While the need to comply with the provisions of Senate Bill 88 is clear, the regulation adopted by the State Water Resources Control Board (SWRCB) should strive to make the process as practical, efficient, and understandable as possible. Much has changed for water users in California over the past few years and while most people are trying to comply, the number and significance of changes make full understanding and compliance very difficult, particularly for small farming operations and homeowners who may not have sufficient time or resources to engage fully in the process. Please consider the practical implications of the requested changes along with the pressures those changes put on smaller operations.

General Comments:

*Protect, promote, and enhance the economic opportunities and long-term viability
for El Dorado County farmers, ranchers, and foresters.*

Technical Capacity – There are a limited number of individuals with the qualifications and skills necessary to assist the thousands of affected water users in complying with this regulation. Nearly all of these individuals are already very busy, particularly given the numerous recent changes, and it is likely that the availability of qualified expertise will constrain the ability of water users to comply with the regulations. For this reason the time frames for installation and certification of devices should be extended.

Clarification – The impact of the regulations on water users must be conveyed in a format more understandable to the typical layperson. The SWRCB estimates there will be approximately 12,000 water users impacted by these regulations, nearly all of whom are more focused on the holidays than the technical language of the regulation. While accurate technical language is necessary, such language should be accompanied by plain language summaries explaining the practical implications of the regulation and how water users will be expected to comply. For example, a person should be able to look at a single chart and see what has changed for them based on the type and size of their diversion. There should also be a summary of which forms a water user must fill out under what circumstances, accompanied by copies of the forms so it is easier to understand what will be expected. Additionally, the distinction between annual supplemental statements required under Water Code §5104 and the occurrence of additional reporting under 917 should be clarified – currently it is somewhat difficult to understand the different changes. This clarification should be provided prior to the SWRCB meeting when the regulations will be adopted so that water users can have a working knowledge of the regulations and will be better prepared to provide the SWRCB with field information to help improve implementation of the regulations.

Measurement by Method – The regulations do not appear to adequately allow for methods of measurement as identified in Water Code § 1840(a)(1)(B). Instead of providing for measurement by device or method, and then providing for a means of alternative compliance, the regulations focus on requiring devices and describe “methods” as a distinct alternative approach with more expansive requirements. For example, Water Code § 1840(a)(1)(B)(i) identifies electrical records dedicated to a pump and recent pump test as an appropriate method of measurement, but this is not clear in the regulation that this is an acceptable means of measurement. This and other methods are effective and efficient options that should clearly be identified as acceptable methods of measurement.

Season of Diversion – The regulation should clarify that the reporting requirement does not apply if a person is not actively diverting. For water users whose season of diversion is not during the period of time when there is a shortage, it is not necessary to report. If such reporting is required, there should be a simple means of compliance that does not involve, for example, hourly reporting of zeros.

Appeals – Additional provisions should be added providing for the ability to appeal decisions of the Deputy Director, including requests for measurement methods, requests for alternative compliance, and requests for additional time under sections 934, 935, and 936. The ability to appeal decisions should be similar to that authorizing appeal of an order on an increase in the measurement threshold, which is defined in section 932(c)(6) as being “subject to reconsideration under section 1122, et seq.” (Administrative appeal of a board decision or order.)

Editorial comments – References to “Xcel” should be changed to “Excel”. In Section 920(b) sentence 3 – add the word “form” after “statement of change”. Section 933(b)(2)(B) – are HUC 10 water basins available to the public on the SWRCB database?

Forfeiture Concerns – One of the key concerns water users have is that the new reporting requirements will increase the risk of forfeiture of their water rights when they implement conservation practices or use in lieu water. To alleviate this concern the regulations should clarify and streamline how water users should report conservation and in lieu water use to avoid risk of unintentional forfeiture. As with the comment above regarding the need for clarity, this issue in particular needs straightforward, plain language summaries so water users can understand how reporting under this regulation fits in with reporting conservation or in lieu use.

Specific Comments:

Section 917:

- **Decision Maker** – The determination to require additional reporting should be made by the Executive Director to ensure the appropriate legal and policy review is conducted.
- **Additional Reporting Trigger** – The trigger for additional reporting, described in the regulation as “when flows or projected available supplies in a watershed or subwatershed are sufficient to support some but not all projected diversion demand,” is too broad. As a practical matter most watersheds experience times when water is unavailable to certain users, but this is generally dealt with by the watermaster, compliance with permit/license terms, custom, or the simple fact there is no water to divert. These typical situations differ significantly from the conditions of the past two years where the SWRCB issued curtailment notices. Consequently it is not appropriate for the additional reporting trigger to be anytime projected demand is not to be met. Additional reporting should only be required during a declared drought emergency.
- **Monitoring vs. Reporting** – The requirement to report water diversion on a more frequent schedule than annually may be significantly more onerous than the requirement to install devices that are capable of recording diversion data. For example, while it may be feasible to install a device capable of recording hourly measurement (e.g. pressure transducer data logger), arranging for this information to be electronically reported on a daily or more frequently basis would require a significantly more advanced system. This would require essentially real-time monitoring that is not necessary to achieve appropriate management and would be extremely costly to install and maintain.
- **Frequency of Reporting** – The potential frequency of reporting requirements should be clarified. The reporting requirement in 917 indicates that the reporting frequency “shall not exceed the frequency of recording required under section 933, subdivision (b)(1).” Section 933, subdivision (b)(1) then provides that recording for large diversions shall be “on an hourly or more frequent basis” (emphasis added). It should be clarified that the reporting will not be required on a “more frequent basis” even if the data recording is provided more frequently.
- **Penalties** – Because this is a new and significantly different requirement, and because there is no truly reliable way for the SWRCB to reach and explain to all water users the implications of the regulations, the potential fine should be changed. For example instead of up to \$500 per day, the fine should be limited to \$500 for failing to report, and then once notified of noncompliance by the SWRCB, fines would then accrue on a daily basis.

Section 924

- There should be no additional reporting requirements for registrations and certificates. The amount of water utilized by registrations, particularly for stockponds, is not sufficient to warrant the additional reporting requirements.
- For many stockponds the maximum rate of diversion would be very difficult to identify. As a practical matter, this occurs during the largest rainfall event of the year (unless the pond is already full) and would require significant investment to measure, while providing little benefit.

Section 931

- In subdivision (g), and elsewhere in the regulation (including Section 932(b)), it is not clear whether the term “diversion” applies to the actual amount diverted or the face value of the right. Use and application of the term “diversion” in section 931 (g) should be coordinated with other parts of the regulation, particularly sections 932 and 933.

Section 932

- Subsections (a) and (b) would be more consistent and clear with the following edits to Subsection (a):
 - (a) Except as provided in subdivision (d), ~~the following~~ water right holders shall install and maintain a measuring device or employ a measurement method capable of measuring the rate of diversion, rate of collection to storage, the rate of withdrawal or release from storage, and the total volume of water diverted or collected to storage **for the following:**
 - (1) **A diversion under a permit or license authorizing a diversion greater than 10 acre-feet of water per year. Any person authorized to divert greater than 10 acre-feet of water per year under a permit or license.**
 - (2) **A diversion that is required under Water Code Part 5.1 to be reported in a Statement of Water Diversions that has been greater than 10 acre-feet of water per year. Any person who has previously diverted or intends to divert greater than 10 acre-feet of water per year and is required under Water Code Part 5.1 to file a Statement of Water Diversions and Use.**
 - (3) **A diversion under a registration authorizing a diversion greater than 10 acre-feet of water per year. Any person authorized to divert greater than 10 acre-feet of water per year or to have a storage facility with a capacity greater than 10 acre-feet under a registration.**
- As shown in the proposed edit above, subsection (a)(3) should be amended to delete “or to have a storage facility with a capacity greater than 10 acre-feet” to parallel the structure of (a)(1) for permits and licenses. Water Code section 1228.1 limits diversions under livestock stockpond and small domestic registrations to 10 acre-feet or less per year; however, there are livestock stockpond and small domestic registrations for storage facilities with a volume greater than 10 acre-feet but with maximum diversion limits of 10 acre-feet or less.

- The deadline to install and certify a measuring device on water rights of 1,000 acre-feet per year should be changed from July 1, 2016 to January 1, 2017. First, in many instances it will likely be unnecessarily disruptive to complete the installation work during the irrigation season when facilities need to be operating. Second, if the work is conducted in a stream channel, there may be permits required that are not readily obtained in such a short time frame and which conditions may prevent work during much of the winter and spring. Third, installation of measuring devices in a reservoir is best accomplished when the reservoir is empty or at least significantly drawn down, which typically occurs in the fall after irrigation season is over. The deadline to install and certify a measuring device on water rights of 1,000 acre-feet per year should be changed from January 1, 2017 to July 1, 2017. The effective dates for the 10 and 100 acre-foot threshold diversions should be updated to include the following edits:

(c) Effective Dates. The deadlines for the installation and certification of measuring devices or method shall be:

(1) On or before ~~January 1, 2017~~ ~~July 1, 2016~~, for a water right holder with a right or a claimed right to divert 1000 acre-feet of water per year or more.

(2) On or before ~~January 1~~ ~~July 1~~, 2017, for a water right holder with a right or a claimed right to divert 100 acre-feet of water per year or more **but less than 1000 acre-feet of water per year.**

(3) On or before January 1, 2018, for a water right holder with a right or a claimed right to divert greater than 10 acre-feet of water per year **but less than 100 acre-feet of water per year.**

Section 933

- **Data Retention** (b)(3) – A 10-year document retention period is unreasonably long. Typical document retention periods for regulatory permits and tax records are two or three years, and do not exceed five years. It is unclear why the raw device data must be retained for such a long period given the requirements to report synthesized data annually or more frequently to the Board.
- **Accuracy** (e) – While accuracy is important, before creating a “smog certificate” process for water diversion the SWRCB should do a cost benefit analysis to identify how frequently, if at all, it is actually necessary to recertify the accuracy of certain devices. Additionally, there should be a simple process to certify existing staff gauges and similar measurement devices.
- **Certification Date (e)(1)** – This section unfairly burdens diverters that have already installed measuring devices (before January 1, 2016). These diverters must submit certification of accuracy with the next “water use report” which would be by June 30, 2016. Alternatively, Sections 932(c)(2) and (3), and (1) if the SWRCB agrees to change it, allow diverters without devices already in place to have until 2017 or 2018 to install and certify devices. **A diverter that already has a device in place should not be required to submit certification sooner than a diverter that that does not have a device.**
- **Accessibility** (j) – Devices should be installed in a manner that is “reasonably” accessible, not “readily” accessible. Many points of diversion are not “readily” accessible due to their remote location, so it may be impossible to comply with a regulatory requirement for the device to be “readily” accessible, to the extent that term is commonly understood.

Section 934

- The statutory language clearly provides that both devices and methods are appropriate, whereas the language of section 934 imposes additional requirements unrelated to the accuracy of the method. For example, (a)(1)(E), (G) & (H)) are not relevant to the accuracy of a method to measure diversion and more appropriately belong in the section providing for alternative compliance.
- Section 934(b)(1) requires data “recording” at the same frequency as measuring devices set forth in Section 933(b). An accepted measurement ‘method’ should have some flexibility in the frequency of determining the amount of water diverted, rather than being held to the same standards as those employing one of the acceptable measuring devices.

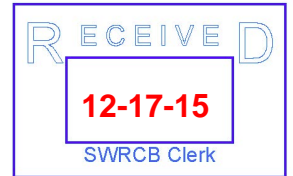
The above was submitted by Jack L. Rice, Associate Counsel, on December 17, 2015 and the EDCFB is doing likewise.

Sincerely,



Reneé Hargrove
Executive Director

commentletters



From: Poulsen, Brian <bpoulsen@eid.org>
Sent: Thursday, December 17, 2015 9:16 AM
To: Wells, Paul@Waterboards; commentletters
Cc: Cumpston, Tom; 'Dave Bolland'
Subject: Comments on Draft Emergency Regulation For Measuring and Reporting Water Diversions

Mr. Wells and Ms. Townsend,

Thank you for taking and considering public comments on the proposed draft emergency regulations for measuring and reporting water diversions. Unfortunately, I am unable to attend the public workshop on this matter, scheduled for December 17, 2015. Therefore, please consider the following comments:

- First, the District needs more time to review and analyze the draft regulation in order to provide the SWRCB with substantive/meaningful feedback. While we appreciate the effort of staff to reach out to the District and others in the water community through small working group meetings, proposing and adopting such complicated regulations in so little time benefits no one. Nothing in the regulations appears to address an emergency-specific need of the SWRCB. Neither will the regulations apply only in times of emergency.
- Requiring agencies to submit "preliminary" data within three months and then follow up with final data is duplicative and serves no legitimately articulated need.
- Proposed section 934 appears to ignore the explicit statutory language adopted in SB 88, which specifically authorizes agencies to employ methods, rather than installing devices, capable of measuring the rate of diversions, releases from storage, etc. Proposed section 934, however, would require agencies to request specific approval from the SWRCB to employ methods rather than install devices, and demonstrate that installing a device to measure would be unfeasible. This goes way beyond the language of SB 88. The SWRCB should eliminate this requirements from the proposed regulation.

These are comments are preliminary only and intended for the public workshop on this matter. Thank you for your consideration.

bp

Brian D. Poulsen Jr.

Senior Deputy General Counsel
El Dorado Irrigation District
2890 Mosquito Road
Placerville, CA 95667

Phone (530) 642-4021
Fax (530) 642-4321

Please Note: Governor Brown has issued an executive order mandating that all water providers achieve a statewide 25% reduction in water use. As a result, the District is required to reduce its water usage by 28% and mandatory watering restrictions are in effect. For more information, visit www.eid.org/drought

ATTENTION

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commentletters

From: T. Connick <tdhc@sonic.net>
Sent: Wednesday, December 16, 2015 7:10 PM
To: commentletters
Subject: "Comment Letter – Emergency Regulation for Measuring and Reporting the Diversion of Water."

Jeanine Townsend, Clerk to the Board

State Water Resources Control Board

1001 I Street, 24th Floor

Sacramento, CA 95814



RE: “Comment Letter – Emergency Regulation for Measuring and Reporting the Diversion of Water.”

I disagree with this proposed emergency regulation in concept and as drafted in total.

1. The Drought Emergency Regulation adopted December 1, 2015 by the Board states to be authorized by Executive Order’s: B-28-14, B-26-14, B-29-15 and B-36-15 and under the Senate Bill 104’s expansion of Water Code section 1058.5. The Board asserts, “[T]he State Water Board is unable to address the situation through non-emergency regulations because the need for this regulation has arisen due to the current drought emergency and would not be timely addressed by non-emergency regulations.” That is not true. The Proclamation of April 25, 2014 directs the Board to address diversions. Executive Order B-21-13 (5/20/13) should have put the board on notice that it had a water delivery management problem. The “Proposed Emergency Regulation and Measuring and Reporting December 7, 2015 Agency Draft for Public Comment” is drafted as if permanently modifying CH 2.7 Water Diversions and Use Reports beyond the declared Drought Emergence. Is this correct? Why not just issue the order or regulation? Government Code Section 8627.5 (b) “The orders and regulations shall be in writing and take effect immediately on issuance. The temporary suspension of any statute, ordinance, regulation, or rule shall remain in effect until the order or regulation is rescinded by the Governor, the Governor proclaims the termination of the state on emergency, or for a period of 60 days, whichever occurs first.
2. Resolution No. 2015-0075 authorized December 1, 2015 and the Emergency Regulation for Measuring and Reporting December 7 are implemented under various Executive Orders and

Proclamations ending with Executive Order B-36-15 and Senate Bill 104 (Statutes 2014; Chapter 3; Committee on Budget and Fiscal Review). Because the Governor has declared a Drought Emergency under the California Emergency Services Act, which takes precedence over any emergency regulation, adopted by the Board. Then Government Code section 8570 (i) “Plan for the use of any private facilities, services, and property and when necessary, and when in fact used, provide for payment for that use under the terms and conditions as may be agreed upon.” would apply. Has the Director of the Office of Emergency Services made funds available to mitigate the extraordinary drought emergency the monitoring and reporting measure regulation is proposing? Has the State prepared in advance any commitment for the expenditure of funds to mitigate the effects of drought emergency from private facilities, services or property of the water right holders of others to protect the public trust?

3. Executive Order B-29-15 #17 “Invest In New Technologies” This must be where the State is implementing its Water Energy Technology (WET) program for water right holders. Where the “irrigation system timing and precision technology” is coupled to “water-us monitoring software” as described in the “proposed emergency regulation for measuring and reporting December 7, 2015 agency draft for public comment”. It is not surprising that out of The Water Quality, Supply, and Infrastructure Act’s \$7,545,000,000 funding, no funds were allocated for diversion mitigation monitoring. Funds have not even provided by the legislature for the suspended WET program. And even Senate Bill 104 is to provide funds for extraordinary mitigation measures. Even Senate Bill 88 has \$810,000,000 earmarked for a respond to climate change and regional water security. So where is the funding! The lack of funding over 3-4 years raises serious questions about how much of a drought emergency diversion monitoring is.
4. The Water Quality, Supply, and Infrastructure Act of 214, approved by the voters as Proposition 1 at the November 4 2014, statewide general election, authorized the issuance of general obligation bonds in the amount of \$7,545,000,000 to finance water quality, supply, and infrastructure improvements. Of this amount \$2,700,000,000 has been allocated for Statewide Water Systems Operational Improvements and Drought Preparedness. Another \$395,000,000 is allocated for Flood Management. As the State’s de facto water utility entrusted to ensue the state’s regional water security and to effectively administer the Water’s of the State, encompasses not only delivering water to each entitled water right holder but accounting for those deliveries at each diversion point, to monitor watershed and sub watershed flows, to predict and project water availability, and to ensure that water is used appropriately by persons holding valid rights are without waste or unreasonable use or unreasonable method of diversion. This is why the state needs to provide, control, install and maintain “Smart-Meters” just like every other utility, be it water, gas or electric. This is what the bond funds were authorized for, to mitigate the effects of the drought. If they have not been allocated for this purpose it shows again there is in fact no measuring and reporting emergency requiring the December 1, 2015 proposed emergency regulations.
5. The state’s assumption is that the diversion point(s) are on the same property as those to whom the state has granted water rights. This is not the case. Many cannot give you a right they do not have. This being a new use, which would requires “reasonable access” along with additional infrastructure for the installation, operation, inspections, testing, readings, maintenance, and repair or replacement might be something property owner’s who are not

obligated in any way, are willing to provide on their property. Government Code Title 2 Division 1 Chapter 7 Article 13 Section 8627 provides the Governor with police powers to enforce Diversion monitoring. Is this how the Board plans to gain access and install these devices?

6. With Senate Bills 104 and 88 appear to have bestowed on the unelected Board “emergency regulatory” powers without defining what constitutes a regulatory emergency, how long it lasts, when regulations would be lifted, what justifies a threat, or if the board chose to perpetually invoke renewals in perpetuity. Does the Board have the same police powers as the Governor? If the Board had a comprehensive water management plan to manage the waters of the state which fulfill its public trust obligation by providing and installing ‘smart-meters’ like other “utilities” there would be no need for “Emergency Regulations” except during a real emergency declared by the Governor.

T. Connick

5404 Shallows PL W

Santa Rosa, CA

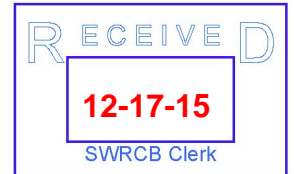


Jeanne M. Zolezzi
jzolezzi@herumcrabtree.com

VIA EMAIL

December 17, 2015

Ms. Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814



Re: Senate Bill 88 and Draft Emergency Regulation for Measuring and Reporting on the Diversion of Water

Dear Ms. Townsend:

The following comments are submitted on behalf of The West Side Irrigation District, Banta-Carbona Irrigation District, West Stanislaus Irrigation District, and Patterson Irrigation District on the Draft Emergency Regulations released by the State Water Resources Control Board for Measuring and Reporting on the Diversion of Water.

While we understand that the requirements of the law go into effect shortly, the regulations are nevertheless premature. Water users, particularly larger water users, have not had time to consider the impact of the law itself, let alone the specifics of the regulations.

Of particular concern is that portion of the regulations that go beyond measurement, and deal with the determination of the sufficiency of flows to support all diversions. It appears that the State Board is attempting to justify its flawed methodology for determining water availability through adoption of this emergency regulation. The very methodology proposed to be included in the regulations is currently the subject to two enforcement hearings and five lawsuits. At the very least it is therefore premature to be included in a regulation.

At a minimum the regulation in Section 917 should indicate that the determination by the State Board of water availability under this section of the regulation is only an estimate of availability.

Very truly yours,

A handwritten signature in black ink, appearing to read "Jeanne Zolezzi".

JEANNE M. ZOLEZZI
Attorney-at-Law



Hydro Sierra Energy



Dear State Water Resources Control Board:

I work for an independent power producer named Hydro Sierra Energy, which owns a small hydroelectric power plant in Yuba County, CA and holds a non-consumptive water right to divert 30 cubic feet per second above a minimum in-stream flow.

Our primary comment on the draft regulations is on the equal treatment of consumptive and non-consumptive uses for direct diversion permit holders. In previous regulations, such as the curtailment guidelines we received in May 2015 (see Exhibit 1 and separate attachment), there was an exception for hydroelectric generation by direct diversion where all water was returned to the same stream system.

Exhibit 1

Exceptions to Curtailment:

If your diversion is for hydroelectric generation by direct diversion only and all water diverted is returned to the same stream system, you may continue to divert under your post-1914 permit or license. If you continue to divert under the above circumstances, you must identify that on the Form and provide the information requested. If you have previously collected water to storage in a reservoir covered by a post-1914 right prior to this curtailment notice, you still may beneficially use that previous stored water consistent with the terms and conditions of your post-1914 water right. However, you must bypass all inflow into the reservoir at all times during the curtailment.

The emergency regulations under SB 88 should take a similar approach, providing an exception for direct diversion permit holders who divert water for hydroelectric generation and return it to the same stream system. Requiring these users to abide by the same reporting standards as consumptive use holders is de facto unreasonably expensive and burdensome, since those reports would not advance the state of California's understanding of real-time water consumption patterns.

A separate category should be included in the emergency regulations for permit holders who divert water for hydroelectric generation and return it to the same stream system. These holders, such as Hydro Sierra, already report annually on their diversions using widely accepted methods. Language should be included in the regulations allowing these users (identified and certified by the appropriate body), to continue with the current reporting practices they have been using for years.

Again, requiring non-consumptive permit holders to report at the same standards as consumptive would be unreasonably expensive for no additional benefit to the goal of the regulations. I would be happy to provide further input on specific provisions.

Best regards,
Andy

Hydro Sierra Energy LLC
P.O. Box 6978
Redwood City, CA, 94063



EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

May 1, 2015

HYDRO SIERRA ENERGY LLC
P.O. BOX 6978, JB STRAUBEL
REDWOOD CITY, CA 94063

In Regards to Water Right(s) [ID (password)]: A029837 (417926)

NOTICE OF UNAVAILABILITY OF WATER AND IMMEDIATE CURTAILMENT FOR THOSE DIVERTING WATER IN THE SACRAMENTO RIVER WATERSHED WITH A POST-1914 APPROPRIATIVE RIGHT

On January 23, 2015 and again on April 2, 2015, the State Water Resources Control Board (State Water Board) issued a Notice of Surface Water Shortage and Potential for Curtailment due to dry conditions throughout the State. On April 1, 2015, the Governor issued an executive order, order B-29-15, continuing the state of emergency, initially enacted on January 17, 2014, due to drinking water shortages, diminished water for agriculture production, degraded habitat for fish and wildlife, increased wildfire risk and the threat of saltwater contamination to fresh water supplies in the Sacramento-San Joaquin Delta.

Curtailment of Post-1914 Water Rights:

Based upon the most recent reservoir storage and inflow projections, along with forecasts for future precipitation events, the State Water Board has determined that the existing water supply in the Sacramento River watershed is insufficient to meet the needs of all water rights holders. With this notice, the State Water Board is notifying all holders of post-1914 appropriative water rights within the Sacramento River watershed of the need to immediately stop diverting under their post-1914 water rights, with the exceptions discussed below. Please be advised that, if you continue to divert under a claim of pre-1914 right, most or all pre-1914 rights in the Sacramento River watershed are likely to be curtailed later this year due to the extreme dry conditions. This condition of curtailment will continue until water conditions improve. Even if there is water physically available at your point of diversion, that water is necessary to meet senior water right holders' needs or is water released from storage that you are not entitled to divert. If precipitation occurs in the following weeks or months, you should not commence diversion before being notified by the State Water Board that water is legally available for diversion under your priority of right.

Permission to initiate diversions during or following significant rainfall events may be posted at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/index.shtml#notices. You can get immediate email updates from the State Water Board about these notices by subscribing to "Drought Updates" at: http://www.waterboards.ca.gov/resources/email_subscriptions/

Compliance Certification Required:

Curtailed post-1914 diverters are required to document receipt of this notice by completing an online Curtailment Certification Form (Form) within seven days. The Form confirms your cessation of diversion under the specific post-1914 water right, and, if applicable, identifies the alternate water supply you will use in lieu of the curtailed water right. Completion of the Form is mandatory to avoid unnecessary potential enforcement proceedings. You are required to complete the Form for each post-1914 water right identified through this curtailment at:

http://www.waterboards.ca.gov/waterrights/water_issues/programs/ewrims/curtailment/2015curt_form.php

FELICIA MARCUS, CHAIR | THOMAS HOWARD, EXECUTIVE DIRECTOR

1001 I Street, Sacramento, CA 95814 | Mailing Address: P.O. Box 100, Sacramento, Ca 95812-0100 | www.waterboards.ca.gov

Exceptions to Curtailment:

If your diversion is for hydroelectric generation by direct diversion only and all water diverted is returned to the same stream system, you may continue to divert under your post-1914 permit or license. If you continue to divert under the above circumstances, you must identify that on the Form and provide the information requested. If you have previously collected water to storage in a reservoir covered by a post-1914 right prior to this curtailment notice, you still may beneficially use that previous stored water consistent with the terms and conditions of your post-1914 water right. However, you must bypass all inflow into the reservoir at all times during the curtailment.

No Exception for Health and Safety:

There is no exception to the curtailment notice for health and safety needs. However, we are aware that some water users must comply with directives issued by the Division of Drinking Water (DDW), or local health or drinking water regulation to provide continued water service to meet minimum health and safety standards. Should you continue to divert water under a curtailed water right to meet human health and safety needs, you must complete the Form identifying your health and safety needs, whether there is an applicable DDW, state or local regulation and your attempts at securing an alternate water supply. The State Water Board will carefully analyze the non-exempted continued diversions for minimum health and safety needs on a case-by-case basis.

Potential Enforcement:

Those who are found to be diverting water beyond what is legally available to them may be subject to administrative fines, cease and desist orders, or prosecution in court. The State Water Board may levy fines of \$1,000 per day of violation and \$2,500 for each acre-foot diverted or used in excess of a valid water right. (See Water Code, §§ 1052, 1055.) Additionally, if the State Water Board issues a Cease and Desist Order against an unauthorized diversion, violation of any such order can result in a fine of \$10,000 per day. (See Water Code, §§ 1831, 1845.)

The State Water Board is encouraging diverters to work together to reach local voluntary agreements that not only provide solutions that help local communities with water shortages, but also prevent impacts to other legal users of water and do not cause unreasonable effects on fish and wildlife. If you have any questions, please call our Curtailment Hotline at (916) 341-5342, contact us by email at: SWRCB-Curtailment-Certification@waterboards.ca.gov, or review our drought year webpage at:

http://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/index.shtml

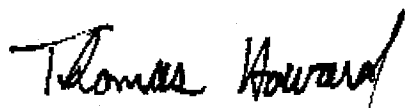
The State Water Board also encourages water right holders to assist in the prevention of unlawful diversion of water and in discouraging any waste or unreasonable use of water.

To assist the State Water Board, you may file a complaint at:

http://www.dtsc.ca.gov/database/CalEPA_Complaint/index.cfm.

We recognize the burden and loss this notice creates for you during the drought, and want to assure that others do not illegally benefit from your curtailments.

Sincerely,



Thomas Howard
Executive Director

KINGS RIVER WATER ASSOCIATION

OFFICERS

FRANK ZONNEVELD
CHAIRMAN

LARRY CRUFF
VICE-CHAIRMAN

RYAN JACOBSEN
SECRETARY/TREASURER

STEVEN HAUGEN
ASSISTANT SECRETARY/TREASURER

STEVEN HAUGEN
WATERMASTER

GARY W. SAWYERS
ATTORNEY

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CONSULTANT ENGINEER

4888 EAST JENSEN AVENUE
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TELEPHONE (559) 266-0767
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KINGS CO. UNITS

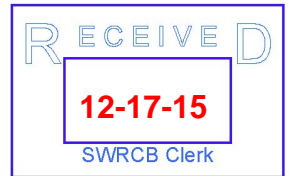
MARK MCKEAN
NORTH FORK AREA

TOM HURLBUTT
TULARE LAKE AREA

**(12/17/15) Public Workshop
Emergency Reg for Measuring & Reporting Diversions
Deadline: 12/17/15 by 12:00 noon**

December 17, 2015

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814



Re: December 7, 2015 Agency Draft Emergency Regulation for Measuring and Reporting the Division of Water

Ms. Townsend,

The Kings River Water Association (the "KRWA") respectfully submits the following comments on the Proposed Emergency Regulation for Measuring and Reporting.

Background

The KRWA consists of 28 member units that collectively hold all of the pre- and post-1914 appropriative water rights (as well as a variety of other water rights) on the Kings River at and downstream of Pine Flat Dam. The KRWA also administers the Kings River licenses issued by the Board on Applications 353, 360, 5640, 10979, 15231 and 16469. The Board has determined that those licenses render the Kings River fully appropriated at Pine Flat Dam. The only other water rights claimants on the Kings River below the dam are a small number of private parties who claim riparian rights and divert small amounts of water through private facilities.

The KRWA, acting as the Watermaster, allocates water between its members utilizing a settlement schedule that originates from the late 1800s and that was last modified in 1949. The schedule reflects

the water rights of each of the KRWA's members and allocates the full daily natural flow of the River under all conditions. That water is put to beneficial use in a roughly one million acre service area via 61 points of diversion and rediversion recognized in the above-referenced licenses.

Consistent with SB88 the KRWA respectfully requests an alternate compliance procedure as part of the proposed regulation, when existing measurement and recording systems provide sufficient information, the expense of complying with the new requirements is not reasonable in light of the benefits to be derived, or there are other circumstances that make compliance impractical – The KRWA has consistently utilized the most reliable, consistent and technically feasible measuring and recording devices for surface water diversions for many decades. Most are designed to U.S. Geological Survey or U.S. Bureau of Reclamation standards and specifications. The devices we utilize provide continuous analog recordings of diversions that are collected weekly and reported daily for water accounting purposes. From these records instantaneous flows can be determined as well. This system is respected by the member units and has resulted in no questions as to inequities of allocations of water since implementation. This data has been collected since the early 1920's and reported, as required, to the State and member units.

Our measurement and reporting system coupled with communication with the SWRCB staff, was sufficient to allow the local Tulare Lake Basin Watermasters(including the KRWA) to regulate water supplies in lieu of curtailments for the 2014 and 2015 drought years as reported in the Emergency Regulation Digest and Appendices for Title 23, Division 3, Chapter 2, Article 24 Section 879 dated March 11, 2015.

General river and storage conditions are available and online for the system through the U.S. Army Corps of Engineers and the CA Department of Water Resources website CDEC. This data is typically available daily, and for some parameters hourly, weekly, monthly and annually.

Converting the current, proven and efficient analog system to digital, as contemplated in the draft regulation, would require about \$3 million and approximately 3 years to implement, due to the relatively few experts available and demand created that will be created by the proposed regulation. The result would be no net gain in the timeliness, quality and quantity of data. And, as the SWRCB is well aware, this expense comes at a time when the drought impacts are straining local ratepayers.

The following are draft regulation specific comments:

§ 929. Reports of Licensee.

- (b) The requirement to file the annual report within three months of the close of the twelve month reporting period could be problematic even if using provisional data. Having to amend the annual report of licensee within six months when final data is available causes additional work and potential confusion, and it is unclear what additional value is gained by submitting provisional data that will likely change when the water year is already over. It is

recommended that the current timeline of submitting the annual report within six months of the close of the twelve month reporting period be retained.

- (c)(5) The diversion quantities contained in the KRWA licenses were derived from a monthly average rate of diversion, rather than a maximum daily rate of diversion. It is recommended that the following addition be made to this paragraph: "*The maximum rate of diversion, or the rate of diversion as utilized in the license, achieved from each point of diversion . . .*"
- (c)(6) Reservoir storage operations are often controlled by a third party that have their own methods of measurement and certification. In the case of the KRWA licenses, Pine Flat Reservoir operations are monitored and controlled by the U.S. Army Corps, and the operations of Wishon and Courtright Reservoirs are monitored and controlled by Pacific Gas & Electric (PG&E) Company. KRWA relies on reservoir data collected by these third parties, and has no ability to separately monitor collection of the information or to impose accuracy and certification requirements. It is recommended that this paragraph be revised to include the recognition that data collected by third parties is acceptable.

§ 932. Applicability.

- (c)(1) Having a deadline for the installation and certification of measuring devices or method by July 1, 2016 for a water right holder that diverts 1,000 or more acre-feet per year will be problematic if not already measured. If a new measurement station must be constructed for diversions or if significant modifications must be made to an existing measurement station, permitting from the appropriate regulatory agencies and compliance with CEQA is likely required, which will be difficult, if not impossible, to obtain by July 1, 2016. Permitting could potentially include California Department of Fish and Wildlife Section 1600 Streambed Alteration Permit, an Army Corps Section 404 Waters of the United States Permit, a Regional Water Quality Control Board Section 401 Clean Water Act and/or a Central Valley Flood Protection Board Encroachment Permit. Once permits are obtained, water conditions and permit conditions must be favorable to allow construction and equipment must be available. Combined this could be 5 years or more in duration. In addition, measurement equipment may not be readily available.

§ 933. Measuring Device Requirements.

- (b)(1) Data recording as presented in the draft emergency regulation appears to only allow electronic type devices and precludes some tried and true recording measurement methods that have proven to be extremely reliable and consistent such as a Stevens Recorder with a paper chart that continuously records data but does not automatically upload the data to a computer program.
- (b)(2)(B) Why would telemetered diversion data need to be available on a public website? The only people that might need to see that data is State Board staff that may need real-time data for decision making, not the public. In addition, diversion data would only be useful for certain river or stream systems when the SWRCB believes that they must step in to implement curtailments. Providing telemetered diversion data on the Kings River for

instance, or any of the southern river systems in the San Joaquin Valley, would come at a extremely high cost without improvement of accuracy or quality of data. It is recommended that the Deputy Director identify which water right holders need to submit telemetered data, and this paragraph be modified to include the following: *“By January 1, 2020, as directed by the Deputy Director, a water right holder who diverts . . .”*

(b)(2)(C) As previously noted, reservoir operations are often controlled by third parties, and the water rights holder must rely on reservoir data collected by these third parties and has no ability to separately monitor collection of storage information. It is recommended that this paragraph be revised to include the recognition that data collected by third parties is acceptable.

(l)(1) If a measuring device is determined to be inadequate, this paragraph requires the water rights holder to notify the Board and take *“appropriate, timely corrective action to comply with the accuracy requirements”*. It must be noted that for diversions requiring any construction or modification that permits may be required from the appropriate regulatory agencies and compliance with CEQA/NEPA, along with favorable water conditions to allow construction to occur. Defining a date that is *“appropriate and timely”* for corrective action may be very difficult for the water rights holder to determine.

§ 934. Measurement Method.

(a)(1)(B) For large diversions, providing all assessor parcel numbers may be impractical. Consider excluding the assessor parcel number requirement for diversions serving areas larger than 1,000 acres.

(d) Regarding certification of measurement method accuracy as applied to diversion of water for agricultural use, this described methodology is very specific and may not be applicable in some geographic areas. It is recommended that a provision be included that allows the Deputy Director to identify alternative approaches.

(e) Shared measurement point described methodology is also very specific and may not be applicable in some geographic areas. It is recommended that a provision be included that allows the Deputy Director to identify alternative approaches to provide for flexibility.

§ 935. Alternative Compliance for a Measuring Device or Measurement Method Requirement. The current draft of this section appears to provide flexibility in the regulation. We encourage the Board to continue in that regard.

§ 936. Request for Additional Time. Current language in the draft emergency regulation states that additional time granted by the Deputy Director shall not exceed 24 months, combined, under all extension requests. As previously mentioned, permitting for diversions from natural water bodies can be time consuming with permits potentially including a CDFW 1600, ACOE 404, RWQCB 401, Central Valley Flood Protection Board encroachment and CEQA/NEPA. Once permits and environmental compliance are obtained, water conditions and permit conditions must be favorable to allow construction to occur, and equipment

must be available. It is recommended that a range of up to 48-60 months be allowed for any extension request, with periodic status updates provided to the Board.

- § 937. Report of Water Measuring Device. Does each device have to be submitted individually, or can a group be submitted at one time? In the instance of the Kings River there are 61 points of diversion or redirection where measuring devices might need to be submitted.

Thank you for considering our comments. We look forward to working with the SWRCB. If you have any further questions or comments please contact me.

Sincerely,

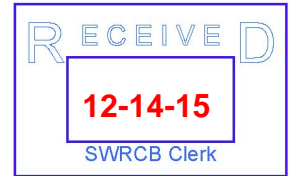


Steven Haugen, PE
Watermaster

Cc: Felicia Marcus, Chairman, State Water Resources Control Board
DeeDee D'Adamo, Member, State Water Resources Control Board

LAW OFFICES OF
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THOMAS S. VIRSIK

Via email to Clerk of the Board commentletters@waterboards.ca.gov

December 14, 2015

Felecia Marcus, Chair
State Water Resources Control Board
c/o Jeannine Townsend, Clerk of the Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Re: Emergency Regulations for Measuring and Reporting the Diversion of Water

Dear Chair Marcus:

This office is providing the within comments on the Emergency Regulations being considered in connection with SB 88 on the reporting of (surface) water diversions. Because the Fact Sheet reflects a different person to whom the public is to send comments, we have copied Mr. Paul Wells on this comment letter.

Based on our experience in the Napa Valley, the Salinas Valley, and the Imperial Valley, we are broadly supportive of regulations that require reporting of water use consistent with (near current) technological standards. Our advocacy of this position is long-standing and was most recently detailed in a certain October 14, 2014 letter on the Dry Year Report (including attachments and correspondence from as early as 2002). See Parts 2, 3, and 4 (pages 3 to 4) of the October 14, 2014 letter on the Dry Year Report as well as the June 28, 2014 letter (addressing in part prior Board policy denying diverters the ability to report).

With respect to proposed regulation § 920¹ about statements of water diversion, subsection (d) may pose problems in the Salinas Valley. As noted at page 5 of the April 2, 2002 letter on Prof. Joseph Sax's report (included with our October 14, 2014 letter), this Board and its staff have been inconsistent over the course of years on what constitutes ground versus surface water in the Salinas Valley, much of which water in the

¹ The several proposed regulatory sections are nearly identical, so our concerns may apply to other reporting requirements.

southern reaches is drawn from wells that may interact with flows originating from the Salinas River channel. Our Salinas Valley clients' statements of water diversion have taken a belt and suspenders approach and reported total water use, without making a distinction whether the water is legally ground, surface or underflow (in whole or part). The regulation suggests that a hard mathematical division will now be required between the ground and surface water. If that mathematical division is insufficient or controverted, the reporter runs the risk a violation of SB 88 and substantial penalties.

At a minimum, one can expect great inconsistencies among the collective characterization of the nature of the water diverted in the Salinas Valley for at least the next several years, especially given that not all diverters may have been reporting to date. The threat of penalty for mislabeling the "type" of water reported may act as a disincentive for compliance. We suggest that the regulation be modified so that diverters have no liability when they report based on their good faith understanding of the nature of the water they divert – be it called surface, ground, or underflow. We suggest that the term "groundwater" in subsection (d) of section 920 be changed to: "groundwater (other than water that may be underflow of the source of a surface diversion)". The legal distinction between so-called surface and ground water is eroding in any event and it appears far more important to accurately reflect total water use (and its various details) than to label it.

Thank you for allowing us to comment on this important public matter.

Very truly yours,

Thomas S. Virsik

Thomas S. Virsik

c. Paul Wells, Paul.wells@waterboards.ca.gov

Encl.

October 14, 2014 letter comments re Dry Year (includes 2002 Sax report letter and June 28, 2014 letter)

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THOMAS S. VIRSIK

Via email to Clerk of the Board commentletters@waterboards.ca.gov
October 14, 2014

State Water Resources Control Board
1001 I Street
Sacramento, CA 95812
Attention: Clerk of the Board

Re: Dry Year Report Comments

Madame Chair:

The Law Office of Patrick J. Maloney (the Law Firm) is providing the within public comments pursuant to the Notice of Solicitation Regarding Improvements to the Implementation and Enforcement of Water Rights During Drought Conditions issued by the State Water Resources Control Board (SWRCB or the Board). These comments are informed to a significant extent by the 1978 Dry Year Report, referenced in the Notice of Solicitation, with which the Law Office largely agrees. Please note that the comments are not filed on behalf of any specific current, past, or potential client. The examples used below have been selected in part because the Law Firm is familiar with those matters.

The sections below are numbered for purposes of reference, rather than to designate priority. The specific queries from the Notice of Solicitation to which this letter offers comments and/or suggestions include 1, 5, 6, and 7, but is not limited to those questions as phrased. This comment letter relies on, inter alia, two prior letters by the Law Office of April 2, 2002 and June 28, 2014 including their listed attachments (including the April 2, 2002 letter), which are enclosed. Recommendations or strong concluding suggestions for the SWRCB are set forth in **bold** for ease of readability.

1. Background and Qualifications

The Law Firm has experience with water and agricultural issues across the State of California. The Law Firm is currently working with the Tanimura and Antle Library and Professor Ruben Mendoza at California State University at Monterey Bay on *The Diseños Project*. A soon to be published article explaining the *Diseños Project* is enclosed. Hopefully this project will give California a better understanding about how it developed and help it plan for the future.

The Law Firm spends a significant amount of time in any representation listening to and learning from well drillers, water purveyors and farmers including but not limited to their employees or the irrigators who makes the decision about how and when water is used on a crop or field. The women/men who make these decisions have more impact on the optimization of water than anybody else in the water system structure. The Law Firm is not alone in its opinion.

The role human decisions play in irrigation system performance and water management should not be overlooked. In SV and TLB, growers and their irrigators decide when, where, and how much water to apply. The operator manages soil water and, by extension, deep percolation. While pressurized irrigation systems, sprinklers and microirrigation, can precisely control water flow and thus have a greater technical potential for field uniformity and delivery efficiency, using a high-efficiency technology (e.g., drip) will only increase irrigation performance if managed properly. It is the management of those systems that results in optimal or non-optimal performance. Likewise, performance of surface irrigation systems are significantly influenced by operators and can achieve reasonable efficiency levels, though their absolute technical potential is far less than pressurized systems. As a point of reference, Hanson (1995) reported that efficiencies among irrigation types were similar in practice across nearly 1000 irrigation systems monitored in California. Drip and microsprinkler systems did not show appreciably higher performance (*ibid.*). Observed irrigation efficiencies ranged between 70 and 85% for both microirrigation and furrow irrigation. It is worth noting that actual efficiencies may be below or above this range, and that changes in management practice may have improved to capture the technical advantage of pressurized systems in the 16 years since this study was published. At least one study suggests that variance in efficiency may not have increased despite the recent use of more sophisticated equipment. When irrigation performance was measured on nine drip irrigated celery fields in the Salinas Valley, performance was low. Water application rates ranged between 85% and 414% of ET, indicating under- and over-irrigation were common despite advanced capabilities (Breschini & Hartz 2002). Celery may not be representative of other cropping systems less sensitive to water stress; however, the results illustrate the potential for current irrigation system mismanagement even with advanced technology. Though the ability to apply the desired amount of water with each application is limited by the configuration of the irrigation system and hence uniformity and efficiency are somewhat predetermined, there are many practices growers can use to optimize water delivery systems (Dzurella et al. 2012).

Viers, J.H., Liptzin, D., Rosenstock, T.S., Jensen, V.B., Hollander, A.D., McNally, A., King, A.M., Kourakos, G., Lopez, E.M., De La Mora, N., Fryjoff-Hung, A., Dzurella, K.N., Canada, H.E., Laybourne, S., McKenney, C., Darby, J., Quinn, J.F. & Harter, T. (2012) Nitrogen Sources and Loading to Groundwater. Technical Report 2 in: *Addressing Nitrate in California's Drinking Water with a Focus on Tulare Lake Basin and Salinas Valley Groundwater. Report for the State*

Water Resources Control Board Report to the Legislature. Center for Watershed Sciences, University of California, Davis at 80 (emphases supplied).

The on the ground decision maker will put the water to reasonable and beneficial use if they are given the appropriate tools. The tools can be technically complex and but at the same time simple to use. The Law Firm over the years has worked with a number of engineers, economists and consultants and one of its first requirements is that these individuals understand what the decision maker at the lowest level on the water delivery process is doing and why. She/he usually has more knowledge than all of the Harvard, Stanford, UC Davis, CalPoly, UC Berkeley, Oxford, Fresno State, etc. graduates about how to optimize the water resources in any given area.

It may not be feasible, **but if each member of the Board were to spend a week in a different part of the State listening to the “on the ground” people and then the Board member could share this information with her/his fellow Board members, the Board’s ability to deal with the drought would be materially improved.**

In 2002, the Law Firm in its comments (enclosed) on the Sax Report was one of a limited set of voices that advocated for a rational and comprehensive modification of the California water rights system based on reasonable use, erasing legal distinctions not based in verifiable science (such as treating ground and surface water separately), utilizing contemporary technology to strategically approach water management, greater emphasis on the Statements of Water Diversions, and market dynamics. The Sax Report raised important policy issues and the SWRCB choose to ignore them. The Law Firm was shocked with the responses from interests across the State to the Sax Report and the SWRCB’s behavior. The Law Firm hopes the SWRCB does not ignore the issues raised by the drought if the rains come. **California water policy cannot be determined by the absence or presence of rain in a given year.**

2. State of eWRIMS

In the Law Firm’s June 28, 2014 letter to the SWRCB (enclosed) it provided two notable examples of how the eWRIMS system has failed the public. It is not necessarily the system itself or staff that may be at fault, but prior polices and direction of the SWRCB that frustrated and prevented the timely, accurate, and comprehensive use of the system. The details of two such (unrelated) instances are detailed in our June 28, 2014 letter. For purposes of summary, the two instances reflected (1) apparent initial human error¹ that responded poorly to multiple attempts seeking correction and (2) SWRCB policy that allowed staff to reject Statements of Water Diversion (physically returned and/or threats to destroy the submitted documents) when staff believed such statements may impact existing filings, seemingly in complete disregard or ignorance of the priority system (i.e., statements based on a pre-1914 right “duplicated” reports submitted for permitted post-1914 rights of diversion).

¹ The statements were mislaid, misorganized, or lost for a number of years, it appears.

The 1978 Dry Year Report strongly recommended that the SWRCB encourage and make it easier for pre-1914 filers so as to assist in better decision-making, not prevent the filing of Statements based on pre-1914 rights.

The Division also believes that provisions should be included in law which accelerate the filing of statements of use by pre-1914 diverters and riparians. This data would have greatly assisted the work of the Dry Year Program.

Dry Year Report at 24 (emphasis added). **The Law Firm strongly agrees with the recommendation from 1978**, which goes to Queries 1, 5, and 7.

3. Use of Statements of Water Diversion

The Law Firm's 2002 letter at pages 5 and 6 recommended a general liberalization of the Statements of Water Diversion. The June 28, 2014 letter at page 4 followed up on those thoughts. The recent groundwater legislation appears to track part of what the Law Firm advocated in 2002 and again in 2014. SB 1168, SB 1319, and AB 1739. The SWRCB should continue to support law or regulation that requires all water users to file Statements or their equivalents. **All material use of water should ultimately be reported so that one can then compare uses, surpluses, and deficits, thereby encouraging conservation and the orderly transfer of water.** The days of using water in secret, hiding one's claim of right along with the actual use, must end. It remains important to have a definable water entitlement subject to drought impacts to support the stability of property ownership across California. That stability is undermined when the information about that right, its use, and comparison to others' rights and use remain hidden.

The 1978 Dry Year Report recommended public reports and analyses of the rights and water uses, which recommendations were washed away with the spring rains of 1978. Dry Year Report, at 26-29 (recommending a "water management section" be created that would, inter alia, collect and organize data and reports, use them to determine availability of water in critical areas, and then communicate it.) Queries 1, 5, 6, and 7. Recommendations of how to affect such goals using current tools are addressed below at part 5.

4. Confidentiality of Water Uses and Rights

The SWRCB, water agencies, and farming interests across the State have been advocates for confidentiality. See July 6, 2000 Order Quashing Subpoena, Application 30532. Dr. Reinelt's 2014 analysis retorts any theoretical or legal bases for maintaining confidentiality. February 26, 2014 Letter and submission by Dr. Peter Reinelt, Chair, Department of Economics, SUNY Fredonia. The Law Firm has discussed this issue extensively with farming interests across the state. Many of these interests have flatly stated that confidentiality is irrelevant and every farmer is always looking at what the other farmer is doing so he can improve his practices. One interest from the Napa Valley suggested that they are required to disclose all water use in the Napa and it has not hurt production or land values. **The practical reason for disclosing all of the water data is that farmers learn from each other.** Queries 1, 6 and 7.

5. Technology and Tools for Optimization

There are technical tools being developed and used across the world to help the individual farmer better manage water and its use. The Law Office 2002 letter explained some of the tools it had pursued at that time. See 2002 letter at 2 – 3. Since that time the Law Office has continued to pursue solutions to water management challenges, and is associated with two recent patents for water optimization (Patents: Systems and Methods for Optimized Water Allocation, United States Patent Sep 28 2010 US7805380, United States Patent Dec 25 2012 US8341090).

The SWRCB should require all water users who deliver water to third parties to do so without undermining or frustrating the use of current technology. For instance, if a water purveyor (such as an irrigation or water district) chooses to deliver water to the ultimate user (a farmer) in a way that can frustrate the use of new technology, the SWRCB should find that the purveyor (the district, not the farmer) is unreasonably using (or more specifically, unreasonably delivering) the water and take appropriate action. All tools to conserve and optimize water resources must be able to work together. Queries 1, 6 and 7.

6. Salinas Valley and Reasonable Use in Critical Area

The Dry Year Report mentioned the Salinas Valley (stretching from the mouth of the Salinas River in Monterey County to the interior of San Luis Obispo County), but did not perform any detailed analysis at that time. Dry Year Report at 12. It has been common knowledge for decades that a portion of the Salinas Valley in Monterey County near the ocean suffers from seawater intrusion. That pumping near the coast exacerbates the intrusion was well understood half a century (or more) ago. The seawater-intruded water has harmful effects on agriculture when used for irrigation, but more critically, it cannot be used as a drinking water source for the coastal communities such as the City of Salinas. Thus, several projects have been analyzed and built to address the over pumping and intrusion problems, including reservoirs, later modification of the reservoirs, and a water recycling plant to provide an alternate irrigation water source for the critical coastal area.

In addition to the physical projects studied and built, the local agency with the most responsibility for managing the seawater intruded area – formerly known as the Monterey County Flood Control District and presently the Monterey County Water Resources Agency – has implemented ordinances, regulations, and other management systems. Thus, under a local program, water extractors have been required to report their water use (i.e., pumping of water from a well) and certain farming practices for nearly two decades. The individual reports of water use are not public, but the aggregated water use is released in certain annual reports by the Monterey County Water Resources Agency. The 1995 (earliest) and 2012 (latest) ones are enclosed.

These summary reports reveal that water use for row crop in Monterey County has not gone down, even with all of the technological irrigation improvements over the last twenty years. See Ground Water Summary Report 2012. Water use for vineyards, in contrast, has gone down.

The overall flat trend of agricultural water use in the Salinas Valley suggests certain possibilities. It may be that as presently constructed, the “system” bulges or bottlenecks in a new place when regulatory pressure is applied to the targeted bulge or bottleneck. In other words, because regulatory pressure is so crisis-oriented rather than preventative, the symptoms respond to regulation, but the underlying problem does not improve. **To address that dynamic, universal and public reporting of water use is the necessary approach, so that regulatory actions can focus on trends rather than crises.** See Dry Year Report at 26 et seq (recommendations for predictive approaches).

Or it may be that the practical technological limit for efficiency improvements has already been achieved, and that the only option left to manage agricultural water use is to set hard limits on extraction amounts. (In others words, one gets a set amount one can use on many acres of a low water crop or on fewer acres of a high water crop.) The new groundwater legislation programs may reach that conclusion, at least for certain basins. Even if hard limits are the necessary long-term solution, technological advances remain a key component for optimizing water use under any regulatory system. **The SWRCB should require that the state of the art in technology be applied to water consumption and management issues in California.** Many water advisors (lawyers, engineers, consultants) suggest to water users that the best way to guarantee one’s water source and right is to use as much water as one can. **Instead, the SWRCB should guarantee water and water rights to the water users who use the best water optimization practices based on the state of the art.** We recognize that this is a moving target but the failure to reasonably adopt current technology should be grounds for a finding by the SWRCB of unreasonable use. The Law Firm sees no difference between such an action by the SWRCB and Air Resources Agency findings that an emitter must install certain pollution preventing devices.

The above discussion goes to Queries 6 and 7.

7. Opportunity at Salton Sea for State’s Drought Protection

The 1978 Dry Year Report and the Board’s 2014 activities allocate substantial resources on managing the Sacramento and San Joaquin (Delta) situation, e.g., the curtailment proceedings earlier this year. These comments will not address the Delta per se, given the likelihood of constructive suggestions from many other interests and commentators with substantial Delta experience. These comments will instead address the other major water situation with critical public policy implications during this drought – the Salton Sea.

The Board addressed the Salton Sea to a degree in 2002 and 2003 when it approved the agricultural to urban transfer known as the Quantification Settlement Agreement or QSA. WRO 2012-13 (Revised) (SWRCB recognized it has a duty to reopen the Order if circumstances change)². While the QSA and the Sea has been mired in litigation and other controversy these

² The relevant portion of the Order reads at pages 79-81:

Because irrigation efficiency is not the only fact relevant to a determination of reasonableness, it would not be appropriate to find, as requested by IID, that the

past 12+ years, including whether the State shall, may, or must meet its restoration obligation and how, these comments will avoid all such “legal” controversies as much as possible.

While the 1978 Dry Year Report concentrated on the Sacramento and San Joaquin areas, it recognized in its recommendation section that the proposed data management and collection proposals were not limited to the Delta, but “to ensure full and equitable distribution of waters of the State so as to protect the public interest and the environment in accordance with water rights priorities.” Dry Year Report at 26. The proposals included studying “specific trouble areas.” *Id.* at 27. The Salton Sea is presently one such “trouble area” that has statewide impact on drought management. The Order approving the QSA recognized that the implementation of the transfer was a concern for the entire State, not just the specific parties to the QSA. “Implementation of the transfer as approved by this order will benefit not just the parties to the transfer, but the State as a whole.” WRO 2002-13 (Revised) at 84. The QSA, including the Salton Sea, must therefore be analyzed from a statewide perspective, not parochially.

The water that presently flows to the Sea (1.0- to 1.2 MAF) could be substantially reduced if the Sea was managed (restored) to a smaller volume. Dr. Terry Fulp, Regional Director of the Bureau of Reclamation’s Lower Colorado Region, informed the Imperial Irrigation District (IID) that the Bureau advocated a “smaller and sustainable [Salton] Sea” during his public presentation on September 16, 2014.

1:42:13 Dr. Terry Fulp – So all along here and in fact we spent a good hour with your environmental staff this morning to kick around some ideas about how we can really get on a positive again path, albeit first steps with regard to Salton Sea solution. And I’ll use these terms, smaller and sustainable Sea is perhaps where we’re headed. And energy development and all the other ideas that have been spearheaded by [IID] President Hanks and others are, I think, very viable and also valuable to now try to implement. That’s the key. We’ve got to get some stuff implemented so we did kick around some ideas with your staff this morning. All that being said, of course, it’s a complex problem again. As you know [IID Director] Matt [Dessert] and others, it’s not an easy thing to fix. A recent report by the report by the Pacific Institute made it very clear about what the potential the costs are by not doing something – you know, not just the cost of doing something. And that’s probably a valuable perspective as well. So I think

circumstances under which we anticipate it may be necessary to reassess IID’s water use are limited to changes in IID’s irrigation practices or technological advances in irrigation efficiency.

It bears emphasis that by making this finding we do not intend to bind the SWRCB in any future proceeding, particularly if circumstances change. To do so would be an abdication of the SWRCB’s ongoing responsibility to prevent the unreasonable use of water. (See Wat. Code, § 275; see also *Tulare Dist. v. Lindsay-Strathmore Dist.* (1935) 3 Cal.2d 489, 567 [45 P.2d 972, 1007] [“What is a beneficial use at one time may, because of changed conditions, become a waste of water at a later time.”].)

certainly more and more folks are beginning to understand the complexities around the Salton Sea and certainly it's value environmentally, ecosystem wise as well as, frankly, for what our intents were when we took those lands out of public domain—a runoff repository. It has to be there. I mean we need it. So the key now is to figure out what those first steps are to implement some of these ideas to get on a path towards that smaller and sustainable Sea. So I guess in summary, it's going to be another one of those very complex and difficult tough solutions and we're very hopeful, of course, that the State can find their way to meet their obligations as well.

September 16, 2014 Imperial Irrigation District Board of Directors meeting at approx. 1:42:13 http://imperialid.granicus.com/MediaPlayer.php?view_id=3&clip_id=67 (emphases supplied). From the Federal perspective, the key to managing the droughts affecting the Colorado River is to keep Lakes Mead and Powell above the critical levels. A “smaller and sustainable Sea” materially assists that goal by freeing up water that can be kept in the Lakes for the benefit of the many Colorado River (Upper and Lower Basin) states, including California. **In simplistic terms: a restored/managed Salton Sea that needs less water to remain viable allows more water to be kept in Lakes Mead and/or Powell.**

California is a major beneficiary of keeping the Lake levels up. As the Board understands, much of the Southern California water supply (be it through the Metropolitan Water District or the San Diego County Water Authority) (MWD and SDCWA) comes from the Colorado River, so any elevation building that aids the reliability of Southern California supplies from the Colorado River reduces the pressure on Northern California waters and makes the critical remaining supply more available for other uses. In this drought era, its a complex zero sum game. Unfortunately, much time, effort, and money have been spent in endless litigation, studies, and posturing by the many water entities associated with the QSA on local power and fiscal struggles, e.g., the QSA litigation and the several lawsuits among MWD, SDCWA, and their respective allies. Those lawsuits and use of political capital and financial resources by the squabbling water parties do not assist the State in optimizing its overall water resources – a key premise of the transfer. “If the proposed transfer is not implemented because the cost of mitigation is too high, the consequences to the State's water supply and to the San Francisco Bay/Sacramento San Joaquin River Delta (Bay-Delta) could be severe.” WRO 2012-013 (Revised) at 44.

Proposals for a smaller and sustainable Sea³ were offered multiple times over the past decade and more, but one or another local agency (i.e., not the State) chose to thwart such efforts for its own presumably parochial reasons. For example, the Metropolitan Water District was given an opportunity to use its considerable political and economic might to support discussions about a

³ A group of farming interests, using the resources of world-class Dutch engineering, independently developed a flexible and low cost (according to the Salton Sea EIR prepared by the State) approach to restoration. The Dutch firm obtained a patent for the restoration plan. Method of Restoration of Highly Saline Lake, United States Patent November 16, 2010 US 7,832,959 B1, enclosed.

rational long-term Sea solution – the low-cost Dutch designed one -- that could make more water available to the State, but MWD chose otherwise. See enclosed February 8, 2005 letter (copy to Jeffrey Kightlinger, MWD's General Counsel at the time, now its General Manager). The local agencies – including MWD -- are now reaping the effects of their prior shortsighted decisions to treat the Salton Sea as a pawn, such as dwindling storage outlooks. The local government agencies have to date preferred to posture and squabble instead of immediately and constructively addressing the Sea and improving the State's (and their own) water picture. Had the Sea restoration been resolved ten years ago, there would today be hundred of thousands of additional acre-feet available for Lake elevation building and thereby a reduction of pressure on the Delta during the drought. "Local" water battles waged by intransigent government agencies and parochial interests can cause significant statewide harm, especially during a drought. In addition, the fights over water issues among government agencies of the State of California are costs that neither ratepayers nor the taxpayers should be forced to bear.

The failure of the State to timely solve the Salton Sea problem has allowed the various local governmental entities to ignore available solutions and instead pander to local political pressure, which does not solve the problem. With respect to the serious groundwater problems, the Legislature in its recently enacted groundwater laws now require the local governments to develop solutions to their groundwater problems within a fixed period of time or the SWRCB will impose a solution. The SWRCB can adopt a similar approach to problem areas of statewide impact such as the Salton Sea. **It should give the local governments a specific time frame to resolve the problem, or the SWRCB will step in and do it for them for the good of the State.** The opportunity to curb waste and put to reasonable use additional hundreds of thousands of acre feet of water in this time of drought is too important to California's wellbeing to allow local government agencies and parochial interests to frustrate it.

The Dry Year Report supports a State-led foray into a problem area that may have substantial (in this case, beneficial) impacts to the State. State-led coordination and including "other" areas of State interest in the Board's management were both recommended in the Dry Year Report. Dry Year Report at 27 (point 7) and 28 (point 6). **It is time to pursue the obvious opportunities in the Southeastern corner of the State for the overall benefit to the State and region.** Query 7.

Closing

The 1978 Dry Year Report's recommendations were practical, long-term, and fundamentally straightforward: acquire the data, analyze the data, and plan accordingly (and above all, publically). Over a century ago the then-State Engineer predicted that untimely data collection and analysis would lead to unwelcome results, politically and practically:

When, as is sure to come, the State is forced to take control of her streams for irrigation, arterial drainage, and reclamation regulation, it will be found that the time has passed in which alone the data might have been acquired necessary for intelligent action, both in an engineering and political way.

William Hammond Hall, Report of the State Engineer to his Excellency R. W. Waterman, Governor of California, for the Year and a Half ending December 31, 1888, JCSA, 28th sess. (Sacramento, 1889), Assembly, 1:9-10, 8. The current drought is forcing the State to finally acquire the data and intelligently manage its water resources.

Thank you for allowing the Law Firm to provide comments on an important public matter with long-term strategic implications to the future of the State.

Sincerely,

Patrick J. Maloney

Patrick J. Maloney

Enclosures:

Mendoza, Ruben G, Ph.D, RPA, *THE DISEÑOS PROJECT, A Geospatial Visualization of the Environmental History of California, 1769-1862*, Boletin Vol. 30 November 1, 2014 (Journal of the California Mission Studies Association)

Water Conservation Practices – Monterey County Water Resources Agency:
1995 Ground Water Extraction Data and Agricultural Water Conservation Practices
Ground Water Summary Report 2012 – Monterey County Water Resources Agency

Method of Restoration of Highly Saline Lake, United States Patent November 16, 2010 US 7,832,959 B1

Linus Masouredis (MWD) February 8, 2005 letter to Patrick J. Maloney

Thomas Virsik June 28, 2014 letter to SWRCB with attachments:

April 2, 2002 Summary of Position on Sax Report

November 12, 2012 letter re Imperial Valley Statements

September 28, 2011 email re Maloney documents

July 6, 2000 Order Quashing Subpoena, Application 30532

February 26, 2014 Letter and submission by Dr. Peter Reinelt, Chair, Department of Economics, SUNY Fredonia

THE DISEÑOS PROJECT

A Geospatial Visualization of the Environmental History of California, 1769–1892

RUBÉN G. MENDOZA, PHD, RPA, CSU MONTEREY BAY

The Diseños Project represents the culmination of some 40 years of research by noted California historical geographer and Professor Dr. David Hornbeck, Jr., Professor Emeritus of the California State University, Northridge. In an effort to facilitate the transfer of Dr. Hornbeck's vast collections to their new home in the Tanimura & Antle Family Memorial Library of the California State University, Monterey Bay, I was recruited by land and water rights attorney Patrick J. Maloney to see through the transfer and dissemination of these invaluable collections. To date, this effort has been underwritten in large part by the law firm of Maloney, and has produced thousands of scanned documents from the collections of Hornbeck and other archival collections throughout the country. Law clerk Miriam Infinger and Information Technologist Dennis Coady have in turn worked to identify, categorize, and digitize those documents collected as of this writing.

In an effort to raise awareness of the significance of the Hornbeck Collection, Ms. Jennifer Lucido and I recently submitted the first of a series of grant proposals intended to generate funding needed to facilitate the dissemination and public education dimensions of the project now underway. As a first step towards these initiatives, we applied for the 2014 National Endowment for the Humanities Digital Humanities Start-up Grants. Our initial foray constitutes an effort to address the growing water crisis in California by way of generating an Internet-based geospatial collection and *Google Earth* mapping of the Monterey Bay.

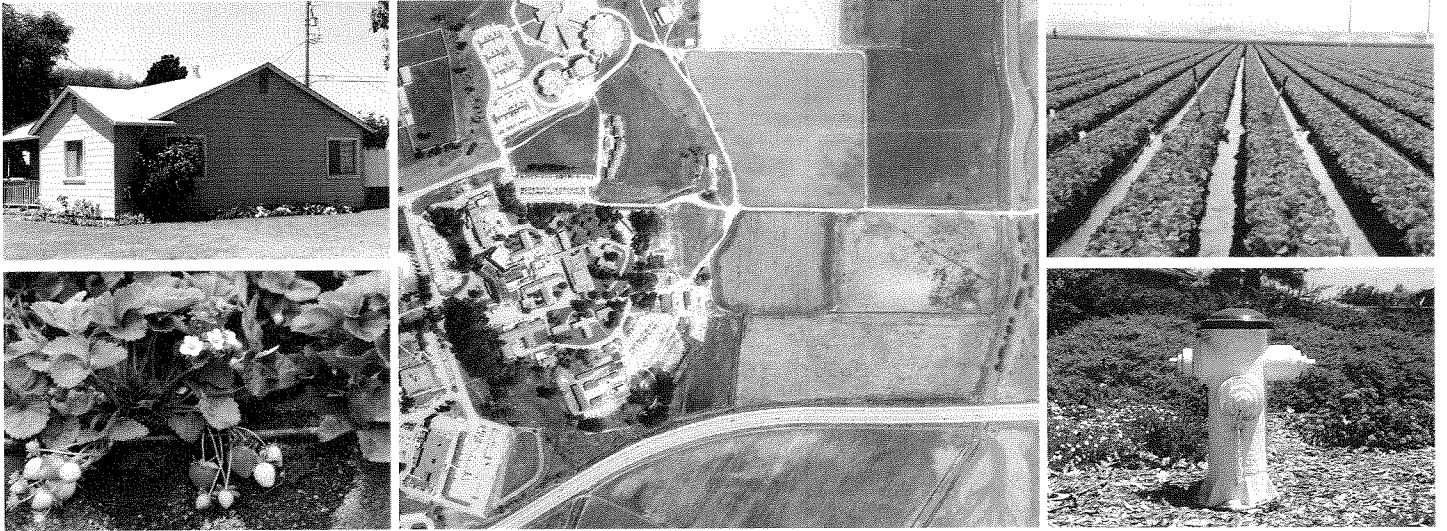
The proposed project seeks to deploy a digital humanities approach to sustainability. Historic maps, documents, and other resources of the Spanish, Mexican, and early American periods provide critical environmental data, and thereby, environmental histories of resource abundance and scarcity for the affected regions upon which millions of Americans depend. Hornbeck's pioneering historical geography and geospatial studies have produced a formidable archive of primary sources and Mexican land grant maps or *diseños* and constitute the centerpiece of this project. The proposed



Figure 1. Map of Public Surveys in California to Accompany Report of Surveyor General, 1859. Source: National Archives. Courtesy of Diseños Project, Patrick Maloney, esq., Miriam Infinger, and Rubén G. Mendoza, 2014.

grant seeks to assemble a team of geospatial technicians, anthropologists, social historians, historical geographers, and environmental scientists for the expressed purpose of formulating a digital humanities approach to addressing California’s current environmental crisis and the broader question of sustainability.

By remapping the changing landscapes of early California, both legislators and environmental scientists will be able to make informed decisions for future planning and conservation. Given that folk cartographies and plat maps have been given short shrift in recent efforts to address climate change and its consequences, the proposed project will develop a *web GIS* and geospatial visualization of the Monterey Bay that introduces primary sources as a formidable resource for humanistic and scientific inquiry. Once the Monterey Bay portion of the online archive has been completed and deployed, the prototype will serve as a demonstration project for soliciting further public, private, and corporate funding needed to sustain and expand the online resource to encompass heritage resources from throughout the state of California.



Summary Report:

1995 Ground Water Extraction Data and Agricultural Water Conservation Practices

Published by the
Monterey County Water Resources Agency

August 1996

This report published by the Monterey County Water Resources Agency

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If you would like more information regarding the Monterey County Water Resources Agency Water Conservation Programs, or the Ground Water Extraction Reporting Program, please contact the Conservation staff at (408) 755-4860.

Funding for this work was provided from Zones 2 and 2A within the Salinas Valley, with additional support from Fund 201.

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Overview of the Extraction Reporting Program

In February, 1993, the Monterey County Board of Supervisors adopted Ordinance No. 3663 which required water suppliers within Zones 2, 2A and 2B to report water use information for ground water extraction facilities and service connections. Ordinance No. 3717, which replaced Ordinance No. 3663, was adopted in October, 1993; it modified certain other requirements in the old ordinance but kept the ground water extraction reporting requirements in place for ground water extraction facilities with a discharge pipe having an inside diameter of at least 3 inches.

The Monterey County Water Resources Agency (MCWRA) has collected ground water extraction data from well operators for water reporting years beginning November 1 and ending October 31, starting with the 1992-1993 water reporting year. The information received from the over 400 well operators in the above-referenced zones of the Salinas Valley is entered into the Ground water Extraction Management System (GEMS), a computer database maintained by the MCWRA. The intent of the ground water extraction reporting program is to provide for the accurate documentation and annual measurement of the ground water extracted from Zones 2, 2A and 2B of the Salinas Valley Ground Water Basin each year.

The MCWRA also requires the annual submittal of Agricultural Water Conservation Plans, which outline the water conservation practices that are adopted each year and planned for the next year by growers in the Salinas Valley.

The purpose of this report is to summarize the data obtained from the ground water extraction reporting program for the period of November 1, 1994, through October 31, 1995. The agricultural water conservation practices implemented by Salinas Valley farmers are summarized, and reference evapotranspiration data from the California Irrigation Management Information System (CIMIS) are presented. With this information, this report is intended to present a picture of current water pumping within the Salinas Valley, including agricultural water conservation improvements which are being implemented to reduce total water applied.

Explanation of Reporting Methods

The ground water extraction reporting program enables water users to report water pumpage by three different measuring methods, utilizing calculations based on flowmeter, electrical meter, or hour meter data. The MCWRA requires pump efficiency testing and calibration of meters in order to ensure the accuracy of the data reported. The summary of water pumpage presented in this report is compiled from data generated from all three reporting methods.

Disclaimer Regarding Quality of Data

While the MCWRA has made every effort to ensure the accuracy of the data presented in this report, it should be acknowledged that the data is submitted by the individual reporting parties and is not verified by the MCWRA. In addition, the accuracy of the reporting methods may not be 100 percent reliable at all times.

The MCWRA did not receive ground water extraction reports from approximately two percent of the wells in the Salinas Valley for the 1994-1995 water reporting year.

Notes Regarding Report Format

Ground water extraction data is presented in this report by measurement in acre-feet. One acre-foot is equal to 325,851 gallons.

Ground Water Extraction Data Summary

The MCWRA has designated subareas of the Salinas Valley Ground Water Basin whose boundaries are drawn where discernible changes occur in the hydrogeologic conditions. These boundaries are shown in Figure 1.

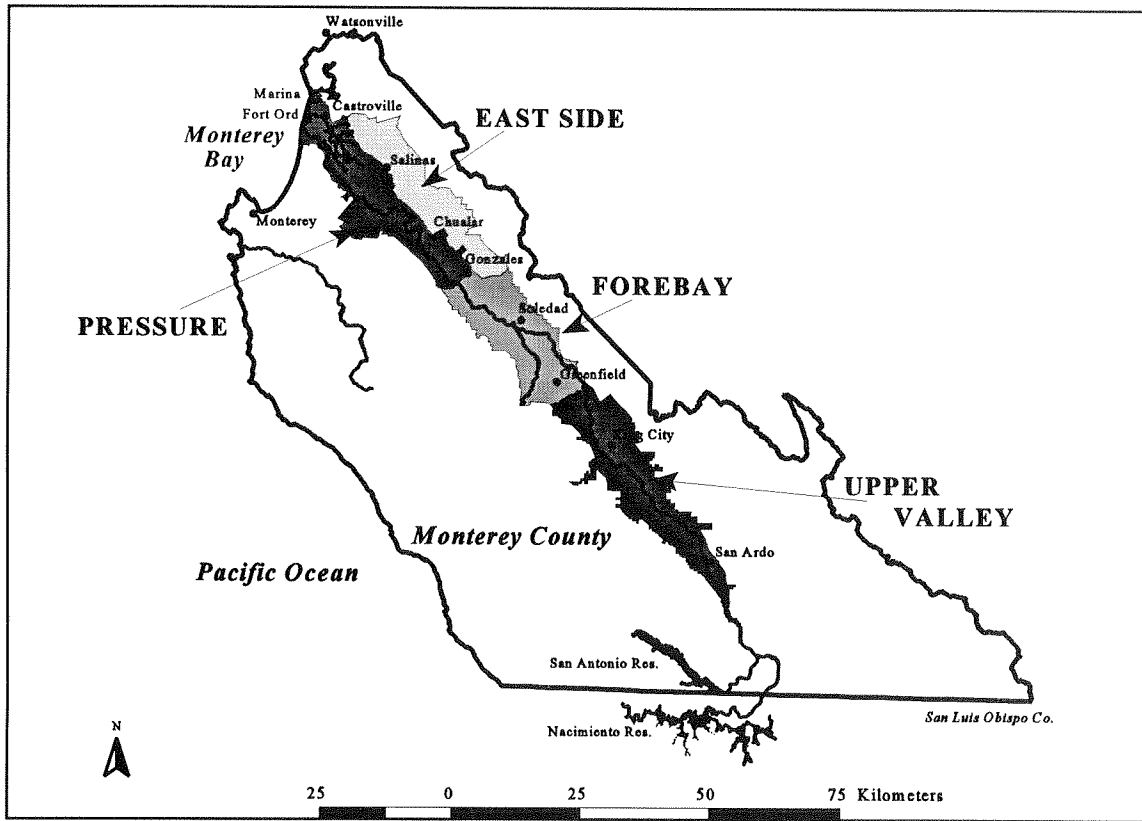


Figure 1. Salinas Valley Subareas

Summary of Methods Used for Extraction Reporting

The distribution of methods used for extraction reporting for the period of November 1, 1994, to October 31, 1995, is shown in Table 1; a percentage distribution by volume is shown in Figure 2.

Table 1. Total extraction data by reporting method

REPORTING METHOD	ACRE-FEET PER REPORTING METHOD	WELLS PER REPORTING METHOD
FLOWMETER	294,635	1,179
ELECTRICAL METER	208,868	661
HOUR METER	1,009	11
TOTAL	504,512	1,851

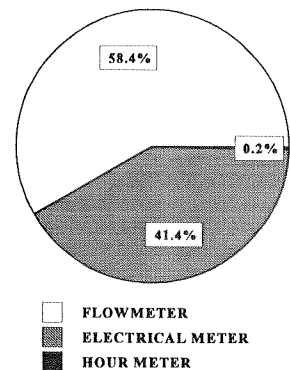


Figure 2. Percentage by volume of methods used for extraction reporting

Ground Water Extraction Data Summary

Total Extraction Data by Subarea and Type of Use

The total ground water extractions from Zones 2, 2A and 2B for the period of November 1, 1994, through October 31, 1995, are summarized by subarea and (1) type of use (agricultural and urban) in Table 2, and (2) percentage in Figure 3.

Table 2. Total extraction data by subarea and type of use

SUBAREA	AG PUMPING (ACRE-FEET)	URBAN PUMPING (ACRE-FEET)	TOTAL (ACRE-FEET)
PRESSURE	105,741	30,738	136,479
EAST SIDE	84,589	2,907	87,496
FOREBAY	133,226	3,994	137,220
UPPER VALLEY	139,072	4,245	143,317
TOTAL	462,628	41,884	504,512

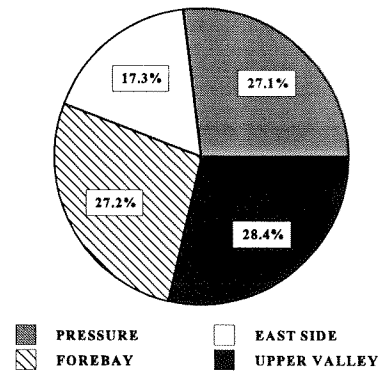


Figure 3. Percentage of total extractions by subarea

Urban Extraction Data by City or Area

The total ground water extractions attributed to urban (residential, commercial, industrial, and governmental) pumping for the period of November 1, 1994, through October 31, 1995, are summarized by city or area in Table 3.

Table 3. Urban extraction data by city or area

CITY OR AREA	URBAN PUMPING (ACRE-FEET)	PERCENTAGE OF TOTAL
CASTROVILLE	823	2.0%
CHUALAR	118	0.3%
FORT ORD ¹	2,802	6.7%
GONZALES	1,174	2.8%
GREENFIELD	1,349	3.2%
KING CITY	3,981	9.5%
MARINA COAST WATER DISTRICT	2,018	4.8%
SALINAS	20,667	49.3%
SAN ARDO	123	0.3%
SAN LUCAS	53	0.1%
SOLEDAD	2,562	6.1%
OTHER UNINCORPORATED AREAS	6,214	14.9%
TOTAL	41,884	100.0%

¹ The data reflect extractions that occurred subsequent to the closing of the military base and prior to the opening of California State University Monterey Bay.

Agricultural Ground Water Extraction Summary

Average Net Physical Acres Served per Extraction Facility

Table 4 presents the average number of net physical farming acres served per ground water well used for agricultural irrigation purposes in 1995.

Table 4. Average net physical acres served per extraction facility by subarea

SUBAREA	AVERAGE ACRES PER WELL
PRESSURE	92
EAST SIDE	102
FOREBAY	120
UPPER VALLEY	91
AVERAGE	101

Summary of Reported Unit Agricultural Water Pumped

Table 5 and Figure 4 present the average acre-feet / acre (unit water pumped) by subarea, calculated using the reported acreage and agricultural water pumped for the period of November 1, 1994, through October 31, 1995. The data used for Table 5 and Figure 4 represent a subset of the totals shown in Table 2, since not all agricultural extraction data were submitted with acreage information.

Table 5. Reported unit agricultural water pumped by subarea

SUBAREA	UNIT WATER PUMPED (ACRE-FEET / ACRE)
PRESSURE	2.25
EAST SIDE	2.20
FOREBAY	2.66
UPPER VALLEY	3.44
OVERALL AVE.	2.63

Please note that during the 1994-1995 water reporting year, the 1995 floods affected the number of acres in production and the amount of water needed for irrigation. Even during a normal rain year, pumping rates will vary by crop type and location.

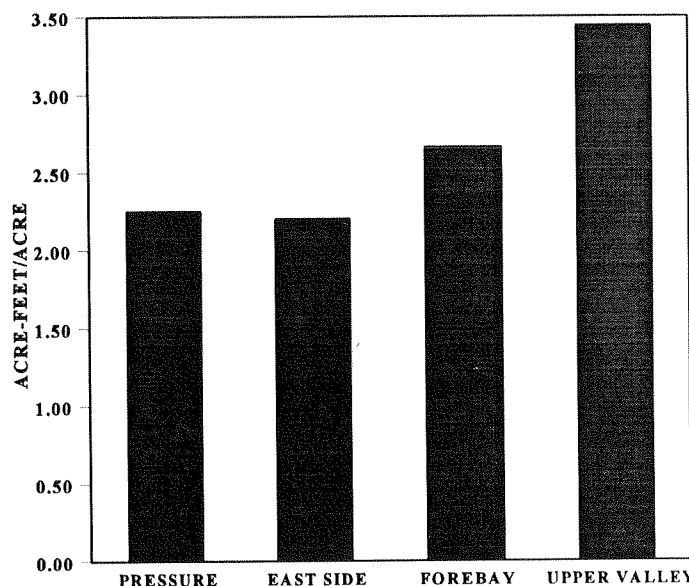


Figure 4. Reported unit agricultural water pumped by subarea.

Summary of Irrigation Methods

The Agricultural Water Conservation Plans include information about how many acres are irrigated with each type of irrigation method, by crop category. This information shows the changing trends in irrigation methods in the Salinas Valley. Tables 6 and 7 show the distribution of irrigation methods by crop type for 1993 and 1996, respectively.

This information shows a trend of decreased acreage in combined sprinkler & furrow and solid set sprinkler irrigation and increased acreage in drip irrigation, in both vegetable crops and vineyards, from 1993 to 1996.

Table 6. 1993 distribution of irrigation methods by crop type

1993	FURROW (ACRES)	SPRINKLER & FURROW (ACRES)	HAND MOVE SPRINKLERS (ACRES)	SOLID SET SPRINKLERS (ACRES)	LINEAR MOVE (ACRES)	DRIP (ACRES)	OTHER ² (ACRES)	TOTAL (ACRES)
VEGETABLES	2,349	84,060	30,764	6,607	3,827	3,682	0	131,289
FIELD CROPS	575	2,173	2,236	90	50	48	0	5,172
BERRIES	1	0	0	0	0	4,158	0	4,159
GRAPES	261	0	0	13,347	0	15,976	0	29,584
TREE CROPS	0	0	122	251	0	1,216	10	1,599
FORAGE	41	202	1,327	0	48	0	189	1,807
TOTAL	3,227	86,435	34,449	20,295	3,925	25,080	199	173,610

Table 7. 1996 distribution of irrigation methods by crop type

1996	FURROW (ACRES)	SPRINKLER & FURROW (ACRES)	HAND MOVE SPRINKLERS (ACRES)	SOLID SET SPRINKLERS (ACRES)	LINEAR MOVE (ACRES)	DRIP (ACRES)	OTHER ² (ACRES)	TOTAL (ACRES)
VEGETABLES	4,209	77,925	33,160	6,434	4,093	6,546	0	132,367
FIELD CROPS	529	740	1,358	310	39	422	0	3,398
BERRIES	0	0	0	0	0	4,374	0	4,374
GRAPES	0	0	0	8,155	0	21,240	0	29,395
TREE CROPS	0	0	12	131	0	1,195	0	1,338
FORAGE	186	690	249	20	0	0	1,141	2,286
TOTAL	4,924	79,355	34,779	15,050	4,132	33,777	1,141	173,158

² "Other" may include different combinations of irrigation systems or areas that were not irrigated.

Agricultural Water Conservation Practices

For the past six years, Salinas Valley growers have submitted water conservation plans to the MCWRA. Table 8 shows the number of acres, by year, on which selected practices have been implemented.

Table 8. Agricultural water conservation practices implemented from 1991 through 1996

WATER CONSERVATION PRACTICES	1991 ACRES	1992 ACRES	1993 ACRES	1994 ACRES	1995 ACRES	1996 ACRES
12 MONTHS SET ASIDE	4,705	4,810	6,586	6,096	5,064	3,123
SUMMER FALLOW/OTHER FALLOW	1,480	6,546	5,953	4,081	6,486	6,208
FLOWMETERS	31,702	26,404	39,206	127,971	122,054	126,031
TIME CLOCK/PRESSURE SWITCH	131,237	131,237	142,162	134,985	121,645	137,297
SOIL MOISTURE SENSORS	39,549	39,549	51,348	43,883	43,188	51,428
PRE-IRRIGATION REDUCTION	92,865	112,290	117,899	108,454	104,937	99,429
REDUCED SPRINKLER SPACING	64,613	72,226	81,736	74,409	75,451	78,925
SPRINKLER IMPROVEMENTS	70,035	97,233	104,160	107,626	102,053	116,809
OFF-WIND IRRIGATION	100,274	109,050	115,984	101,765	94,810	113,381
LEAKAGE REDUCTION	96,672	109,589	117,455	112,135	110,973	119,727
MICRO IRRIGATION SYSTEM	18,120	22,952	24,408	25,506	29,307	37,991
SURGE FLOW IRRIGATION	9,334	18,230	22,588	37,866	15,202	19,772
TAILWATER RETURN SYSTEM	20,357	25,034	21,020	20,994	15,101	22,707
LAND LEVELING/GRADING	55,186	60,563	59,413	58,963	57,749	64,164
TOTAL NET FARMING ACRES³	174,892	178,251	173,610	179,313	161,574	173,158

Evaluation of MCWRA Programs

The 1996 Agricultural Water Conservation Plans requested feedback regarding use and quality of the MCWRA's CIMIS and Mobile Lab Programs.

CIMIS Program

The California Irrigation Management Information System (CIMIS) is a network of weather stations which is used to estimate reference evapotranspiration. The MCWRA cooperates with the California Department of Water Resources in this effort, by expanding the program to cover the Salinas Valley. Additional information about the CIMIS program is provided on page 8. Of the 235 growers who submitted Agricultural Water Conservation Plans, 54 (23%) stated they had used the MCWRA's CIMIS Program, and 102 (43%) stated they would like more information.

Mobile Lab Program

The MCWRA operates a Mobile Lab program to provide on-farm technical assistance. Through this voluntary program, MCWRA staff evaluate irrigation systems and provide recommendations for improvements to distribution uniformity and overall efficiency of the system, as well as suggestions for irrigation planning. Of the 235 growers who submitted Agricultural Water Conservation Plans, 45 (19%) stated they had used the Mobile Lab Program, and 87 (37%) indicated they would like more information.

³ Since different practices may be applied to the same acreage, the acreage cannot be totaled.

Capital Investment in Agricultural Water Conservation Practices

As presented in Table 8, the Agricultural Water Conservation Plans include information regarding how water conservation practices have been applied to farming operations in the Salinas Valley (by acre). These practices range from significant capital investments to recurring operational considerations. The implementation of these water conservation practices represents a significant financial investment by the agricultural community in long-term conservation measures. Table 9 estimates the investment in agricultural water conservation practices implemented since 1991.

Table 9. Capital investment in agricultural water conservation practices since 1991

CAPITAL IMPROVEMENTS	AVERAGE COST / ACRE (\$/ACRE) ⁴	CAPITAL INVESTMENT (\$)
FLOWMETERS	40	3,773,160
SOIL MOISTURE SENSORS	10	118,790
TIME CLOCK/PRESSURE SWITCH	2	12,120
MICRO IRRIGATION SYSTEM	1,200	23,845,200
TAILWATER RETURN SYSTEM	200	470,000
SUBTOTAL	-	28,219,270
ON-GOING PRACTICES		
12 MONTHS SET ASIDE	700	21,268,800
SUMMER FALLOW/OTHER FALLOW	300	9,226,200
REDUCED SPRINKLER SPACING	75	33,552,000
OFF-WIND IRRIGATION	25	15,881,600
LEAKAGE REDUCTION	10	6,665,510
LAND LEVELING/GRADING	70	24,922,660
SUBTOTAL	-	111,516,770
CAPITAL IMPROVEMENTS / ON-GOING PRACTICES		
SPRINKLER IMPROVEMENTS	15	8,968,740
SURGE FLOW IRRIGATION	5	614,960
SUBTOTAL	-	9,583,700
TOTAL		149,319,740

The assumption of "1 well per 100 acres" was made for FLOWMETERS, SOIL MOISTURE SENSORS, and TIME CLOCK/PRESSURE SWITCH in the calculation of Average Cost / Acre.

Capital investment is calculated as follows:

Capital Improvements

$$\text{Capital Investment} = (1996 \text{ acres} - 1991 \text{ acres}) \times \text{Average Cost / Acre}$$

On-Going Practices and Capital Improvements / On-Going Practices

$$\text{Capital Investment} = (\text{sum of 1991 through 1996 acres}) \times \text{Average Cost / Acre}$$

⁴ These estimates were developed with the consensus of the Monterey County Water Resources Agency Agricultural Water Conservation Committee (July 1996).

CIMIS Data Summary

The California Irrigation Management Information System (CIMIS) is a network of automated weather stations located throughout California. In the Salinas Valley, CIMIS is a cooperative program of the California Department of Water Resources (DWR) and the MCWRA. The primary function of CIMIS is to provide information to improve water management through efficient irrigation management practices. Weather data including solar radiation, air temperature, relative humidity, wind speed, wind direction, soil temperature and rainfall are collected from each station in the network and transferred to a central computer in Sacramento. After being analyzed for accuracy, the data are used to estimate reference evapotranspiration (ET_0). ET_0 is a standard measure of the evaporative power of the atmosphere. ET_0 represents the theoretical water use of a four to seven inch tall cool season grass that is not water stressed. ET_0 must be factored with a "crop coefficient" (K_c) to estimate crop water use.

Two original DWR CIMIS stations near Salinas and Castroville have been in operation since the 1980's. In 1993, in cooperation with DWR, the MCWRA expanded the coverage of the CIMIS system in the Salinas Valley to provide improved data coverage for the varied micro-climatic regions in the valley. There are presently six CIMIS stations located in the Salinas Valley. The data from these stations provides insight about the relative water demands throughout the valley. In addition to normal and unusual monthly variations, these three years of data reveal several distinct climatic regions and zones of transition between them that are closer to the coast than previously believed.

Weather data throughout California are available to the public in hourly, daily, weekly and monthly formats via computer modem. Additionally, the MCWRA provides a toll-free telephone recording (1-800-4-U-CIMIS) of the ET_0 and rainfall data for the six Salinas Valley stations. This "real time" data from CIMIS provides growers with the means to more precisely calculate irrigation needs.

The largest change in ET_0 occurs just south of the city of Salinas, where the summer fog frequently clears early in the day, resulting in higher evaporative conditions than only a few miles further north.

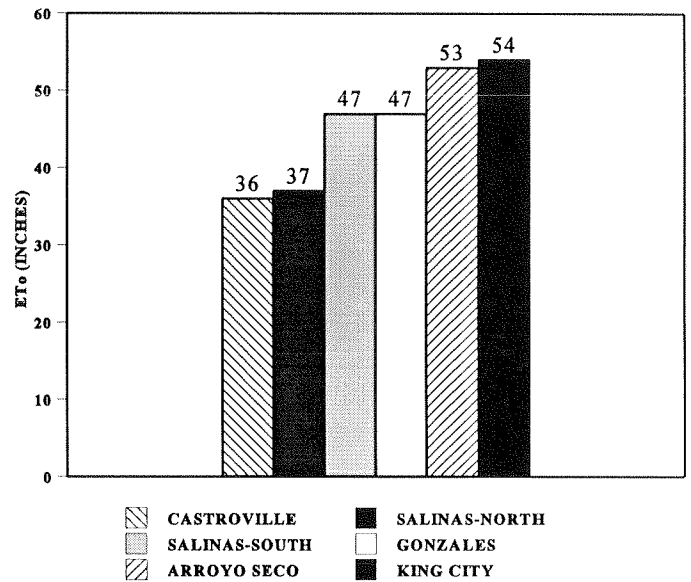


Figure 5. Average annual ET_0 for rain years 1993 through 1996

Note: Rain year is from July 1 to June 30

Table 10. Description of Salinas Valley CIMIS stations

STATION NUMBER	STATION NAME	DISTANCE FROM COAST (MILES)
19	CASTROVILLE	1
116	SALINAS - NORTH	7
89	SALINAS - SOUTH	17
115	GONZALES	24
114	ARROYO SECO	40
113	KING CITY - OASIS RD	60



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Ground Water Summary Report 2012



Monterey County Water Resources Agency

October 2013



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Overview of the Ground Water Reporting Program

History of the Ground Water Reporting Program

In February 1993, the Monterey County Board of Supervisors adopted Ordinance No. 3663 that required water suppliers within Zones 2, 2A, and 2B to report water-use information for ground water extraction facilities (wells) and service connections to the Monterey County Water Resources Agency (Agency). Monterey County Ordinance No. 3717, which replaced Ordinance No. 3663 and was adopted in October 1993, modified certain other requirements in the previous ordinance while keeping the ground water extraction reporting requirements in place for wells with a discharge pipe having an inside diameter of at least three inches.

The Agency has collected ground water extraction data from well operators, for the period beginning November 1 and ending October 31, starting with the 1992-1993 reporting year. Information received from the 300-plus well operators in the above-referenced zones of the Salinas Valley is compiled by the Ground Water Extraction Management System (GEMS) portion of the Water Resources Agency Information Management System (WRAIMS), a relational database maintained by the Agency. The intent of the ground water reporting program is to provide documentation of the reported amount of ground water that is extracted from Zones 2, 2A, and 2B of the Salinas Valley Ground Water Basin each year.

Since 1991, the Agency has required the annual submittal of Agricultural Water Conservation Plans (Ordinance 3851), which outline the best management practices that are adopted each year by growers in the Salinas Valley. In 1996, an ordinance was passed that requires the filing of Urban Water Conservation Plans (Ordinance 3886). Developed as the urban counterpart of the agricultural water conservation plans, this program provides an overview of the best management practices being implemented by urban water purveyors as conservation measures.

2012 Ground Water Summary Report

The purpose of this report is to summarize the data submitted to the Agency by well operators in February 2013 from the following annual reports:

- Ground Water Extraction Reports (agricultural and urban)
- Water Conservation Plans (agricultural and urban)
- Water and Land Use Forms (agricultural)

The agricultural data from the ground water extraction program covers the reporting year of November 1, 2011, through October 31, 2012; the urban data covers calendar year 2012. The agricultural and urban water conservation plans adopted for 2013 are also summarized. This report is intended to present a synopsis of current water extraction within the Salinas Valley, including agricultural and urban water conservation improvements that are being implemented to reduce the total amount of water pumped. It is not the purpose of this report to thoroughly analyze the factors that contribute to increases or decreases in pumping.

Reporting Methods

The Ground Water Conservation and Extraction Program provides well operators with a choice of three different reporting methods for each of their wells: Water Flowmeter, Electrical Meter, or Hour Meter (timer). The summary of ground water extractions presented in this report is compiled from data generated by all three reporting methods. Ordinance 3717 requires annual pump efficiency tests and/or meter calibration of each well to ensure the accuracy of the data reported.

Disclaimer

While the Agency has made every effort to ensure the accuracy of the data presented in this report, it should be noted that the data are submitted by individual reporting parties and are not verified by Agency staff. In addition, since so many factors can affect the extraction calculations, it is understood that no reporting method is 100 percent accurate. The Agency maintains strict quality assurance in the compilation, standardization, and entry of the data received. The Agency received Ground Water Extraction Reports from ninety-seven percent (97%) of the 1867 wells in the Salinas Valley for the 2012 reporting year. Agricultural and Urban Water Conservation Plan submittals for 2013 were ninety-four percent (94%) and one hundred percent (100%), respectively.

Reporting Format

Ground water extraction data are presented in this report by measurement in acre-feet. One acre-foot is equal to 325,851 gallons.

Ground Water Extraction Data Summary

The Salinas Valley Ground Water Basin is divided into four major hydrologic subareas whose boundaries are derived from discernible changes in the hydrogeologic conditions of the underground aquifers. Figure 1 (below) illustrates the Agency-designated Zones of the Salinas Valley in relation to the hydrologic subareas.

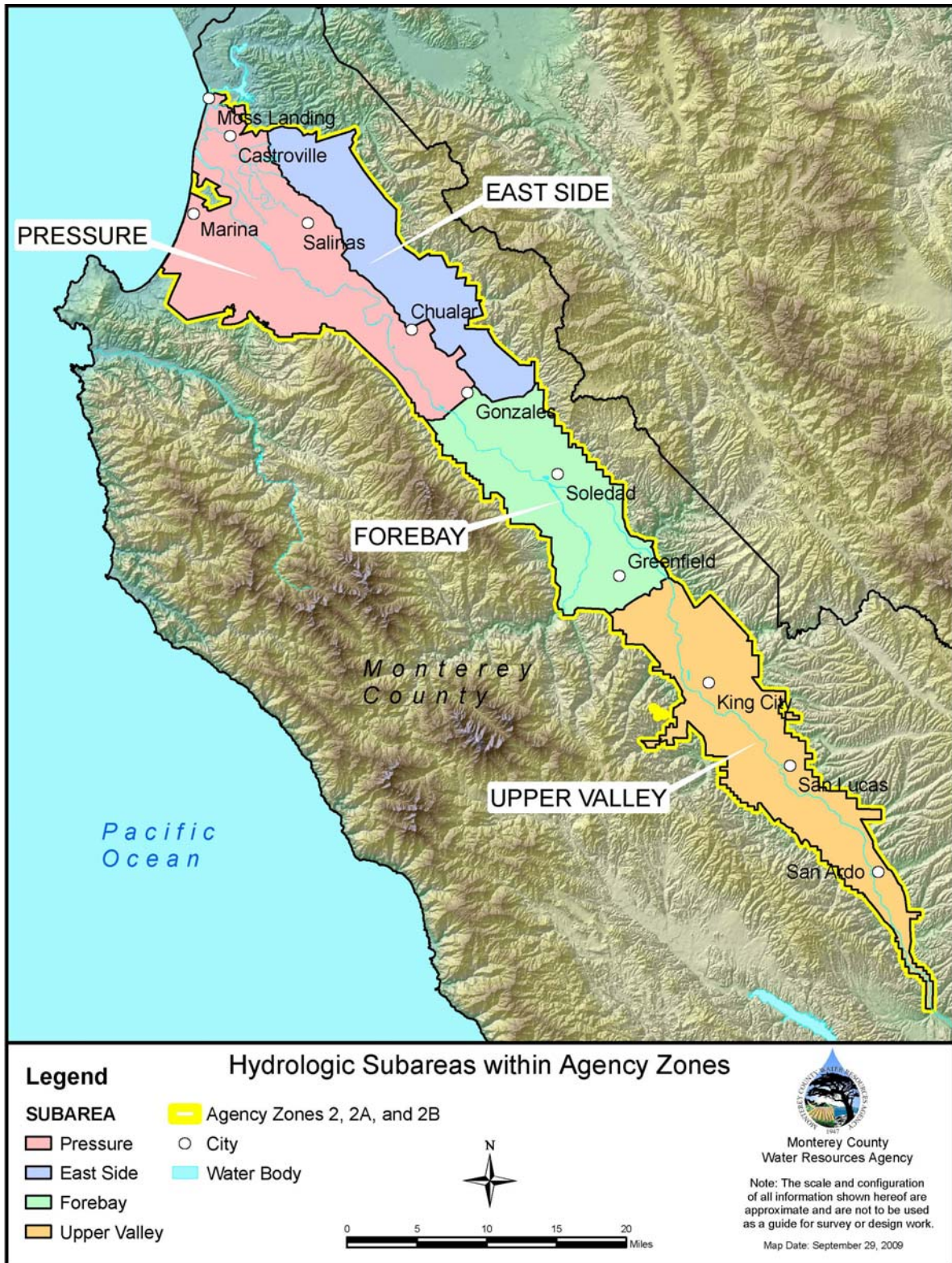


Figure 1. Agency Zones and hydrologic subareas of the Salinas Valley Ground Water Basin

Ground Water Extraction Data Summary (continued)

Summary of Methods Used for Extraction Reporting

The distribution of methods used for ground water extraction reporting (agricultural and urban) for the 2012 reporting year is shown in Table 1; a percentage distribution by volume is shown in Figure 2.

Table 1. Total extraction data by reporting method

Reporting Method	Acre-Feet per Reporting Method	Wells per Reporting Method
Water Flowmeter	343,597	1,380
Electrical Meter	136,543	407
Hour Meter	9,101	18
Total (2012)	489,241	1,806
Average ('03-'12)	495,968	1,756

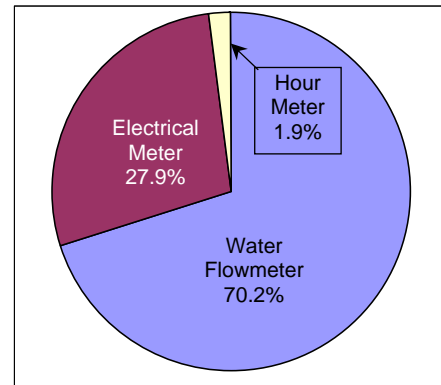


Figure 2. Percentage distribution by volume of methods used for extraction reporting

Total Extraction Data by Hydrologic Subarea and Type of Use

The total ground water extractions for the 2012 reporting year are summarized by hydrologic subarea, type of use (agricultural and urban in Table 2), and percentage (Figure 3).

Table 2. Total extraction data by hydrologic subarea and type of use

Subarea	Agricultural Pumping (acre-feet)	Urban Pumping (acre-feet)	Total Pumping (acre-feet)
Pressure	95,814	18,084	113,898
East Side	82,451	13,092	95,543
Forebay	135,971	7,488	143,459
Upper Valley	132,383	3,957	136,341
Total	446,620	42,621	489,241
Percent of Total	91.3%	8.7%	100%

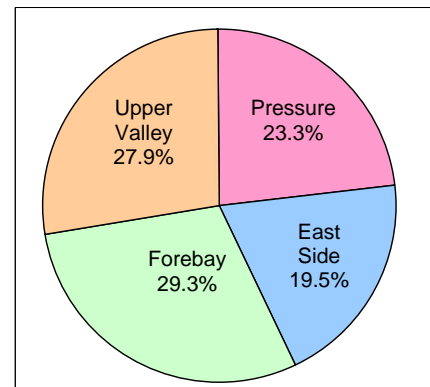


Figure 3. Percentage of total extractions by hydrologic subarea

Urban Extraction Data by City or Area

The total ground water extractions attributed to urban (residential, commercial/institutional, industrial, and governmental) pumping for the 2012 reporting year are summarized by city or area in Table 3. Figure 4 shows how the total urban pumping for 2012 is apportioned among each city or area.

Table 3. Urban extraction data by city or area

City or Area	Urban Pumping (AF)	Percentage of Total
Castroville	776	1.82%
Chualar	130	0.30%
Gonzales	1,454	3.41%
Greenfield	2,426	5.69%
King City	2,735	6.42%
Marina	4,129	9.69%
Other Areas (OA)		
OA-Pressure	3,893	9.13%
OA-East Side	3,434	8.06%
OA-Forebay	933	2.19%
OA-Upper Valley	1,081	2.54%
Salinas	17,360	40.73%
San Ardo	110	0.26%
San Lucas	31	0.07%
Soledad	2,519	5.91%
Soledad Prisons	1,610	3.78%
Total	42,621	100.00%

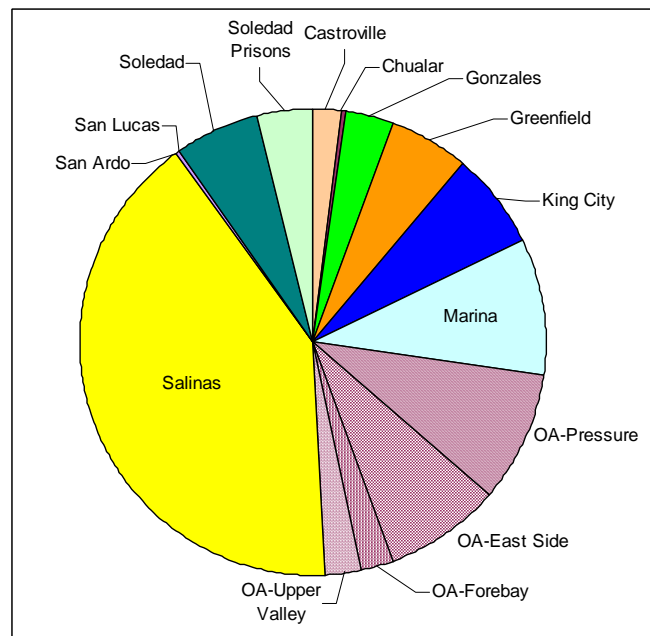


Figure 4. Distribution of urban extraction by city or area

Agricultural Water Conservation Plans

The Agricultural Water Conservation Plans include net irrigated acreage, irrigation method, and crop category. This information is forecasted and indicates what the grower plans to do in the upcoming year. It reflects the changing trends in irrigation methods in the Salinas Valley. Tables 4, 5, 6, and 7 show the distribution of irrigation methods by crop type for 1993, 2011, 2012 and 2013, respectively. Figure 5 (on the following page) illustrates the irrigation method trends from 1993 to 2013.

Table 4. 1993 - net acre distribution of irrigation methods by crop type (based on 94% companies reported)

1993	Furrow	Sprinkler & Furrow	Hand Move Sprinklers	Solid Set Sprinklers	Linear Move	Drip	Other ¹	Total
Vegetables	2,349	84,060	30,764	6,607	3,827	3,682	0	131,289
Field Crops	575	2,173	2,236	90	50	48	0	5,172
Berries	1	0	0	0	0	4,158	0	4,159
Grapes	261	0	0	13,347	0	15,976	0	29,584
Tree Crops	0	0	122	251	0	1,216	10	1,599
Forage	41	202	1,327	0	48	0	189	1,807
Unirrigated								N/A
Total	3,227	86,435	34,449	20,295	3,925	25,080	199	173,610

Table 5. 2011 - net acre distribution of irrigation methods by crop type (based on 94% companies reported)

2011	Furrow	Sprinkler & Furrow	Hand Move Sprinklers	Solid Set Sprinklers	Linear Move	Drip	Other ¹	Total
Vegetables	30	24,027	23,409	9,907	869	62,275	185	120,702
Field Crops	35	444	266	80	1,416	544	0	2,785
Berries	0	38	0	340	0	6,810	0	7,188
Grapes	0	0	0	620	0	33,008	0	33,628
Tree Crops	0	0	0	366	0	1,742	0	2,108
Forage	18	0	133	0	0	0	132	283
Other Type ²	0	126	2,427	175	12	1,321	100	4,161
Unirrigated								6,137
Total	83	24,635	26,235	11,488	2,297	105,700	417	176,992

Table 6. 2012 - net acre distribution of irrigation methods by crop type (based on 92% companies reported)

2012	Furrow	Sprinkler & Furrow	Hand Move Sprinklers	Solid Set Sprinklers	Linear Move	Drip	Other ¹	Total
Vegetables	0	22,556	19,469	7,476	677	69,040	2,001	121,219
Field Crops	0	323	284	206	1,416	389	140	2,758
Berries	0	122	0	100	0	7,707	0	7,929
Grapes	0	0	0	363	0	34,381	0	34,744
Tree Crops	0	0	0	0	0	1,724	0	1,724
Forage	0	138	172	0	0	1	0	311
Other Type ²	36	126	2,297	126	12	886	20	3,503
Unirrigated								6,317
Total	36	23,265	22,222	8,271	2,105	114,128	2,161	178,505

Table 7. 2013 - net acre distribution of irrigation methods by crop type (based on 94% companies reported)

2013	Furrow	Sprinkler & Furrow	Hand Move Sprinklers	Solid Set Sprinklers	Linear Move	Drip	Other ¹	Total
Vegetables	389	19,621	15,737	12,209	591	69,773	2,463	120,783
Field Crops	0	167	166	121	0	280	0	734
Berries	0	122	0	0	0	6,610	0	6,732
Grapes	0	0	0	363	0	34,358	0	34,721
Tree Crops	0	0	0	0	0	1,695	0	1,695
Forage	0	145	107	2	0	1	68	323
Other Type ²	0	126	2,592	126	7	900	25	3,776
Unirrigated								1,280
Total	389	20,181	18,602	12,821	598	113,617	2,556	170,044

¹ "Other" may include an irrigation system not listed here or a different combination of systems

² "Other Type" are for other crop types not included, i.e. cactus, flower bulbs, etc.

NOTE: Percentage of companies reported varies from year to year

Agricultural Water Conservation Plans (continued)

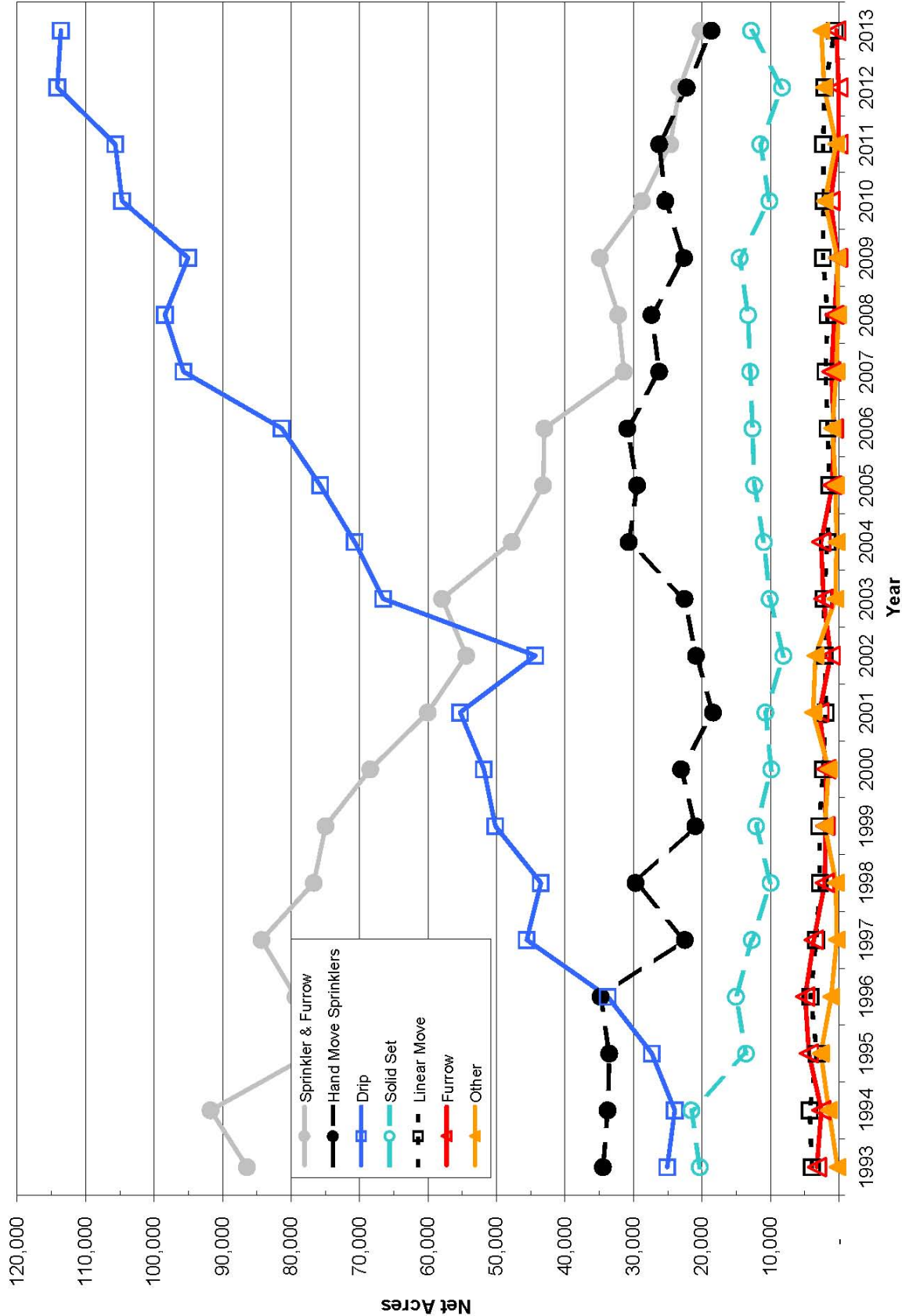


Figure 5. Types of irrigation methods used in the Salinas Valley based on companies reported

NOTE: Reported net acres vary from year to year

Agricultural Water Conservation Plans (continued)

Since 1991, Salinas Valley growers have submitted Agricultural Water Conservation Plans to the Agency. Table 8 shows the number of net acres, by year, for selected Best Management Practices (BMPs) or water conservation measures which were reported to be implemented over the past five years.

Table 8. Agricultural Best Management Practices reported to be adopted from 2009 through 2013

Best Management Practices	2009	2010	2011	2012	2013
12 Months Set Aside	9,043	7,447	3,285	8,172	1,314
Summer Fallow	509	692	1,944	688	1,462
Water Flowmeters	124,561	138,957	144,353	141,595	132,104
Time Clock/Pressure Switch	126,694	144,853	153,715	152,488	144,693
Soil Moisture Sensors	32,427	44,644	46,121	46,309	45,953
Pre-Irrigation Reduction	84,693	96,908	99,362	94,954	92,338
Reduced Sprinkler Spacing	83,046	90,065	97,926	90,503	89,289
Sprinkler Improvements	105,495	111,889	115,517	115,946	108,617
Off-Wind Irrigation	107,552	114,843	116,209	114,110	108,243
Leakage Reduction	105,702	113,820	115,255	113,372	110,565
Micro Irrigation System	71,710	67,383	87,464	93,146	84,031
Surge Flow Irrigation	7,182	8,785	11,473	12,275	10,154
Tailwater Return System	10,046	16,581	15,402	13,577	8,220
Land Leveling/Grading	56,482	73,361	76,436	79,534	65,306

Note: Due to unique crop rotations, it is difficult to account for each BMP used on total Crop Acres; therefore Net Acres were used.

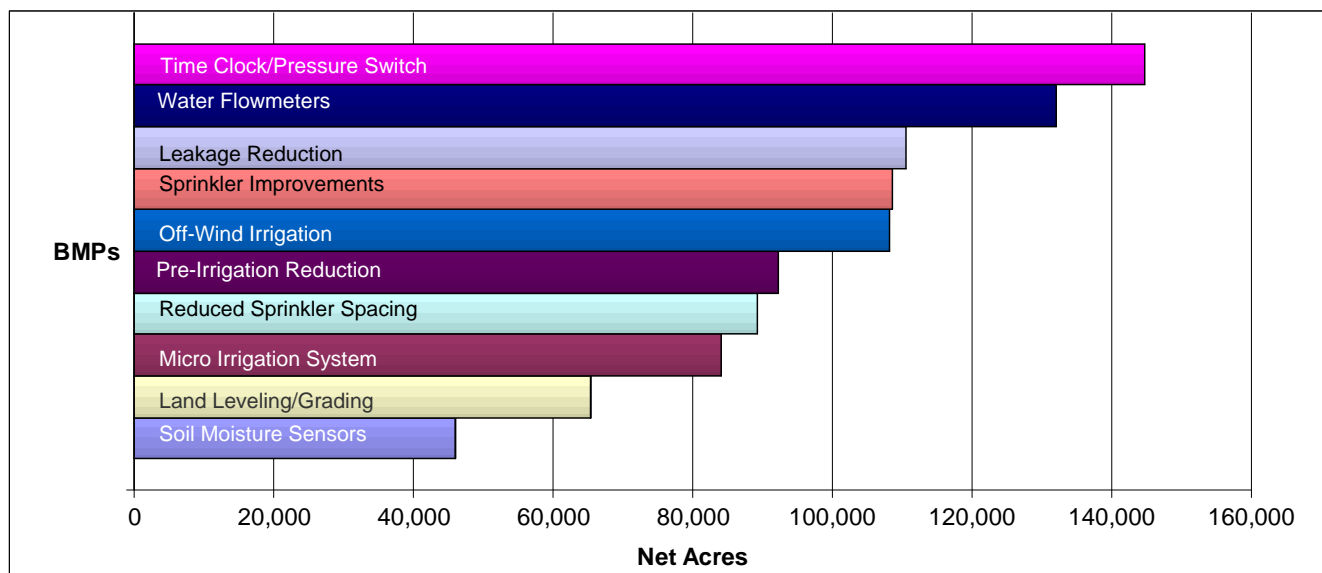


Figure 6. Top Ten Best Management Practices forecasted for 2013 based on reported net acres

Water and Land Use Forms

Agricultural Water Pumped

The following three figures present the agricultural water pumped (Fig. 7), irrigated net acres (Fig. 8), and amount of water used per acre (Fig. 9) by hydrologic subarea and crop type. The data was compiled using the reported acreage and water pumped from the 2012 Water and Land Use Forms. The data accounts for all crop types reported and all reporting methods: Water Flowmeter, Electrical Meter, and Hour Meter.

Changing weather patterns, variable soils, and crop types affect the amount of water needed for efficient irrigation. Even during a normal rain year, pumping rates will vary from one subarea to another and crop types will vary depending on economic demand.

Water and Land Use Forms (continued)

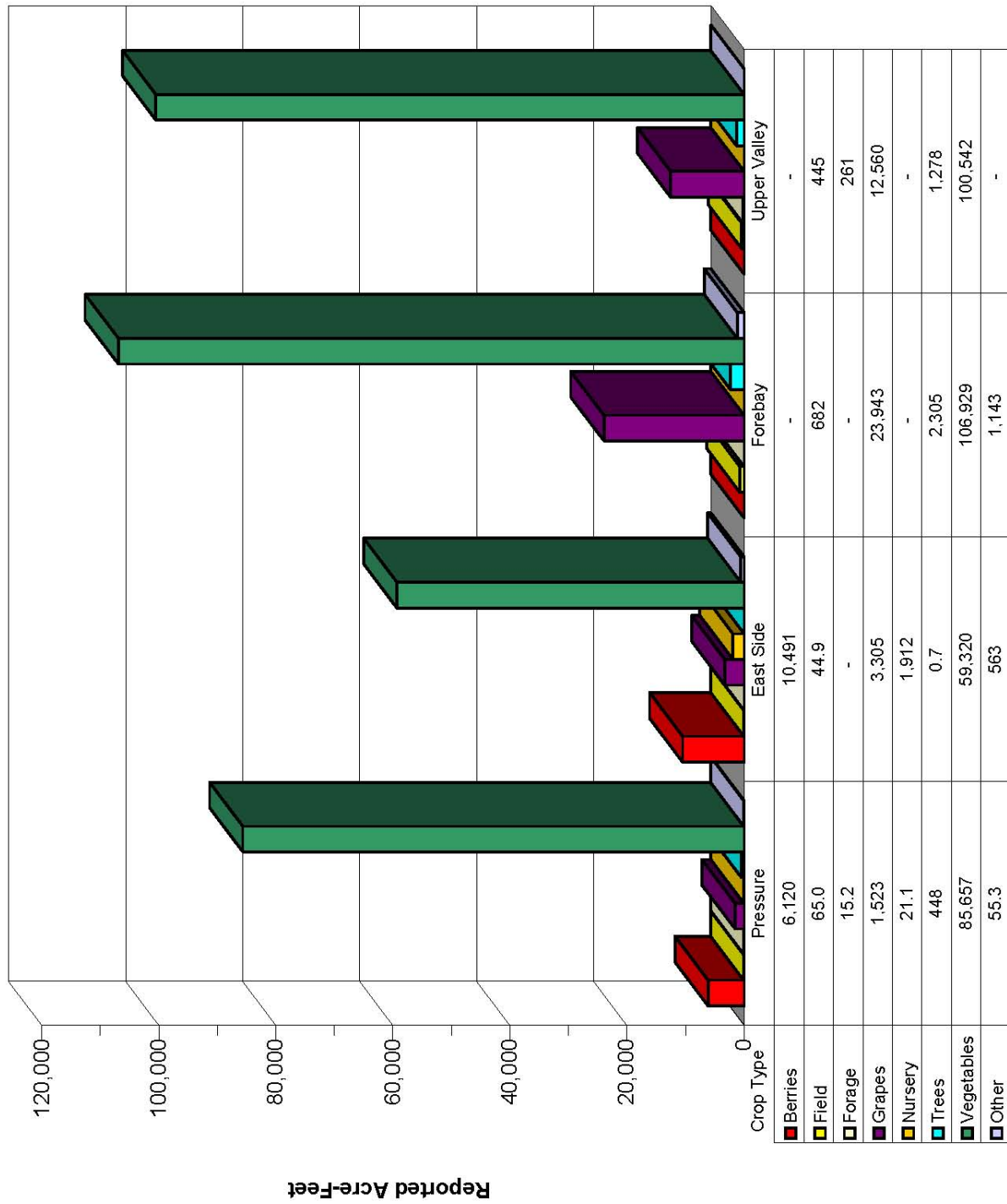
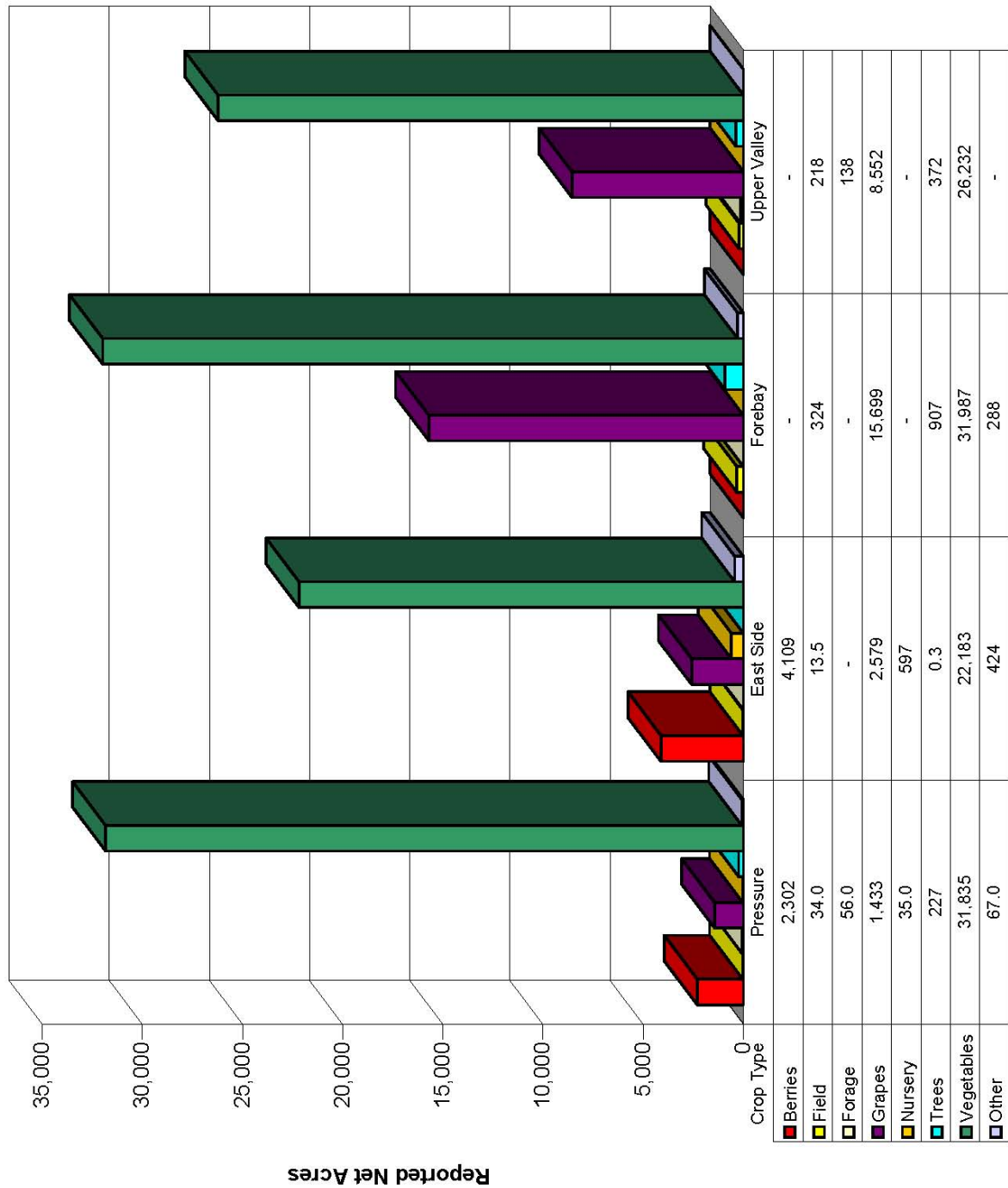


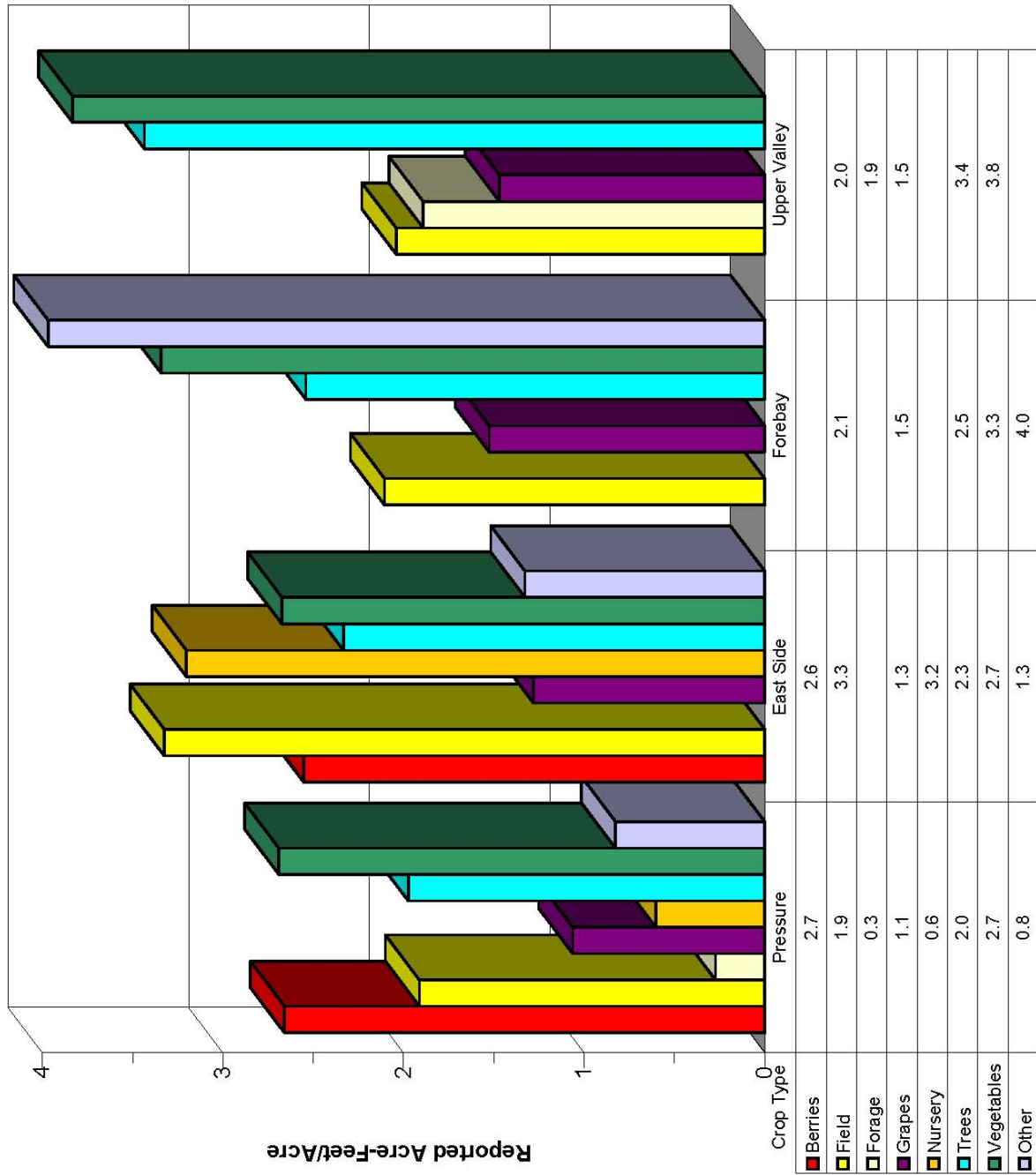
Figure 7. 2012 reported acre-feet by crop type & hydrologic subarea

Water and Land Use Forms (continued)



Hydrologic Subarea
Figure 8. 2012 reported net acres by crop type & hydrologic subarea

Water and Land Use Forms (continued)



Hydrologic Subarea
Figure 9. 2012 reported acre-feet/acre by crop type & hydrologic subarea

Urban Water Conservation Plans

Since 1996, the Agency has been collecting data for the Urban Water Conservation Plan program. Table 9 shows the forecasted adoption of “Best Management Practices” (water conservation measures) for the past three years, as a percentage of total acreage reported. It is important to note that, while all of the listed practices apply to “large” water systems (200 or more customer connections), not all apply to “small” water systems (between 15 and 199 customer connections). The practices that apply **only** to large systems are printed in **bold** below.

Table 9. Urban Best Management Practices reported to be adopted from 2011 through 2013

Best Management Practices	2011	2012	2013
Provide speakers to community groups and media	85%	81%	85%
Use paid and public service advertising	74%	96%	89%
Provide conservation information in bill inserts	94%	95%	94%
Provide individual historical water use information on water bills	92%	92%	96%
Coordinate with other entities in regional efforts to promote water conservation practices	94%	95%	94%
Work with school districts to provide educational materials and instructional assistance	61%	92%	91%
Implement requirements that all new connections be metered and billed by volume of use	99%	99%	98%
Establish a program to retrofit any existing unmetered connections and bill by volume of use	77%	78%	39%
Offer free interior and exterior water audits to identify water conservation opportunities	98%	100%	98%
Provide incentives to achieve water conservation by way of free conservation fixtures (showerheads, hose end timers) and/or conservation “adjustments” to water bills	94%	90%	89%
Enforcement and support of water conserving plumbing fixture standards, including requirement for ultra low flush toilets in all new construction	78%	98%	94%
Support of State/Federal legislation prohibiting sale of toilets using more than 1.6 gallons per flush	96%	97%	97%
Program to retrofit existing toilets to reduce flush volume (with displacement devices)	66%	34%	48%
Program to encourage replacement of existing toilets with ultra low flush (through rebates, incentives, etc.)	89%	95%	89%
Provide guidelines, information, and/or incentives for installation of more efficient landscapes and water-saving practices	94%	90%	94%
Encourage local nurseries to promote use of low water use plants	78%	78%	77%
Develop and implement landscape water conservation ordinances pursuant to the “Water Conservation in Landscaping Act”	63%	63%	63%
Identify and contact top industrial, commercial, and/or institutional customers directly; offer and encourage water audits to identify conservation opportunities	89%	87%	89%
Review proposed water uses for new commercial and industrial water service, and make recommendations for improving efficiency before completion of building permit process	64%	84%	84%
Complete an audit of water distribution system at least every three years as prescribed by American Water Works Association	74%	92%	93%
Perform distribution system leak detection and repair whenever the audit reveals that it would be cost effective	79%	97%	98%
Advise customers when it appears possible that leaks exist on customer’s side of water meter	99%	99%	97%
Identify irrigators of large landscapes (3 acres or more) and offer landscape audits to determine conservation opportunities	90%	89%	90%
Provide conservation training, information, and incentives necessary to encourage use of conservation practices	91%	92%	96%
Encourage and promote the elimination of non-conserving pricing and adoption of conservation pricing policies	91%	86%	86%
Implementation of conservation pricing policies	96%	91%	91%
Enact and enforce measures prohibiting water waste as specified in Agency Ordinance No. 3932 or as subsequently amended, and encourage the efficient use of water	64%	71%	76%
Implement and/or support programs for the treatment and reuse of industrial waste water / storm water / waste water	53%	67%	66%

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US007832959B1

(12) **United States Patent**
Groen et al.

(10) **Patent No.:** **US 7,832,959 B1**
(45) **Date of Patent:** **Nov. 16, 2010**

(54) **METHOD OF RESTORATION OF A HIGHLY SALINE LAKE**

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(75) Inventors: **Pieter van Groen**, De Bult (NL); **Jorrit K. de Groot**, Rotterdam (NL)

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(73) Assignee: **Bean Stuyvesant, L.L.C.**, Belle Chasse, LA (US)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 997 days.

* cited by examiner

(21) Appl. No.: **11/379,153**

Primary Examiner—David J Bagnell
Assistant Examiner Benjamin Fiorello

(22) Filed: **Apr. 18, 2006**

(74) *Attorney, Agent, or Firm*—Garvey, Smith, Nehrass & North, L.L.C.; Charles C. Garvey, Jr.

Related U.S. Application Data

(60) Provisional application No. 60/672,310, filed on Apr. 18, 2005.

(51) **Int. Cl.**
E02B 13/00 (2006.01)

(52) **U.S. Cl.** **405/52; 405/74; 405/80;**
210/170.01; 210/170.11

(58) **Field of Classification Search** **405/52,**
405/80, 60, 73, 74; 210/170.01, 170.09,
210/170.11

See application file for complete search history.

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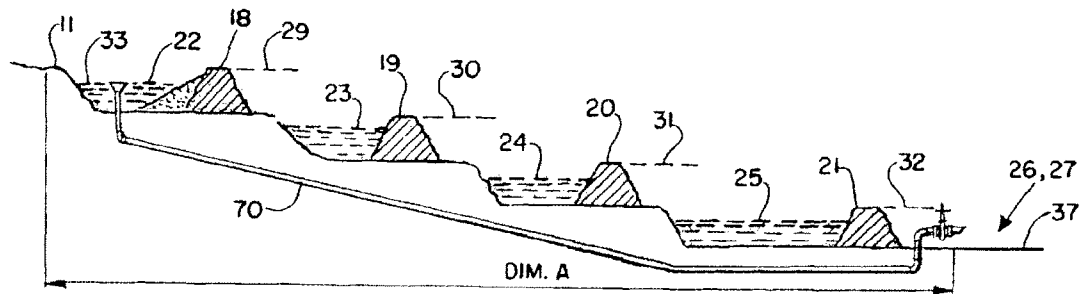
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(57) **ABSTRACT**

A method of restoring a lake that has a high saline level is disclosed herein. In order to restore the lake, a series of concentric dikes or levees are provided that separate the lake into a plurality of smaller lake sections, each having a water surface. The smaller lake sections include an outer lake section which is next to the periphery of the lake and one or more inner lake sections. Each dike and each smaller lake section water surface have an elevation. Water is flowed from an influent source to the outer lake section and then to each of the inner lake sections. The outer lake section surface has a higher elevation. The inner lake section surfaces have cascading lower surface elevations. At a central area, a breathing brine area is provided that is surrounded by the smaller lake sections to provide an area that can be used to concentrate brine. The smaller lake sections can have differing salinity levels for sustaining diverse marine and plant life.

48 Claims, 5 Drawing Sheets



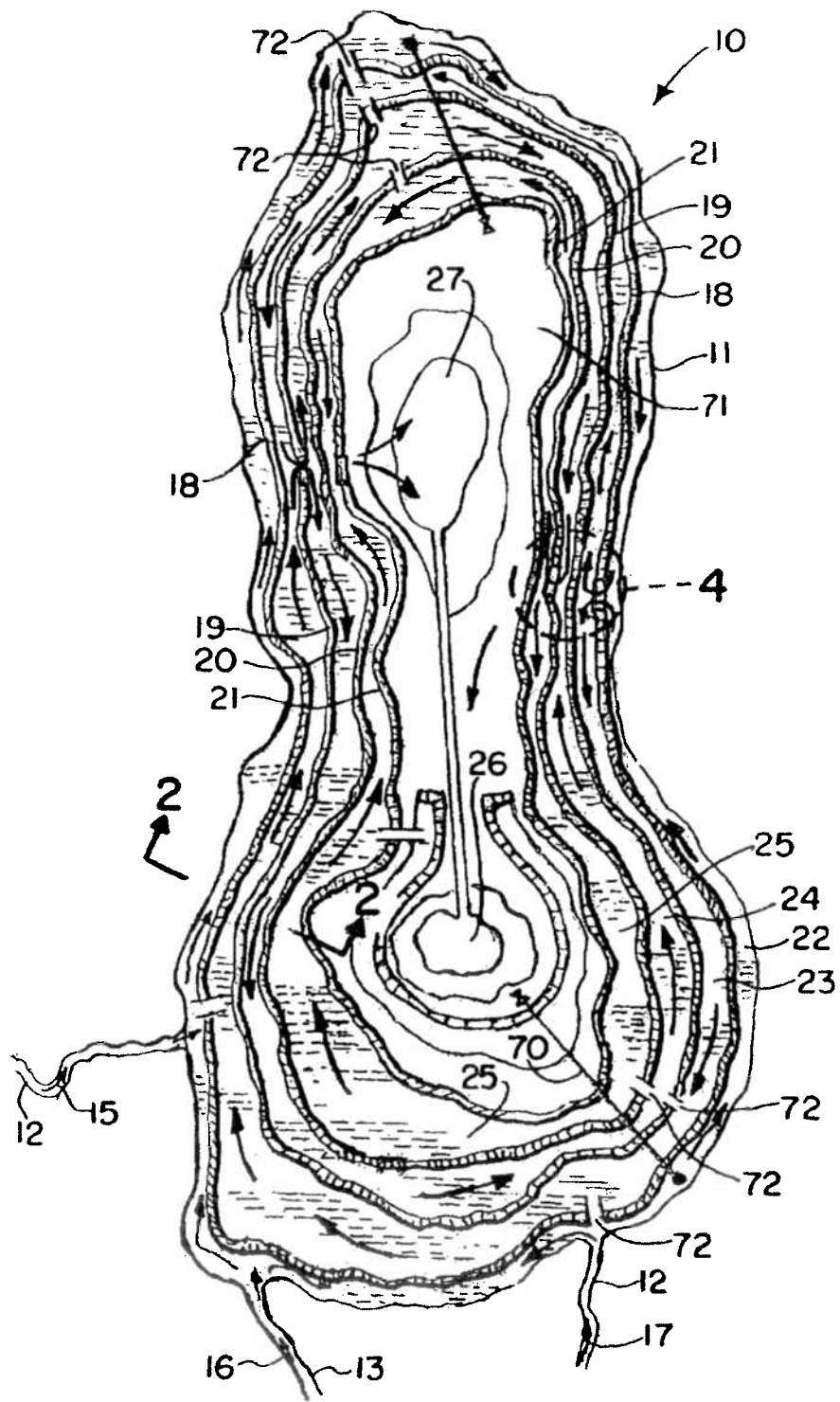


FIG. 1.

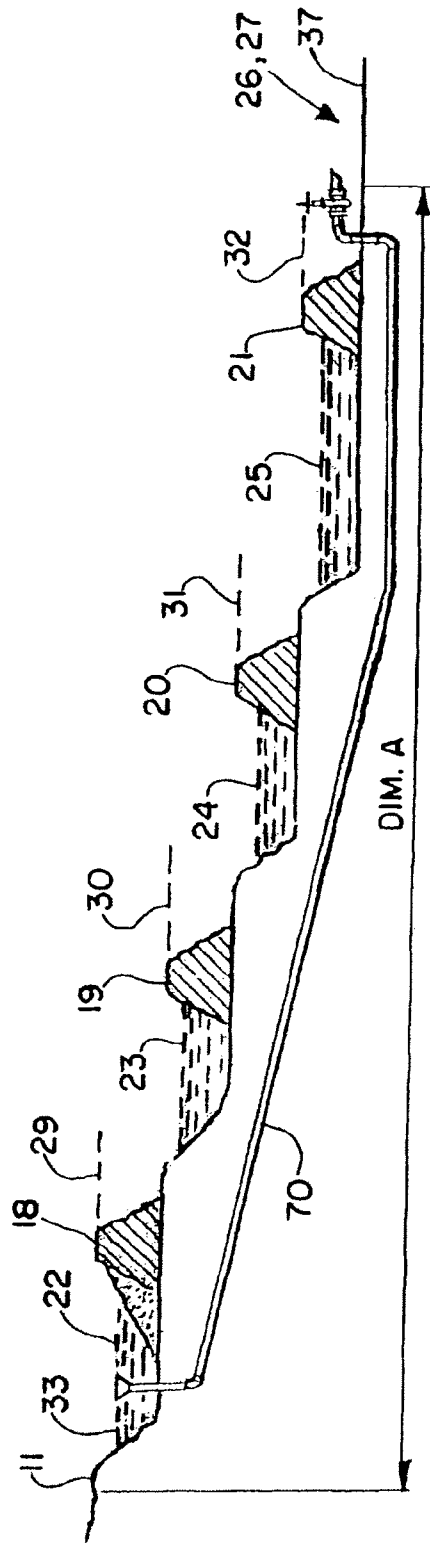


FIG. 2.

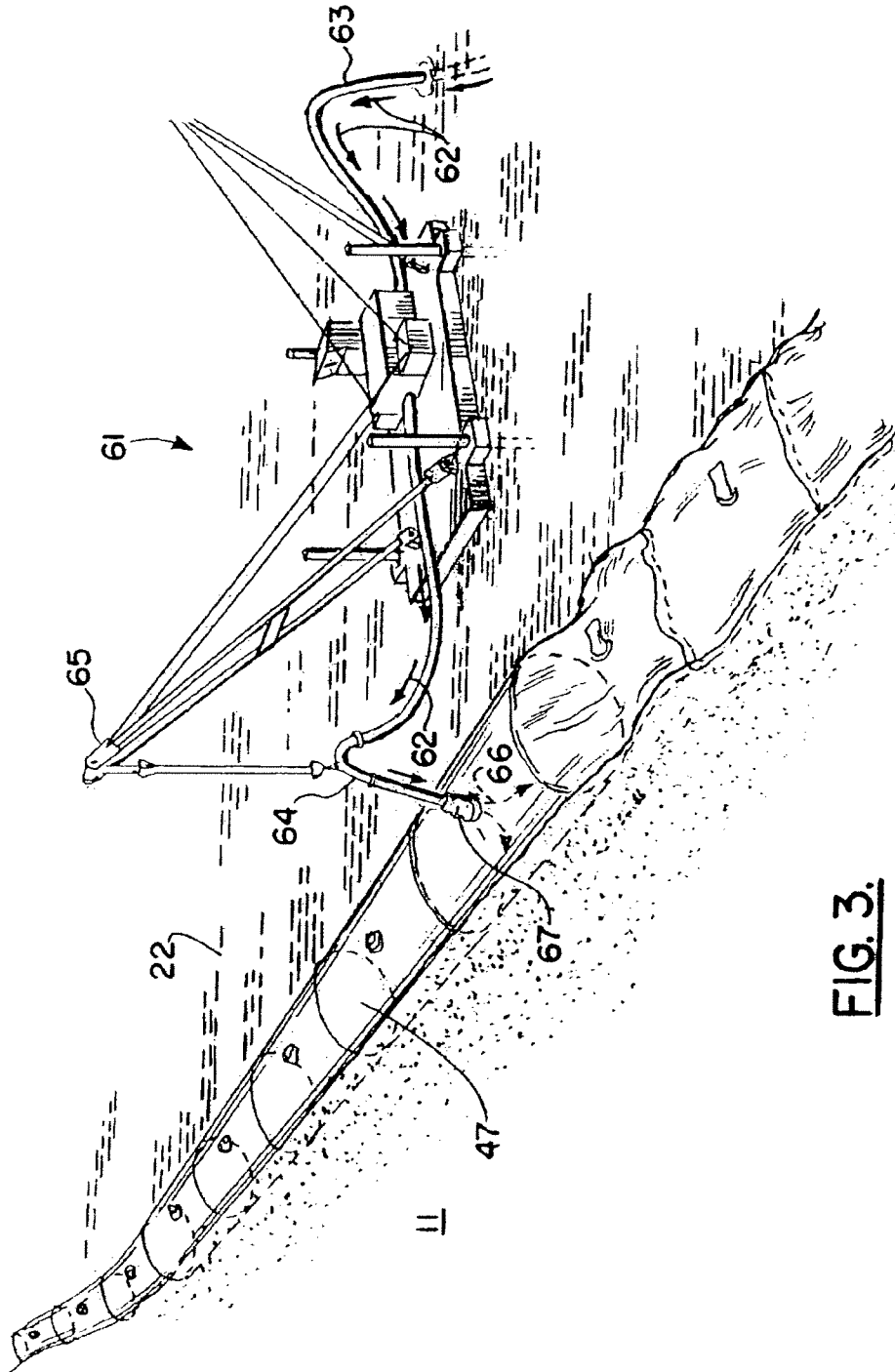


FIG. 3.

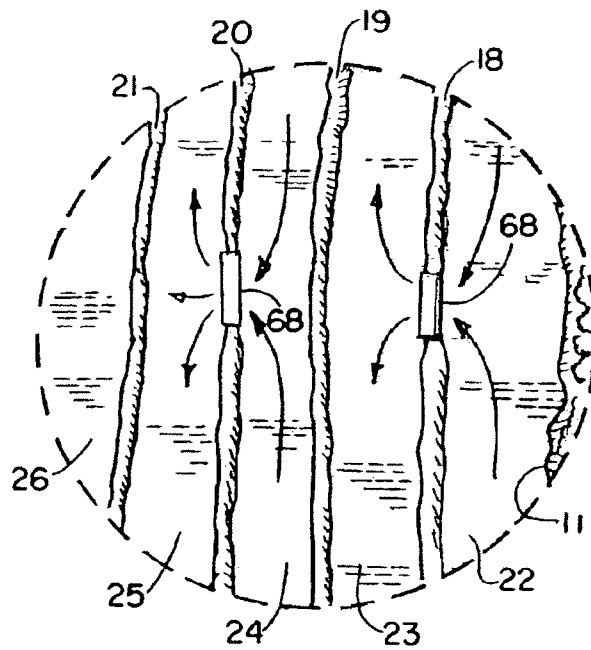


FIG. 4.

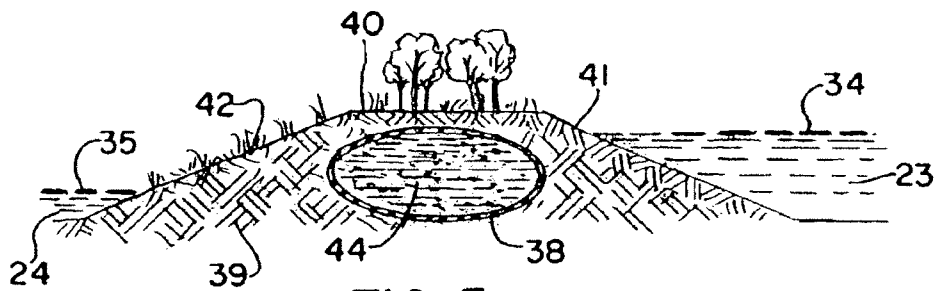


FIG. 5.

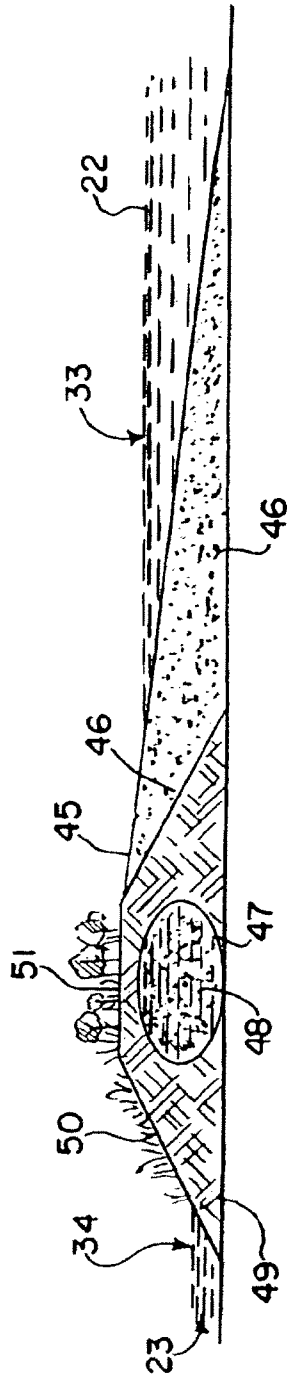


FIG. 6.

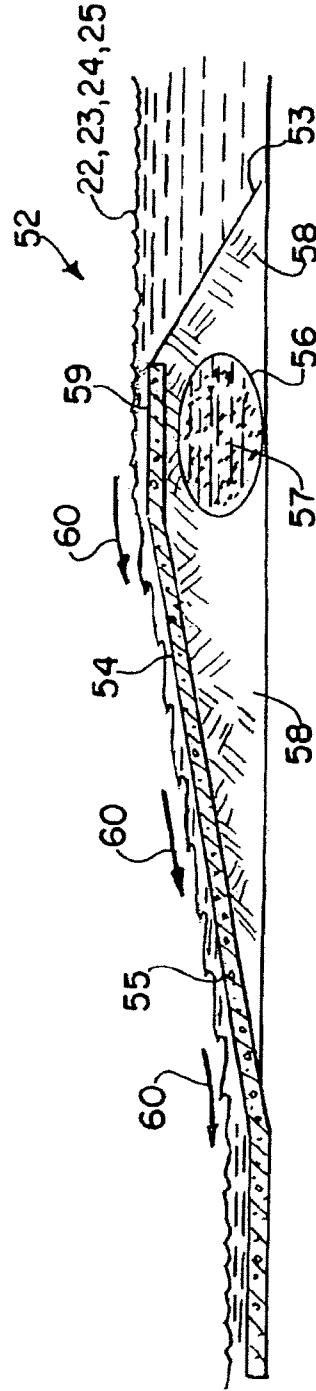


FIG. 7.

METHOD OF RESTORATION OF A HIGHLY SALINE LAKE

CROSS-REFERENCE TO RELATED APPLICATIONS

Priority of U.S. Provisional Patent Application Ser. No. 60/672,310, filed Apr. 18, 2005, incorporated herein by reference, is hereby claimed.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not applicable

REFERENCE TO A "MICROFICHE APPENDIX"

Not applicable

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to restoration of a lake having a high saline content. More particularly, the present invention relates to an improved method of restoring a highly saline lake that utilizes inner and outer dikes or levees (preferably concentrically positioned), elongated smaller lakes formed between the dikes, a central area providing one or more breathing brine fields, wherein salinity of inflow gradually increases from outer lake to the inner lakes to the breathing brine field or fields. In the process, the overall lake water inflow needed to maintain several separate yet healthy lake ecosystems can be reduced.

2. General Background of the Invention

The Salton Sea is located in a closed basin in Riverside and Imperial Counties in southern California, south of Indio and north of El Centro. The Salton Sea is more than 220 feet below sea level and has no natural outlet. The Salton Sea Basin is part of the lower Colorado River delta system. Historically, lakes have existed in this basin as the course of the Colorado River has shifted. The current body of water (Salton Sea) was formed in 1905 when a levee break along the Colorado River caused flows from the Colorado River to enter the basin for about 18 months. Since 1905, the Salton Sea has fluctuated in size with varying inflow. It recently has had a surface area of 365 square miles.

Currently, the Salton Sea is filled by the agricultural runoff from the Colorado River Basin. In particular, approximately 80% of Salton Sea inflows come from the Imperial Valley. Since the Salton Sea has no outlet, evaporation produces the only export of water. Nearly all constituents in the inflow, such as salts, nutrients and fertilizers remain in the Salton Sea. Currently, the Sea is approximately 25% saltier than ocean water, with a continuing trend of increasing salinity. Eventually, a point will be reached where current biological activity in the Sea will cease, as is the case with other highly saline lakes such as Mono Lake. Under these highly saline conditions the benthic organisms that support the current ecology of the Salton Sea could no longer survive. The fisheries supported by those organisms would likewise disappear, and have practically vanished already. An ecology based on organisms adapted to highly saline conditions, such as brine shrimp, would result. Even under existing conditions, a project for the restoration of the Salton Sea (including improvement and stabilization of the water quality) is critically needed.

Accelerating these effects would be the reduced inflows to the Salton Sea anticipated under the 2003 Quantification Settlement Agreement (QSA). The QSA provides for the phased transfer of up to 560,000 acre-feet per year of water from agricultural to urban uses, resulting in a significant reduction of agricultural flows to the Sea, of at least 300,000 acre-feet per year. It is assumed that a water transfer of approximately the scale of that contemplated by the QSA will result in reduced inflows to the Salton Sea.

In future years, additional transfers may also occur as demand increases in the expanding urbanized areas of Southern California. For example, the Metropolitan Water District of Southern California (MWD) has pending a water rights application with the State Water Resources Control Board (SWRCB) seeking to divert all of the flows from the Alamo River and other agricultural sources that would otherwise reach the Salton Sea.

Filed in 1997, MWD's application contends that it has the right to take much of the inflow of the Salton Sea and divert it to its service area for various uses. MWD supplemented its application in June 2004 and reiterated that it continues to seek the inflows for diversion, although it recognizes that the amount of the inflows may be reduced due to various conservation measures described in the QSA.

If an appropriate Salton Sea restoration plan is not implemented, a substantial portion of the inflow may be diverted permanently from the Salton Sea area such that no restoration would be possible. The resulting reduction in inflows would be severe, ranging from approximately 400,000 to 450,000 acre feet per year, with net inflows to the Salton Sea being reduced to as low as 468,000 acre feet per year (assuming diversions comparable to that contemplated under the QSA).

Over time, those smaller inflows will result in a reduction in the surface area of the Sea. This reduction could expose previously inundated sediments. The reduced water volume in the Salton Sea will also result in a corresponding increase in salinity. Without affirmative restoration activities, a number of adverse environmental consequences would result, such as a reduction of the Sea's important habitat values for the Pacific Flyway, increased air pollution, and decreased aesthetics values.

Any restoration plan must solve both of the key problems faced by the Salton Sea, water quality and water quantity. Over the years, a number of options have been explored for addressing these concerns. In 1998, the Salton Sea Authority, in a joint lead with the federal Bureau of Reclamation, initiated an environmental review of a number of alternatives to address the problems that existed at the time. These alternatives primarily focused on "whole-sea" restoration approaches such as the conveyance of water to and/or from the ocean to address the elevation and salinity problems, various evaporation options to facilitate the removal of salt, and desalination options using vertical tube evaporation technology. This effort, however, was not completed, primarily due to critical problems identified with all of the alternatives being evaluated, such as excessive costs or environmental impacts.

In April 2004, the Salton Sea Authority (SSA) evaluated four "reasonable" restoration alternatives: (1) no marine lake; (2) south marine lake without elevation control; (3) south marine lake with elevation control, and (4) north marine lake with elevation control. The SSA ultimately concluded that the North Lake concept, combined with other features, was its preferred project.

After much discussion between DWR and the interested parties, four alternatives, two of which draw upon the work completed by the Salton Sea Authority in 2004, gained promi-

nence as a reasonable range for the alternatives evaluation: (1) the "Low Sea" alternative, which allows the sea level to drop and involves the construction of a relatively small brine pond, (2) the "Shore Lake" alternative, which involves the creation of a relatively deep short lake along the entire perimeter of the current sea, separated from a dry area and brine pond in the interior by a dike (similar to the SSA's In-Sea Solar Evaporation Pond alternative, but with a different configuration), (3) the "North Lake" alternative (the SSA's "North Lake with elevation control" alternative) which separates the sea with a relatively high dam and allows the southern portion of the lake to largely dry out, except for a brine pond, and (4) the "South Lake" alternative (the SSA's "South Lake with elevation control" alternative) which is similar to the North Lake alternative with the dry areas and brine pond to the north.

The Salton Sea Reclamation Act of 1998 formulates the goals of the restoration as follows: continue to use the Sea as a reservoir for irrigation drainage; reduce and stabilize the overall salinity of the Sea; stabilize surface elevation of the Sea; reclaim, in the long-term, healthy fish and wildlife resources and their habitats; and enhance the potential for recreational uses and economic development of the Sea.

The 2000 Draft EIS/EIR on restoration of the Salton Sea prepared by USER and the Salton Sea Authority revised the fourth of these objectives as follows: provide a safe, productive environment at the Sea for resident and migratory birds and endangered species.

The state QSA implementing legislation requires that the preferred alternative provide, to the maximum extent feasible, for attainment of three key objectives, which further refine the habitat objective and add an objective relating to the air quality impacts: restoration of long-term stable aquatic and shoreline habitat for the historic levels and diversity of fish and wildlife that depend on the Salton Sea; elimination of air quality impacts from the restoration projects; and protection of water quality.

Additionally, in order to be successful, the project will need to be economically viable, implying the following objective: plan, construct, develop and operate the restoration project within the practical economic constraints of available funding sources and maximizing economic benefits.

As with these economic factors, in order to be successful the project must be one that can receive all required permits and other entitlements, satisfying the following objectives: qualify the project as the Least Environmentally Damaging Alternative under the Clean Water Act 404(b) (1) guidelines; ensure that the project avoids jeopardy to endangered or threatened species, or the adverse modification of designated critical habitat, and otherwise meets USFWS permitting requirements; comply with Clean Air Act general conformity requirements; and fully comply with all other regulatory programs.

A number of other practical factors also need to be addressed in the selection and implementation of an alternative: 1) ensure timely achievement of project benefits; 2) maximize collateral benefits of the project, particularly the provision of effective water storage capacity that can assist in the management of fluctuating Colorado River flows, and conveyance of water from the IID inflows to other potential users; 3) allow for flexibility of design and construction, in particular to adjust to the actual pattern of water transfers over the coming decades; 5) minimize seismic risks; 6) maximize public acceptance; and 7) maximize the active participation of the local residents in the construction of the project.

The following U.S. Patents are possibly related to lake restoration and are each incorporated herein by reference.

TABLE

PAT. NO.	TITLE	ISSUE DATE
5,807,030	Stabilizing Elements for Mechanically Stabilized Earthen Structure	Sep. 15, 1998
5,902,070	Geotextile Container and Method of Producing Same	May 11, 1999
6,623,214	Modification of Geotextile Tubes	Sep. 23, 2003
6,626,611	Beach Restoration and Regeneration Systems, Methods and Compositions	Sep. 30, 2003
6,726,466	In Situ Formation of Reactive Barriers for Pollution Control	Apr. 27, 2004
6,773,595	Compartmentalized Facultative Lagoon and Method of Creating and Maintaining Such a Lagoon	Aug. 10, 2004

BRIEF SUMMARY OF THE INVENTION

The method of the present invention provides a series of concentric dikes that can be formed through the installation of geotubes, which are used to create "cascade" levels or terraces of wetlands, ponds and marine lakes.

The method of the present invention optionally provides a wide variation of wetlands, ponds and marine lakes, from deep to shallow and from nearly fresh to ocean salinity. The range of habitats meet the needs of eco-tourism, water recreation and fishing while decreasing salinity, protecting the environment and protecting farmland which depends on conditions created by the sea.

The flexible design of the present invention allows to adjust the remaining total wet surface to the actual remaining inflows, hence to the actual transfers. In view of all uncertainties around the transfers, the flexibility of the design is essential.

The main construction consists of many hundreds of miles of small low head dikes which is attractive in view of safety (compare to high head dams in seismic areas). Also the type of dike construction (e.g. geotube) will enhance safety. Repetition of elements facilitates optimization and efficiency during the phased implementation.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

For a further understanding of the nature, objects, and advantages of the present invention, reference should be had to the following detailed description, read in conjunction with the following drawings, wherein like reference numerals denote like elements and wherein:

FIG. 1 is a plan view illustrating the preferred embodiment of the restoration method of the present invention;

FIG. 2 is a sectional view illustrating the restoration method of the present invention;

FIG. 3 is a perspective view illustrating the restoration method of the present invention;

FIG. 4 is a fragmentary schematic plan view showing the use of flow controls in the dikes;

FIG. 5 is a sectional view illustrating the restoration method of the present invention;

FIG. 6 is a sectional view illustrating the restoration method of the present invention; and

FIG. 7 is a sectional view illustrating the restoration method of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

In FIGS. 1-2, a saline lake 10 is shown that has a shoreline 11. However, it should be understood that FIG. 1 is illustrative and not to scale. The saline lake 10 can be a lake that receives inflow from one or more influent streams 12, 13, 14. The method and apparatus of the present invention can be used to restore an existing saline lake such as the Salton Sea located in Southern California. In FIG. 1, each influent stream 12, 13, 14 is provided with an arrow 15, 16, 17 respectively that indicates the direction of flow.

The influent streams 12, 13, 14 can be existing rivers. A lake that is receiving an influent stream, influent streams, or an influent flow containing salt can increase in salinity. This problem is compounded if the lake does not have an outflow as is the case with the Salton Sea. If there is no outflow, as water flows from the influent streams 12, 13, 14 into the lake 10, the only way for the water to escape from the lake 10 is by evaporation. Evaporation results in a concentration of salt within the sea 10 raising levels of salinity. Increased salinity can threaten the ecosystem if those levels become too high for the animals and plants of the lake ecosystem. In the case of the Salton Sea, there are other (human) demands for water that flows in the influent streams 12, 13, 14, possibly diverting all or part of that water. Water districts want the influent water or streams 12, 13, 14 for city use near the Salton Sea.

The method of the present invention solves the problem of restoring the lake 10 by creating a number of smaller lakes or smaller lake sections 22, 23, 24, 25. Each lake section 22, 23, 24, 25 is capable of having a different level of salinity. Each is capable of functioning as a separate ecosystem for sustaining plant and animal life based on the salinity of the particular smaller lake section 22, 23, 24 or 25.

In accordance with the method of the present invention, the saline lake 10 is divided into a number of smaller lake sections 22, 23, 24, 25 using a plurality of levees or dikes. These dikes 18, 19, 20, 21 are preferably concentrically placed. These levees or dikes include preferably an outer dike 18, first inner dike 19, second inner dike 20 and third inner dike 21. It is possible to perform the method and apparatus of the present invention using more or fewer levees/dikes. At the central portion of the saline lake 10 (inside levee or dike 21), there is provided one or more breathing brine areas 26, 27.

In FIGS. 2-4, schematic illustrations show more particularly the construction detail for the plurality of dikes or levees 18, 19, 20, 21 and the relative elevations of the dikes 18, 19, 20, 21 and the smaller lake sections 22, 23, 24, 25. In FIGS. 1-2, the saline lake 10 has a shoreline 11 that basically defines the periphery of the lake 10. As part of the method of the present invention and as illustrated in FIGS. 2-3, a first, smaller outer lake section 22 is formed in between shoreline 11 and a first dike or levee 18. In FIG. 3, this method is illustrated using a suction dredge 61. The dredge 61 initially places geotextile tube 47 and fills it with available fill or sediment or other material that is available to the dredge 61.

In FIG. 2, the first smaller lake section 22 that is formed provides an outermost smaller lake section 22 that surrounds the remaining smaller lake sections 23-25 and a central breathing brine pond area or areas 26, 27. An interconnecting canal 69 can be used to enhance transmission of highly saline water between the ponds 26, 27. A siphon or siphons 70 can be used to transfer fluid between any river 12, 13, 14 and any selected lake 22, 23, 24, 25 or pond 26, 27. As an example, siphon 70 enables water flow between lake 22 and the area 71 inside levee 21. A siphon 70 can be used to connect areas preferably near the inflow (12, 13 or 14) with relatively fresh water to the dry areas 71 around the brine areas 26, 27 to

facilitate irrigation (e.g. in view of dust control). Navigation locks 72 enable navigation between the lakes 22, 23, 24, 25. In between two lakes (e.g. 22, 23) with different water levels there should be at least one lock 72 to facilitate navigation. Thus, there would be provided at least three locks 72 needed to connect the four lakes 22, 23, 24, 25.

In FIG. 2 dimension "A" designated by the numeral 28 illustrates the distance that is spanned by the plurality of smaller lake sections 22, 23, 24, 25. In viewing FIG. 1, it can be seen that this dimension "A" 28 will vary and can be determined by contour lines. The crest elevation of each dike or levee 18, 19, 20, 21 will preferably be at a constant elevation for each particular dike or levee 18, 19, 20, 21.

In FIG. 2, the outer dike 18 has a crest elevation 29 that can, for example, be -228 feet. This would be an elevation that would maintain a water surface elevation 33 of the outer, smaller lake section 22 of preferably about -230 feet, as an example.

Dike or levee 19 has a crest elevation 30 (e.g. -240) for maintaining a second smaller lake section 23 with a water surface elevation 34 of, for example, -242 feet. Dike or levee 20 provides a crest elevation 31 (e.g. -250 feet) for maintaining a third smaller lake section 24 having a water surface elevation 35 of, for example, -252 feet. Finally, dike or levee 21 has a crest elevation 32 of, for example, -260 feet for maintaining a fourth smaller lake section 25 with a water surface elevation 36 that can be about -262 feet, for example.

The breathing brine areas 26, 27 have a brine area elevation 37 that is below the elevation of crest 30 of levee 21 such as, for example, about -270 feet. These elevations are merely exemplary, and are not deemed to limit the scope of the present invention.

FIGS. 5, 6 and 7 show details of construction that can be used for the dikes or levees 18, 19, 20, 21. In FIG. 6, a geotextile tube 38 can be filled with fill material 44 that is made available for suction dredge 61. Fill material 44 can be pumped into geotextile tube 38. After being filled with material 44, the tube 38 can then be surrounded with additional fill material 39 to provide the dike or levee shape that is shown in FIG. 5. For example, in FIG. 5, the dike or levee 19 provides a crest 40, upstream face 41, and downstream face 42. The main construction consists of many hundreds of miles of small low head dikes which is attractive in view of safety (compare to high head dams in seismic areas). Also the type of dike construction (e.g. geotube 47) will enhance safety. Repetition of elements facilitates optimization and efficiency during the phased implementation.

In FIG. 6, the dike or levee 18 represents the outermost dike or levee that would face homes, parks or the like that are located near the shoreline 11. A beach fill material 46 can be applied at the upstream face 45 as shown in FIG. 6. In FIG. 6, a geotextile tube 47 is filled with pumped fill material 48 that can be pumped into the tube 47 using suction dredge 61. The geotextile tube 47 can be surrounded with fill material 49 to provide a desired shape for the dike or levee 18, providing a crest 51, downstream face 50 and upstream face 45. The levee 18 separates smaller lake section 22 from smaller lake section 23.

FIG. 7 shows a spillway section 52 that could be provided to any one of or all of the dikes or levees 18, 19, 20, 21. The spillway section 52 has an upstream face 53, downstream face 54, and a concrete layer 55 that can be applied to the downstream face 54. Geotextile tube 56 is filled with pumped fill material 57 using suction dredge 61. Additional fill material

58 is placed around the filled geotextile tube 56 to provide a dike or levee shape having upstream face 53, crest 59, and downstream face 54. Arrows 60 in FIG. 8 indicates schematically the flow of water over spillway section 52 as an emergency flow controller in the event of heavy rain or like weather that increases dramatically the influent flow from influent sources such as streams 12, 13, 14 to lake 10.

Flow controllers 68 can be used to control the flow from one smaller lake section 22 to the following, downstream lake sections 23 or 24 or 25. A siphon 70 can be used to control the flow between the innermost smaller lake section 25 and the breathing brine areas 26, 27. Flow controllers 68 are schematically shown in FIG. 5 and can include any number of known flow controllers such as weirs, siphons, valves, pumping stations, lift stations, or the like.

The present invention thus provides a method of restoring a saline lake 10 by dividing the lake 10 into smaller lake sections 22, 23, 24, 25. Because the influent streams 12, 13, 14 flow first into an outer smaller lake section 22, flow control devices 68 allow water to flow to the next lake section 23 when the influent streams 12, 13, 14 have elevated the surface 33 of lake section 22 to a selected first elevation.

Water flows from the lake section 22 to the lake section 23. Similarly, the elevation 34 of lake section 23 is set using a weir or other flow controller 68. In this fashion, levees 18, 19, 20, 21 and flow controllers 68 such as weirs, or the like can be used to create a cascade effect wherein the elevations of the lake sections 22, 23, 24, 25 gradually decrease from the outermost lake section 22 to the innermost lake section 25. The flow controllers 68 are positioned to prevent short circuiting of flow (see arrows 43 in FIGS. 1 and 4). The breathing brine areas 26, 27 would have an elevation 37 that is lower than the elevation 36 or the innermost lake section 25. The dikes or levees 18, 19, 20, 21 as shown and described form the smaller lake sections 22, 23, 24, 25.

By maintaining selected water surface elevations 33, 34, 35, 36 for the lake sections 22, 23, 24, 25 the salinity gradually increases as water flows from the influent streams 12, 13, 14 to the outer smaller lake section 22, to the next lake section 23, then to the other lake sections 24, 25 in sequence and finally to the breathing brine areas 26, 27. The relatively fresh inflowing waters (12, 13, 14) will flow through the chain of lakes 22, 23, 24, 25. In each lake 22, 23, 24, 25 some water disappears by evaporation so for each lake it holds that the salinity of the outflow is higher than the salinity of the inflow. (This has nothing to do with evaporation time). At the end of this chain the salt waters will enter the brine ponds 26, 27. With the high laying inflow and low laying brine the flow through the lakes is under gravity (each downstream lake lies a little bit lower than the upstream one).

This system of a plurality of dikes 18, 19, 20, 21 and smaller lake sections 22, 23, 24, 25 ensures that each lake section 22, 23, 24, 25 can have a distinct ecosystem that is defined by the salinity of water contained. Similarly, the crest of each dike or levee 18, 19, 20, 21 can provide a land mass area that can grow vegetation that is compatible with the salinity level of the adjacent lake sections.

Each of the lake sections 22, 23, 24, 25 can be sized to support selected fisheries and marine life, or for certain water sport use (e.g. boating, sailing).

The following is a list of parts and materials suitable for use in the present invention.

PARTS LIST

Part Number	Description
10	saline lake
11	shoreline
12	influent stream
13	influent stream
14	influent stream
15	arrow
16	arrow
17	arrow
18	outer dike
19	first inner dike
20	second inner dike
21	third inner dike
22	smaller lake section
23	smaller lake section
24	smaller lake section
25	smaller lake section
26	breathing brine area
27	breathing brine area
28	dimension A
29	crest elevation
30	crest elevation
31	crest elevation
32	crest elevation
33	water surface elevation
34	water surface elevation
35	water surface elevation
36	water surface elevation
37	brine area elevation
38	geotextile tube
39	fill material
40	crest
41	upstream face
42	downstream face
43	arrow
44	pumped fill material
45	upstream face
46	beach fill material
47	geotextile tube
48	pumped fill material
49	fill material
50	downstream face
51	crest
52	spillway section
53	upstream face
54	downstream face
55	concrete layer
56	geotextile tube
57	pumped fill material
58	fill material
59	crest
60	arrow
61	suction dredge
62	arrow
63	suction line
64	discharge line
65	boom
66	arrow
67	fitting
68	flow controller
69	canal
70	siphon
71	area
72	navigation lock

All measurements disclosed herein are at standard temperature and pressure, at sea level on Earth, unless indicated otherwise. All materials used or intended to be used in a human being are biocompatible, unless indicated otherwise.

The foregoing embodiments are presented by way of example only; the scope of the present invention is to be limited only by the following claims.

The invention claimed is:

1. A method of restoration of a highly saline lake having a periphery, a water bottom, and an influent water source that enables water to be added to the lake, comprising the steps of:

- a) forming a series of dikes that separate the highly saline lake into a plurality of smaller lakes, each having a water surface, the lakes including an outer lake that is next to the periphery and one or more inner lakes, each dike and each lake water surface having an elevation;
- b) flowing water from the influent source to the outer lake;
- c) flowing water from the outer lake to the inner lakes;
- d) providing a breathing brine area that is surrounded by the smaller lakes;
- e) flowing water from the inner lakes to the breathing brine area;
- f) cascading water in steps "c" through "e" from one lake to another lake with simultaneous drops in elevation beginning at the outer lake, then to the inner lakes and then to the breathing brine area; and
- g) gradually increasing the salinity of the water that flows in steps "c" through "f".

2. The method of claim 1 wherein the outer lake has a lower salinity level than the salinity of any of the inner lakes.

3. The method of claim 1 wherein there are at least two inner lakes.

4. The method of claim 1 wherein there are at least three inner lakes.

5. The method of claim 1 further comprising providing the breathing brine area at a position that is surrounded by all of the inner lakes.

6. The method of claim 5 further comprising maintaining in the breathing brine area some dry land.

7. The method of claim 5 further comprising maintaining in the breathing brine area a brine reservoir having some water with a high salinity that is higher than the salinity of at least one of the smaller lakes.

8. The method of claim 5 further comprising maintaining in the breathing brine area a brine reservoir having some water with a high salinity that is higher than the salinity of water in multiple of the smaller lakes.

9. The method of claim 1 wherein each dike has an upper average elevation, and the dikes have differing respective upper elevations.

10. The method of claim 9 wherein each dike that surrounds another dike has a greater upper average elevation than the dike it surrounds.

11. The method of claim 1 wherein the dikes are concentric.

12. The method of claim 11 wherein the smaller lakes have a total water volume that is about half the volume of the saline lake.

13. The method of claim 1 wherein the smaller lakes are concentric lakes.

14. A method of restoration of a saline lake having a periphery, a water bottom, and an influent water source that enables water to be added to the lake, comprising the steps of:

- a) forming a series of dikes that separate the saline lake into a plurality of smaller lakes, each with a water surface, the lakes including an outer lake that is next to the periphery and one or more inner lakes, each dike and each lake water surface having an elevation;
- b) enabling a water flow path that sequentially transmits water from the influent water source to the outer lake, to the inner lakes and then to a breathing brine area;
- c) allowing salt to concentrate at the breathing brine area as water evaporates from the breathing brine area;

d) enabling water to at times accumulate in the breathing brine area, said water flowing to the breathing brine area at least in part from an inner lake;

e) concentrating the saline content of the water in steps "b" through "d" in greater concentrations as the water flows from the outer lake to the inner lake; and

f) cascading water in steps "c" through "e" from one lake to another lake with simultaneous drops in elevation from the outer lake to the inner lake to the breathing brine area.

15. The method of claim 14 wherein there are at least two inner lakes.

16. The method of claim 14 wherein there are at least three inner lakes.

17. The method of claim 14 further comprising providing the breathing brine area at a position that is surrounded by all of the inner lakes.

18. The method of claim 14 further comprising maintaining in the breathing brine area some dry land.

19. The method of claim 14 further comprising maintaining in the breathing brine area a brine reservoir having some water with a high salinity that is higher than the salinity of one of the smaller lakes.

20. The method of claim 14 further comprising maintaining in the breathing brine area a brine reservoir having some water with a high salinity that is higher than the salinity of water in multiple of the smaller lakes.

21. The method of claim 14 wherein each dike has an upper average elevation, and the dikes have differing respective upper elevations.

22. The method of claim 14 wherein each dike that surrounds another dike has a greater upper average elevations.

23. The method of claim 14 wherein the dikes are concentric.

24. The method of claim 14 wherein the smaller lakes are concentric lakes.

25. The method of claim 14 wherein the smaller lakes have a total water volume that is about half the volume of the saline lake.

26. A method of restoring a lake that has an influent flow stream of a first volume and an effluent flow stream that is smaller than the first volume so that the salinity of the lake is increasing over time, comprising the steps of:

a) dividing the lake into a plurality of lake sections using dikes as dividers;

b) providing a water flow course from a first lake section to a second lake section;

c) wherein in step "b", the water cascades from higher to lower elevations;

d) after step "b", transmitting water from the second lake section to a breathing brine section wherein water evaporates, leaving brine in the brine section; and

e) wherein the salinity of water flowing in steps "b" through "d" gradually increases in salinity.

27. The method of claim 26 wherein there are at least two inner lakes.

28. The method of claim 26 wherein there are at least three inner lakes.

29. The method of claim 26 further comprising providing the breathing brine area at a position that is surrounded by all of the inner lakes.

30. The method of claim 26 further comprising maintaining in the breathing brine area some dry land.

31. The method of claim 26 further comprising maintaining in the breathing brine area a brine reservoir having some water with a high salinity that is higher than the salinity of at least one of the smaller lakes.

32. The method of claim 26 wherein each dike has an upper average elevation, and the dikes have differing respective upper elevations.

33. The method of claim 26 wherein each dike that surrounds another dike has a greater upper average elevation than the dike it surrounds.

34. The method of claim 26 wherein the dikes are concentric.

35. The method of claim 26 wherein the smaller lakes have a total water volume that is about half the volume of the saline lake.

36. A method of restoration of a highly saline lake having a periphery, a water bottom, and an influent water source that enables water to be added to the lake, comprising the steps of:

- a) forming a series of dikes that separate the highly saline lake into a plurality of smaller lakes, each having a water surface, the lakes including an outer lake that is next to the periphery and one or more inner lakes, each dike and each lake water surface having an elevation;
- b) flowing water from the influent source to the outer lake;
- c) flowing water from the outer lake to the inner lakes;
- d) providing a breathing brine area that is surrounded by the smaller lakes;
- e) flowing water from the inner lakes to the breathing brine area;
- f) cascading water in steps "c" through "e" from one lake to another lake of higher elevation with drops in elevation beginning at the outer lake, then to the inner lakes having a median elevation lower than the outer lake higher elevation and then to the breathing brine area having a lower elevation that is lower than the median elevation; and
- g) gradually increasing the salinity of the water that flows in steps "c" through "f".

37. The method of claim 36 wherein the outer lake has a lower salinity level than the salinity of any of the inner lakes.

38. The method of claim 36 wherein there are at least two inner lakes.

39. The method of claim 36 wherein there are at least three inner lakes.

40. The method of claim 36 further comprising providing the breathing brine area at a position that is surrounded by all of the inner lakes.

41. The method of claim 36 further comprising maintaining in the breathing brine area some dry land.

42. The method of claim 36 further comprising maintaining in the breathing brine area a brine reservoir having some water with a high salinity that is higher than the salinity of at least one of the smaller lakes.

43. The method of claim 36 further comprising maintaining in the breathing brine area a brine reservoir having some water with a high salinity that is higher than the salinity of water in multiple of the smaller lakes.

44. The method of claim 36 wherein each dike has an upper average elevation, and the dikes have differing respective upper elevations.

45. The method of claim 44 wherein each dike that surrounds another dike has a greater upper average elevation than the dike it surrounds.

46. The method of claim 36 wherein the dikes are concentric.

47. The method of claim 46 wherein the smaller lakes have a total water volume that is about half the volume of the saline lake.

48. The method of claim 36 wherein the smaller lakes are concentric lakes.

* * * * *



MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Office of the General Counsel

February 8, 2005

Patrick J. Maloney
Law Offices of Patrick J. Maloney
2425 Webb Ave., Suite 100
Alameda, CA 94501

Dear Mr. Maloney:

Thank you for your February 1, 2005 letter regarding a "Non-admissibility Agreement" for Salton Sea Restoration discussions between Metropolitan Water District of Southern California (Metropolitan) and your clients. I have passed on your suggestion to Jeff Kightlinger, as per your request.

Metropolitan is participating in, and supports, the Salton Sea Restoration process now underway. Metropolitan believes that the best way to proceed with that Salton Sea Restoration process is with public disclosure and transparency rather than through confidential discussions among a few parties. Consequently, Metropolitan does not believe it is appropriate to enter into a "Non-admissibility Agreement" with your clients at this time.

Sincerely,

A handwritten signature in cursive script that reads "Linus Masouredis".

Linus Masouredis
Deputy General Counsel

cc: Jeff Kightlinger, General Counsel

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THOMAS S. VIRSIK

Via email to Clerk of the Board commentletters@waterboards.ca.gov

June 28, 2014

State Water Resources Control Board
1001 I Street
Sacramento, CA 95812
Attention: Clerk of the Board

Re: Agenda Item 5 – Emergency Regulations
SWRCB BOARD MEETING/HEARING
Tuesday, July 1, 2014 – 9:00 a.m.
Wednesday, July 2, 2014 – 9:00 a.m.

Dear Clerk:

The Law Office of Patrick J. Maloney (the Law Firm) is providing the within public comments on the proposed Emergency Regulations (Regulations or Regs) being considered by the State Water Resources Control Board (SWRCB or the Board). Please note that the comments are not filed on behalf of any specific current, past, or potential client nor is this letter intended to request relief with respect to any pending or past matter. While the below comments refer to actual proceedings, persons, policy, documents, and contents of public files, the references are used for illustration and policy discussion purposes only. The examples have been selected in part because (1) the Law Firm is intimately familiar with the matters and (2) they do not relate to the basins presently subject to curtailment.

Statement of Support

Broadly speaking, the Law Firm supports the policy behind the Regulations. The Law Firm was one of a set of voices over a decade ago that advocated for a rational and comprehensive modification of the California water rights system based on reasonable use, erasing legal distinctions not based in verifiable science (such as treating ground and surface water separately), utilizing contemporary technology to strategically approach water management, greater emphasis on the Statements of Water Diversions, and market dynamics. The Regulations – and general direction of this Board in the recent past -- are broadly consistent with the

approaches the Law Firm advocated in 2002. It remains important to have a definable water entitlement subject to drought impacts to support the stability of property ownership across California. The advocacy in 2002 was based on well-reasoned existing authority rather than any unique insights, which authority remains authoritative today. See Light v. State Water Resources Control Board, 2014 WL 2724856 (Cal.App. 1st, June 16, 2014), relying on In re Waters of Long Valley Creek Stream System (1979) 25 Cal.3d 339 and People ex rel. State Water Resources Control Bd. v. Forni (1976) 54 Cal.App.3d 743.

Cautionary Note on a Lack of a Clean Slate

The Regulations are based on certain implicit assumptions. First, the Regs assume that the eWRIMS system is accurate and reliable and thus can be used as a primary tool for calculation and notice purposes. Reg § 875(c)(1) and (2); (d). Another assumption is that prior Board policy was consistent with current Board policy, thus all filers and water rights participants are on a level playing field. Neither assumption is entirely accurate. The Board is not starting from a clean slate and should be aware that the present array of filings and information under its control arises from varying circumstances and at times was highly influenced by policies antithetical to the current policies underling the Regulations. Our suggestion is to craft a regulation that recognizes and provides a means to correct past Board anomalies instead of relying on the present unique means of seeking reconsideration at the Board level when a past application of (now contradictory) policy or some other error not the responsibility of the water user/diverter creates prejudice during a curtailment event. Reg. 875(f) (curtailment orders subject to reconsideration at Board level pursuant to petition process).

Regulations Explain Critical Role of Priority and Role of Statements of Water Diversion

The record in support of the Regulation contains an explanation of the current law of and Board policy about the Water Rights system, including an explanation of the role and processing of the Statements of Water Diversion. Digest, pages 5 et seq. These explanations include a discussion of how senior appropriative water rights may trump junior ones and thus more senior water rights holders are more likely to receive water in times of shortage. Page 6. Such statements are black letter law and presumably uncontroversial on their face. A key resource used to track such senior rights are the Statements of Water Diversion that are to be filed by the vast majority of users/diverters. Page 11. The Law Firm has assisted clients in filing 100's of such Statements. In the past there existed Board policy hurdles to some of the filings as well as unexplained delays that may prejudice filers in the absence of a method to formally work through such anomalies ahead of (or parallel to) any curtailment orders or processes.

Examples From Two Non-curtailed Areas

To concretely illustrate several of the potentially prejudicial past dynamics in the filing system and why the Regs need a method to address past practices, the Law Firm will point to two separate Statement filing anomalies, one relating to the Salinas Valley and the other to the Imperial Valley.

With respect to the Salinas Valley, the Law Firm submitted 100's of Statements for diverters starting in the late 1990's. The Law Firm has continued to update some, while in other instances (former) clients chose to take over that responsibility. But for reasons unknown to the Law Firm, a small but not inconsequential array of submitted Statements remained unfiled for years, with the most extreme for over a decade. Much correspondence (calls, etc.) was exchanged over the years to effect processing, with incomplete results. According to eWRIMS, the last of the early 2000's Statements were entered in the database and assigned numbers within the last year. Compare in eWRIMS, timely filing of S015562 with late filing of S022475 (both submitted March 2002, yet 10,000 Statement numbers apart). No explanation was provided or notice that the late filing had occurred, other than the annual supplemental filing demand (which triggered the eWRIMS inquiry and discovery of the recent filing). There is nothing suggesting that the very tardily processed Statements were unique, suspect, or anything other than routine (for the Salinas Valley). Given the peculiar timing, the burden is now on the filer of the timely filed but tardily processed Statement(s) to catch up on a decade of supplemental filings. Thankfully, there is no curtailment proceeding with respect to the Salinas Valley so a delay of even a decade need not prejudice the filers so long as adequate opportunity is allowed for supplemental filings to be added to the database and relate back to the original time periods. No prejudice appears at the moment for the subject Salinas Valley filings. But had the same situation occurred in one of the curtailed basins, the only remedy would be to petition for reconsideration of a curtailment order directed to the aggrieved filer and convince the Board of the inequity of imposing prejudice due to events out of the filer's hands. A simple administrative error or oversight can only be addressed by a formal petition to the Board, per the proposed Regs.

The second example comes from the Imperial Valley and is not on its face a function of error or unexplained delay, but Board policy. Statements of Water Diversion based principally on pre-1914 rights were submitted in 2006 and according to public documents, five years later they were all still sitting unprocessed in a staff office, awaiting an executive decision. See enclosed email. The final decision apparently was made in November 2012 to not process the Statements. See enclosed November 13, 2012 letter.¹ The policy on which the 2012 decision relies is contrary to the policy about water rights and the role of Statements of Water Diversion posted in support of the Regs. The policy of the Board has radically shifted between 2012 and now.

In 2012 the Board's policy with respect to Statements of Water Diversion included a comparison of the quantity of water being reported under various rights, rather than a comparison of the rights themselves. "The Division has received no information to document that the farmers divert water in excess of [the permit holder's] Permit 7643 at Imperial Dam." November 13, 2012 letter, first page. The current policy posted in support of the Regs, however, focuses on the priority of appropriative rights rather than the quantity of water, "As between appropriators,

¹ While there was litigation occurring on Imperial Valley water matters for over a decade and the permit holder asked the SWRCB to sanction the Law Firm for submitting the Statements, the written executive decision to reject all Imperial Valley Statements does not rely on or reference litigation or any litigation dynamic.

junior water rights holders may only divert when there is sufficient water to completely fulfill the needs of more senior appropriators.” Digest, at page 6. The submitted Statements sought to protect the pre-1914 rights, rather than the permitted rights on which the permit holder already reports. Permit 7643. The Board has recognized that in the Imperial Valley, the permitted and pre-1914 rights exist side by side. WRO 2002-0013 (revised) at 3. By definition, the permit holder could only report on permit diversions, not pre-1914 ones. Nor did the permit holder choose to file Statements covering pre-1914 right diversions, which could have made the individual ones duplicative. Nevertheless, Board policy firmly rejected any and all Statements reporting on pre-1914 rights. The November 13, 2012 letter is based on prior policy that seemingly did not rely on the priority distinctions the present Reg background explains, where the priority of the right is key to how curtailment functions. Digest, at page 6.

Like the Salinas Valley example, had curtailment commenced in the Imperial Valley, the prior policy and rejection of the proffered Statements would have left the filers with nothing in eWRIMS showing their claim of use of pre-1914 rights so as to avoid curtailment of seemingly (and falsely) junior rights. Again, an aggrieved putative filer would have no option but to seek reconsideration based on the material shift in policy at the Board.

Other Policy Issues on Statements of Water Diversion

The Law Firm also supports the expansion of the use of Statements to report what is now known as groundwater, albeit such modifications may occur as part of the process presently in place on groundwater management. As part of any data collection process (via the Statements or otherwise), the State should no longer allow individual counties or water districts the right to determine the nature of the water right and especially what data is going to be made public. The Board has under prior policy deferred substantially to individual agencies about what water information that agency chooses to make public. For example, in 2000, the Board quashed subpoenas for certain water data in the hands of the Monterey County Water Resources Agency (MCWRA) because that local agency desired information be kept private. “The protestants have not demonstrated that their need for the personally identifiable information outweighs the need of the MCWRA to keep this information confidential.” July 6, 2000 Order Quashing Subpoena, Application 30532, at fourth (unnumbered) page, a copy of which is enclosed. Public policy analysis, however, shows that reduced confidentiality would result in net gains to the State. Letter and submission by Dr. Peter Reinelt, Chair, Department of Economics, SUNY Fredonia, February 26, 2014 (originally submitted for SWRCB Immediate Drought Response Options workshop), enclosed.

In addition, to the extent that the Board chooses to articulate current policy about Statements of Water Diversion in this era of curtailment, the Law Firm suggests that the Board articulate a liberal standard on the ground that more information is better than less or none at all. The Imperial Valley Statements rejected by the Board could have been available to provide greater and more detailed information about water use in that region, which could assist the Board if/when it is called to exercise its continuing jurisdiction over water dynamics in that region. WRO 2002-0013 (revised).

Thank you for allowing the Law Firm to provide comments on an important public matter with long-term strategic implications to the future of the State.

Sincerely,

Thomas S. Virsik

Thomas S. Virsik

Encl.

April 2, 2002 Summary of Position of Sax Report

November 12, 2012 letter re Imperial Valley Statements

September 28, 2011 email re Maloney documents

July 6, 2000 Order Quashing Subpoena, Application 30532

February 26, 2014 Letter and submission by Dr. Peter Reinelt, Chair, Department of Economics,
SUNY Fredonia

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JOHN F. HANSON, JR.
OF COUNSEL

April 2, 2002

Paul Murphey
Division of Water Rights
SWRCB
Sacramento, California

Re: Workshop on Professor Sax's Report
SWRCB No. 0-076-300-0
April 10, 2002

Dear Mr. Murphey:

Professor Sax's Report is a significant document. The SWRCB should pay particular attention to Chapters V and VI. The solutions Professor Sax proposes in these two Chapters are important to water issues in the state and are particularly important to California's economy over the next fifty years. Our comments on the Report are divided into the following categories:

- A. Background
- B. Responses to the Questions Posed by the Board
- C. People v. Forni
- D. Indefinite Nature of California Water Rights
- E. Existing Statutory structure

Background

Over the last thirty years lawyers in our Office have been involved in a number of different water issues in the State of California:

1>Developed the arguments and positions at the SWRCB on behalf of private clients which ultimately became People v. Forni.

2>Represented major landowners throughout California and Nevada.

3>Represented major financial institutions with concerns about their investments in California because of the water issue.

4>Co-Authored an article entitled “Restructuring America’s Water Systems” published by the Reason Foundation. Neal, Kathy, Patrick J. Maloney, Jonas A. Marson and Tamer E. Francis, Restructuring America’s Water Industry: Comparing Investor-Owned and Government-Owned Water Systems, Jan. 1996 (Reason Foundation, Policy Study No. 200). Many people see this article as an argument for privatization of the water delivery system in America. Morgan, Steven P. and Jeffrey I. Chapman, Issues Surrounding the Privatization of Public Water Service, Sept. 1996 (ACWA). The word “privatization” does not appear in the article. The article has received extensive criticism from organizations like ACWA, but the Reason Foundation article suggests public policy makers should rethink how water is distributed and managed in America and California in particular. The article has been purchased and studied by most significant water interests in the world including but not limited to financial institutions, water purveyors, engineering firms, and think tanks.

5>Developed the Instadjudicator. This is an interactive database that instantly determines a landowner’s water rights or water entitlement in the Salinas Valley. The interactive database uses public source inputs such as chains of title, the APN system, assessor map overlays, County and State publicly available databases, defined engineering terms, the results of computer runs from the Salinas Valley Integrated Ground and Surface Water Model and other non-proprietary information. The utility of such a tool is to (1) quickly develop “what if” scenarios, and (2) to identify anomalous or skewed inputs or uses, e.g., identify by inferring from multiple sources that water use in a section of the analyzed area is substantially higher than the surrounding areas viz. unreasonable. We are not suggesting that the Instadjudicator is the only solution to the State’s water issues but what is needed is a similar tool for all over-drafted (and ultimately all) basins so there can be a critical analysis of a Basin’s water issues and “what if” scenarios can be quickly understood.

Engineers involved in the Mojave case have reviewed the operation of the Instajudicator and suggested its use would hasten the resolution of the Mojave case. The Instadjudicator was offered to the SWRCB with appropriate technical assistance for its use but the offer was rejected. At a contested hearing the

SWRCB refused to force the Monterey County Water Resources Agency to release data by which the instant adjudication of the Salinas Valley could be accomplished. Hearing on Motion to Quash Subpoenas, 6/28/00, Application 30532. A staff member of the SWRCB has suggested there are two problems with the Instadjudicator: A) The name and B) that this office developed it.

6>The office is currently working on an analysis of the leadership in the Water and Sewer industry with prominent People of Color. The purpose of this analysis is to compare the existing leadership of the water industry against the demographic make-up of the State now and forty years from now. The preliminary results of this research indicate that the California's water industry is not reflective of the ethnic demographic make-up of the State now or forty years from now.

Responses to the Questions Posed by the Board

Professor Sax proposes quantifiable criteria by which the water user could determine whether or not it is pumping percolating groundwater. The first problem with the proposed criteria is that they will involve more engineers arguing arcane hydrologic issues. These arcane hydrological issues are irrelevant if there is an unreasonable use of water. More importantly the percolating groundwater and underground surface water classification will change depending on what crop is used and how much water is being pumped in a given basin. What these criteria do is add further confusion rather than bring more definability to water usage in California. From time to time or place to place making the fine distinctions advanced by Professor Sax may be necessary, but only as a component of an overall solution-oriented water management system, not as the starting point. Making the management of California water more complex is not in the State's interest.

People v. Forni

Over thirty years ago adjudication was proposed for the Napa Valley and our vineyard clients decided adjudication would not solve the water problems caused by Frost Protection in the Napa Valley. The clients and their representatives instead worked closely with the staff of the SWRCB led by Ken Woodward, the former Chief of the Division of Water Rights, and the SWRCB to develop the principles which ultimately became People v. Forni. These principles and facts were presented in a highly contested hearing before the SWRCB. The arguments and the facts presented by our clients were the basis for the See decision and from

the See decision the SWRCB developed the regulation challenged in People v. Forni. People ex rel. SWRCB v. Forni (1976) 54 Cal.App.3rd 743; See Decision 1404. Our clients presented these positions because they felt the only way a system for Frost Protection could be developed was if all water sources in the water basin were considered and managed. Under the far-sighted leadership of Chairman Adams and Members Robie and Auer the SWRCB used its Sections 100 and 275 powers and brought stability to the region's water problems and allowed the Napa Valley to prosper. The lesson the SWRCB can learn from Forni is that once it develops a carefully reasoned engineering position it should take an active role in solving a region's water problem before the problem becomes a crisis.

For the last five years another set of clients have advocated a similar solution, the application of Sections 100 and 275 powers to the Salinas Valley's salt water intrusion and nitrate problems and the SWRCB has repeatedly rejected our clients' pleas. The current Chief of the Division of Water Rights has opposed the use of Sections 100 and 275 powers by the SWRCB because "initiating an unreasonable use proceeding would be viewed by the local agency as a 'blind-side' attack, and would probably be considered a back-door adjudication by the agricultural community. Nevertheless, if other efforts fail, this type of action would be preferred over an adjudication because the SWRCB could address administratively rather than in a judicial proceeding in superior court." (Confidential) Memorandum from Harry Schueller on Salinas Valley, June 16, 2000, page 8. The SWRCB's inaction has put in jeopardy the water supply of a major city in California and will likely cost the taxpayers (State and/or local) tens or hundreds of millions of dollars that could have been avoided by forcing a certain limited segment of the agricultural community to use water reasonably in the first place. The SWRCB has the power to solve water problems in this State and most of the issues raised in Professor Sax's Report. It must use the power and not worry about offending local water agencies or limited segments of the agricultural community.

Indefinite Nature of California Water Rights

No one really knows who has water rights in California. All water licenses are subject to vested rights. What those vested rights are is anybody's guess. Probably the most interesting statement made in Professor Sax's Report is found in footnote 122 wherein he cites In re Waters of Long Valley for the proposition that there is no such thing as unexercised riparian water rights in California. Long Valley probably does not say that, but the point is there is no water right in

California if the actual or contemplated water use is unreasonable. The Sax Report is full of references to cases by various California courts over the last century, which apply the reasonableness test to solve a water problem. There are no absolute water rights. A water right disappears in California when the needs of the community demand it.

The most disturbing problem we have in California water issues is that the SWRCB cannot figure out what its position is on most issues and the underflow issue is just a manifestation of the problem. We have staff letters of the SWRCB and Licenses telling the public that certain water rights exist yet frequently in public hearings of all types we have representatives of the SWRCB or other agencies of the State denying the validity of SWRCB's earlier positions. The SWRCB looks like a fool. To the outside world the State of California looks like a fool. In earlier times California could do whatever it pleased. Now, however, we have few major banks or financial institutions left in California and in order to maintain financing for our homes, agriculture and industries we must bring some order and discipline to the State's water system. We have to have more definability in our water system. We cannot reject definability merely because it upsets the sensitivities of certain water agencies or members of the agricultural community. The magic of People v. Forni and other things done in the Napa Valley to define water rights and optimize the region's water resources brought confidence to the investing and lending institutions and helped spur the development of California's wine industry.

Existing Statutory Structure and Actions of the SWRCB

Professor Sax's Report fails to recognize how much the Legislature and the SWRCB has actually done to solve the State's water problem. We direct the SWRCB's attention to Water Code Sections 5100 et seq. and 1010 et seq. and the forms prepared by the SWRCB. STATEMENT (1-00) and ST-SUPPL (2-01). No one knows exactly how to fill out the forms because of the SWRCB's inability to define underflow and consumptive use but at least there is a form. SWRCB has expanded the Section 5100 form dramatically in recent years without legislative approval. The forms should be expanded administratively to require water users to report all types of water sources and use. If the SWRCB does this administratively, there will be no need for the legislative action feared by Professor Sax. Once the forms are filed the data should be put into the existing publicly accessible SWRCB databases defined by USGS basin lines. Then Computer tools

should be developed for each water basin such as an “integrated groundwater and surface water model” throughout the State by which anyone could easily ascertain a reasonable use of water for a given basin.

Such a system would encourage conservation and the orderly transfer of water. Either the SWRCB or somebody else could then stop anybody who is unreasonably using water pursuant to Water Code Sections 100 and 275. Anybody who is using less than a reasonable amount water could transfer water to somebody who has a need for the conserved water. Then the State’s water argument will be over reasonable use of water in any given basin not over the application of unclear laws to disputed hydrological facts.

Ultimately if the expanded Section 5100 form is not filled out and filed by a water user, the Legislature could develop legislation establishing a presumption the water user forfeits whatever water rights it has unless the water user can demonstrate good cause for not filing the form. Notwithstanding much of the uncertainty about the present filing system, this office has been active in filing reports for its various clients, relying on various public sources to explain and detail positions where the SWRCB has not provided clarity. This office understands the system to be akin to recording ownership of real property. In other words, if a water user declines to follow the statute and does not file, its claim will be entitled to less weight than any competing claim of a water user who followed procedures and filed reports – similar to that of a property owner who takes title but does not record it. Water users also file Statements with the expectation that this State database will be used by EIR preparers to catalogue and analyze water rights for a given project. Save Our Peninsula Committee v. Monterey County Board of Supervisors (2001) 87 Cal.App.4th 99, 122; Petition for Extension of Time for Permit 5882 (Application 10216) (1999).

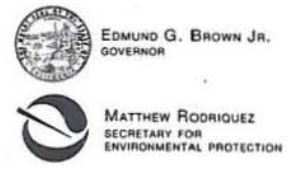
California’s computer industry deals with much more complex than the State’s water issues. The SWRCB should rely on this industry for solutions. The SWRCB’s existing data system on water rights should be modified to make all pumping data publicly available and a system of inquiry developed so the public can ascertain a reasonable water use standard for each basin.

Conclusion

The Sax Report offers important statutory history. The SWRCB should carefully consider the Report's generalized recommendations and develop an action plan to pursue the goal of a more defined system of water rights. This will ultimately lead to an overall solution-oriented water management system.

Very truly yours,

Patrick J. Maloney



EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

NOV 13 2012

In Reply Refer
To:KDM:A007482 *chmconnect*
knowles
266.001
Maloney IID statement

Mr. Thomas S. Virsik
Law Offices of Patrick J. Maloney
2425 Webb Avenue, Suite 100
Alameda Island, CA 94501-2922

Dear Mr. Virsik:

STATEMENTS OF WATER DIVERSION AND USE – COLORADO RIVER WATER USERS

This letter is regarding the Statements of Water Diversion and Use (statements) filed in 2006 on behalf of approximately 350 landowner/farmers in Imperial Valley who have a right to receive their water from the Imperial Irrigation District (IID).

The State Water Resources Control Board issued water right Permit No. 7643 to IID on January 6, 1950. Permit 7643 authorizes IID to divert a maximum of 10,000 cubic feet per second from the Colorado River from January 1st to December 31st of each year for irrigation and domestic use on 992,548 acres of land. IID diverts Colorado River water at Imperial Dam, thence into a canal system for distribution to its agricultural water users. IID also holds a pre-1914 appropriative water right and has a contract with the Secretary of Interior for the delivery of Colorado River water.

The statement filers are relying upon IID's pre-1914 right. California Water Code section 5101, subdivision (b) provides that a statement need not be filed if the diversion is covered by a permit. The statement filers receive water deliveries from IID, using IID facilities. The Division has received no information to document that the farmers divert water in excess of IID Permit 7643 at Imperial Dam. Thus, water diverted by IID at Imperial Dam under Permit 7643 to collectively serve its agricultural water customers need not be covered by statements filed by IID or others.

The statement filers filed the statements for water delivered from the IID canal system, stating that the turnouts are points of rediversion. Permit 7643 does not list any points of rediversion. Points of rediversion are not necessary in the permit because water diverted at Imperial Dam is

CHARLES R. HOPPIN, CHAIRMAN | THOMAS HOWARD, EXECUTIVE DIRECTOR

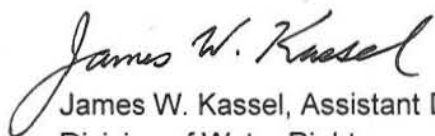


placed into a canal system and does not rejoin a stream system for subsequent redirection from a surface stream.

Statements of water diversion and use are not required to be filed for the diversion of water from a water body other than a surface or subterranean stream. (See Wat. Code, §§ 5100, subd. (c), 5101.) The farm turnouts are not points of diversion within the meaning of the statute, nor are they points of redirection. Also, as noted above, it appears that all of the water is accounted for in Permit 7643. Accordingly, the statements are not accepted. If you would like the statements returned to your firm, please advise the Division accordingly within 30 days of the date of this letter. After that date, the Division will destroy the statements in accordance with its records retention policy.

Katherine Mrowka is the senior staff person assigned to this matter. Ms. Mrowka can be contacted at (916) 341-5363 or by email at kmrowka@waterboards.ca.gov if you require further assistance. Written replies should be addressed as follows: State Water Resources, Division of Water Rights, Attn: Katherine Mrowka, P.O. Box 2000, Sacramento, CA 95812-2000.

Sincerely,



James W. Kassel, Assistant Deputy Director
Division of Water Rights

cc: Enclosed Mailing List

Petition for Modification List -- not
Statement of Water Diversion Mailing List

Mailing List

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RWF Family Partners & FLG Family Partners
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Brawley, CA 92227

Barbara Evoy - Maloney Statements

From: Bob Rinker
To: Evoy, Barbara
Date: 9/28/2011 1:28 PM
Subject: Maloney Statements
CC: Sawyer, Andy
Attachments: Maloney Documents.PDF

Barbara,

I received the attached documentation from Patrick J Maloney. He is the gentleman that spoke at a recent Board session indicating to date we have not processed his statements. I still have all of the filings in a box in my cube [REDACTED]. The letter is addressed to you and cc's the Board members. Still need direction on what we are going to do with his statements and how to address him.

Thanks,

Bob Rinker
Division of Water Rights
Fee & Data Management Manager
(916) 322-3143
rrinker@waterboards.ca.gov



Winston H. Hickox
*Secretary for
Environmental
Protection*

State Water Resources Control Board

Executive Office

901 P Street • Sacramento, California 95814 • (916) 657-0941
Mailing Address: P.O. Box 100 • Sacramento, California 95812-0100
FAX (916) 657-0932 • Internet Address: <http://www.swrcb.ca.gov>



Gray Davis
Governor

July 6, 2000

TO: PERSONS TO EXCHANGE INFORMATION FOR HEARING ON
APPLICATION 30532

ORDER QUASHING SUBPOENA OF CLIENTS OF MR. MALONEY

As part of an adjudicative proceeding on a water right application filed by the Monterey County Water Resources Agency (MCWRA), Application 30532, Mr. Patrick Maloney, attorney for a group of protestants which has been named "Salinas Valley Protestants," (protestants) issued a subpoena duces tecum (subpoena) to MCWRA. Two items that the protestants have requested that MCWRA produce pursuant to the subpoena are "all water extraction reports" (item 1) and "all water conservation reports" (item 2). MCWRA filed a Motion to Quash the Subpoena of Clients of Mr. Maloney (motion) as to items 1 and 2. MCWRA provided documents responsive to the other requests contained in the subpoena and they are not at issue in this motion.

A hearing was held on June 28, 2000, to provide an opportunity for the parties to present oral argument in accordance with Code of Civil Procedure section 1987.1. As hearing officer for the hearing on the motion and for the hearing on Application 30532 of MCWRA, I must resolve the motion. (Gov. Code, § 11450.30, subd. (b).) I read all briefs submitted prior to the hearing and I listened to the arguments given at the hearing.

Issues

MCWRA raises three issues in its motion:

1. The information requested in the subpoena is not relevant to the issues noticed for hearing on Application 30532.
2. The information requested in the subpoena is confidential by MCWRA ordinance 3717 and is protected by an outstanding order of the Monterey County Superior Court.
3. The subpoena is not valid because it was not served properly, not accompanied by a proof of service, and not accompanied by an affidavit.

Discussion

Relevance

California Environmental Protection Agency

MCWRA ordinance 3717 requires the annual reporting of groundwater extraction data and water conservation information on forms provided by MCWRA. The information reported is compiled in the MCWRA's Groundwater Extraction Management System (GEMS) database.

Pursuant to an order of the Monterey County Superior Court (Order on Motion to Compel Production of Well Extraction Data, *Orradre Ranch, et al. v. Monterey County Resources Agency*, No. 115777), Mr. Maloney has been given the water extraction data in the GEMS database aggregated by township and range without the personally identifiable portions. The court order does not address the conservation data.

The protestants contend that the groundwater extraction data and the water conservation data (items 1 and 2 in the subpoena) are relevant for four purposes:

1. To rebut MCWRA's water availability analysis;
2. To establish the protestants' conjunctive use of water in the Salinas Valley;
3. To "optimize" the water resources of the Salinas Valley; and
4. To determine how much water each person in the Salinas Valley should be allowed to pump.

The amount of water extracted from and conserved in the Salinas Valley groundwater basin may be relevant to the water availability issue noticed for the hearing on Application 30532. Water is not available for appropriation to the extent it deprives groundwater users of recharge on which they depend. The recharge serves groundwater extractors as a group, however, and it is the amount extracted in the aggregate – data that have already been made available to Mr. Maloney - not the amount extracted by any individual user, that is relevant to the inquiry. The personally identifiable portions of the reports in which extraction and conservation data are recorded are not relevant to any of the issues noticed for hearing.

The protestants contend that the subpoenaed data are needed as a matter of fundamental fairness to test the accuracy of the calculations, assumptions, and methodology used in MCWRA's water availability analysis. MCWRA developed and uses the Salinas Valley Integrated Groundwater and Surface water Model (SVIGSM) as a planning tool to analyze the hydrogeology of the Salinas Basin. MCWRA did not use the data in the GEMS database to develop or calibrate the SVIGSM. (Reply Brief, Exhibit A.) MCWRA did not use the GEMS database in developing its testimony, exhibits, or analysis for the hearing on Application 30532. (Reply Brief, Exhibit B.)

The protestants also contend that they need the subpoenaed information to establish their conjunctive use of water in the Salinas Valley. The protestants can use their own extraction and conservation data to show their use. The personally identifiable portions of the reports submitted by other groundwater users is not relevant to that issue.

The protestants contend that they need the subpoenaed information to enable the State Water Resources Control Board (SWRCB) to “optimize” the water resources of the Salinas Valley. The protestants contend that the SWRCB needs the subpoenaed information to develop a “rational solution” to the water problems in the the Salinas Valley. Neither optimizing the water resources of the Salinas Valley nor solving all of the water problems in the Salinas Valley is within the scope of the hearing on Application 30532. The purpose of the hearing on Application 30532 is to determine whether there is water available for the project described in the application. The subpoenaed information is not relevant to issues that are within the scope of the hearing.

The protestants contend that they need the subpoenaed information to determine how much water each person in the Salinas Valley should be allowed to pump. A determination of the amount of water each person should be allowed to pump would require an adjudication of the water rights of the Salinas Valley. An adjudication of water rights is outside the scope of the hearing and the subpoenaed information is not relevant to resolution of the issues noticed for the hearing on Application 30532.

The protestants have failed to establish the relevance of the subpoenaed information to the issues within the scope of the hearing.

Confidentiality

As described above, MCWRA ordinance 3717 requires the annual reporting of groundwater extraction data and water conservation information on forms provided by MCWRA. Section 1.01.13 of ordinance 3717 states that:

“The Agency shall restrict access to and distribution of personally identifiable information consistent with privacy protections and requirements and trade secret protections.”

Pumpers have relied on the confidentiality provision in complying with the ordinance. Without the confidentiality provision in the ordinance and promises of confidentiality made by MCWRA to the growers, it is doubtful that growers would submit the information. Many growers consider the information required to be submitted to be a trade secret. MCWRA needs the cooperation of the growers to get the information it needs to manage the water resources within its jurisdiction.

Section 1.01.02 of ordinance 3717 describes the purpose of the ordinance. The purpose includes:

1. Determine actual amounts of water extracted from the basin.
2. Provide information that can be used to develop demand management programs created by an inadequate water supply.
3. Facilitate and encourage water conservation by monitoring water use patterns and practices.

4. Facilitate the development of new water supplies by using the data collected to determine whether new water projects are necessary.
5. Allow MCWRA to allocate the costs of water management activities in the Salinas Basin and any new water projects for the basin, based on actual water use.

The success of MCWRA in managing the water resources within its jurisdiction depends on the cooperation of the pumpers in complying with ordinance 3717. Compliance with the ordinance depends on the promise to maintain the confidentiality of the information submitted. Without compliance, MCWRA is unable to use a valuable management tool. The protestants have not demonstrated that their need for the personally identifiable information outweighs the need of MCWRA to keep this information confidential.

The protestants contend that the SWRCB has waived the confidentiality of the subpoenaed data because it “ordered the Agency to craft a water availability analysis” and “[b]y ordering such an analysis to be placed into the public record, the Board has already determined that the confidentiality of water data is outweighed by the Board’s statutory responsibility to determine whether water is available to the Agency.” Neither statement is true. In fact, the SWRCB neither waived confidentiality nor made any determination as to whether other considerations outweighed the need to maintain confidentiality. SWRCB staff merely informed MCWRA, by letter dated March 26, 1999, that MCWRA must submit information that demonstrates a reasonable likelihood that unappropriated water is available for appropriation under Application 30532. There is no correspondence or any other documentation in the files to show that the SWRCB considered or made any determination regarding the confidentiality of data submitted pursuant to ordinance 3717.

Validity of Subpoena

MCWRA contends that the subpoena was not served properly, not accompanied by a proof of service, and not accompanied by an affidavit as required by law.

Government Code section 11450.20, subdivision (b), provides three ways to issue a subpoena: personal service, certified mail, and messenger. Messenger service was used to issue the subpoena. A copy of the written notation of acknowledgment of the subpoena, required by Government Code section 11450.20, subdivision (b), was not served on the parties or the SWRCB, but service of the acknowledgment is not required. MCWRA obviously received the subpoena. Failure to file proof of acknowledgment does not invalidate the subpoena. Proof of service of the subpoena was served on the SWRCB.

Code of Civil Procedure section 1985, subdivision (b), requires service of an affidavit with the subpoena. (See also Gov. Code, § 11450.20, subd. (a); 25 Cal.L.Rev.Comm. Reports 55 (1995).) The affidavit must include the following:

1. Show good cause for the production of the documents described in the subpoena.
2. Specify the exact documents requested to be produced.

3. Set forth in full detail the relevance of the desired documents to the issues noticed for hearing.
4. State that the MCWRA has the desired documents in its possession or under its control.

An affidavit was not served with the subpoena issued to MCWRA. Failure to serve the required affidavit at the time the subpoena is served invalidates the subpoena.

The protestants contend that an affidavit is not required and that the SWRCB's subpoena form allows a subpoena for documents without an affidavit. Contrary to the protestants' contention, the SWRCB's subpoena form provides notice of the necessity of an affidavit. (See SWRCB subpoena form at page 1, part 2 (a) and page 2, part 1.) The protestants cite Code of Civil Procedure sections 1985, subdivision (b), and 2020 as support for their contention that an affidavit is not required. The sections cited by the protestants do not support their contention.

Code of Civil Procedure section 1985, subdivision (b) requires an affidavit be served with a subpoena duces tecum. Subdivision (b) of section 1985 states: "A copy of an affidavit shall be served with a subpoena duces tecum issued before trial..." (emphasis added).

Code of Civil Procedure section 2020 does not apply to a subpoena duces tecum; it only applies to a deposition subpoena for the production of business records for copying. Section 2020 does not require service of an affidavit with the subpoena if the subpoena commands only the production of business records for copying. (Code Civ. Proc., § 2020, subd. (d)(1).) The subpoenaed information is not a business record because the water extraction reports and the water conservation reports were not prepared by MCWRA. (Evid. Code, § 1561, subd. (a)(3).) Accordingly, section 2020 does not apply.

The subpoena is not valid because Mr. Maloney failed to serve the required affidavit as required by Code of Civil Procedure section 1985, subdivision (b). Failure to provide the SWRCB and the parties with proof of service showing the manner of service does not invalidate the subpoena. Although failure to obtain the required written notation of acknowledgment may also call into question the validity of a subpoena, I do not believe the subpoena should be quashed on that basis, however, because there is no dispute regarding receipt of the subpoena and no indication that any party was prejudiced by the omission.

Conclusion

I find that:

1. The information requested in items 1 and 2 of the subpoena is not relevant to the issues noticed for the hearing on Application 30532.
2. The information requested in items 1 and 2 of the subpoena is confidential and should not be disclosed to the protestants.

3. The subpoena is not valid for failure to serve the affidavit required by Code of Civil Procedure section 1985, subdivision (b).

Accordingly, the motion to quash is granted. The subpoena is quashed as to items 1 and 2.

If you have any questions regarding my ruling, please contact Barbara Katz at (916) 657-2097.

Sincerely,

ORIGINAL SIGNED BY:

John W. Brown
Hearing Officer

cc: Barbara Katz, Esq.
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List of Persons to Exchange Information

**Monterey County Water Resources Agency Nacimiento Reservoir Hearing
July 18 and 19, 2000, to be continued if necessary, on July 24, 25 and 26, 2000
(dated June 6, 2000)**

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State Water Resources Control Board

Submission for: Public Workshop Regarding Immediate Drought Response Options

February 26, 2014
Sacramento, CA

Attached is my submission “Proposal to Abolish or Limit Water Data Confidentiality to 1-5 Years: Improving Water Resource Management and Increasing Net Water Benefits in the State of California” to the SWRCB for the Public Workshop Regarding Immediate Drought Response Options.

I am presently chair of the Department of Economics at the State University of New York at Fredonia. I have a Ph. D. in Agricultural and Resource Economics and a B.A. in Physics and Applied Mathematics from the University of California at Berkeley. I have researched and published on California water issues for 20 years starting with a 1995 publication “Alternatives for Managing Drought: A Comparative Cost Analysis” examining potential EBMUD demand and supply side responses after the last major drought in California. I have also published hydrologic-economic models on seawater intrusion into groundwater aquifers originally applied to the Salinas Valley. In 2012, I was the lead guest editor for a special issue of Hydrogeology Journal, the official journal of the International Association of Hydrogeologists, on the Economics of Groundwater Management, as well as co-authoring an overview paper on “Factors Determining the Economic Value of Groundwater”.

I have also consulted on many water issues for the Law Offices of Patrick J. Maloney over the last 17 years including historical benefits of district operations, seawater intrusion, and district and project cost allocation and environmental impacts in the Salinas Valley, nitrate loading of groundwater in the Central Coast Region and water rights, beneficial use, conservation methods, Part 417 determination, Quantification Settlement Agreement and Salton Sea restoration in the Imperial Valley. My consulting economic analysis has always been aimed at optimal management of water resources through maximizing the net economic benefits of the state’s scarce water resources. A common barrier to the analysis of optimal management in all locations has been local water agencies’ claims of data confidentiality that prevent the release of data necessary for comprehensive review and independent development of hydrologic-economic models. The proposal submitted herewith presents a conceptual economic framework for a comprehensive review of the economics of water data confidentiality with the goal, in furtherance of both public and private interests, of improving water resource management and increasing net water benefits in the State of California.

Dr. Peter Reinelt, Chair
Department of Economics
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Proposal to Abolish or Limit Water Data Confidentiality to 1-5 Years: Improving Water Resource Management and Increasing Net Water Benefits in the State of California

With water supplies constrained by prolonged drought and future climate change and with continuing population growth raising water demands, California faces a future of increasing water scarcity and attendant impacts on water quality. As water becomes more economically scarce, improvements in resource management will require greater integration of surface and groundwater supply quantity and quality, more extensive and accurate measurement of relevant water parameters, and storage of this critical information in comprehensive databases available to state planners, affiliated and independent researchers, and the public.

A recent report for the State Water Resource Control Board “Addressing Nitrate in California’s Drinking Water” recognizes many of these issues and proposes a statewide groundwater data task force to solve them. The report concludes that “It is now critical that the state has a coherent and more forward-looking policy and technical capability for the collection and management of groundwater data”¹ based on the following assessment:

Inconsistency and inaccessibility of data from multiple sources prevent effective and continuous assessment. A statewide effort is needed to integrate diverse water-related data collection activities by various state and local agencies. Throughout this study, we often faced insurmountable difficulties in gaining access to data already collected on groundwater and groundwater contamination by numerous local, state, and federal agencies. Inconsistencies in record keeping, labeling, and naming of well records make it difficult to combine information on the same well that exist in different databases or that were collected by different agencies. A statewide effort is needed to integrate diverse water-related data collection activities of various state and local agencies with a wide range of jurisdictions. Comprehensive integration, facilitation of data entry, and creation of clear protocols for providing confidentiality as needed are key characteristics of such an integrated database structure. (p. 74)

Extreme scarcity demands that the unexamined assumption of “confidentiality as needed” (regularly cited to grant an indefinite time period for water data confidentiality for some water users but not others) be thoroughly analyzed in light of the pressure on current water institutions and how they are likely to evolve. The benefits to society from accessible data, granting the ability to review water resource modeling and policy decisions, has routinely been dismissed or ignored at the local resource agency level. The State, with the development of the Electronic Water Rights Information Management System (eWRIMS), has created a foundation for water data reporting and public access, but the scope of information is inconsistent. Monthly surface water diversions and use are publicly available on eWRIMS for individual diverters reporting under Section 5101 of the Water Code, but the same information is not publicly available for other individual users that receive their water from a water purveyor. While water purveyors also report diversions under Section 5101, they are only required to report monthly aggregated farm-

¹ Harter, Thomas and Jay R. Lund et al. of Center for Watershed Sciences, “Addressing Nitrate in California’s Drinking Water, With a Focus on Tulare Lake Basin and Salinas Valley Groundwater: Report for the State Water Resources Control Board Report to the Legislature, California Nitrate Project, Implementation of Senate Bill X2 1”, January 2012.

gate delivery data under Section 531.10, rather than delivery data for each farm gate. Groundwater extractors in Los Angeles, Riverside, San Bernardino and Ventura Counties must report their groundwater extraction either with local water agencies or with the State. State-filed groundwater recordation appears on eWRIMS. Furthermore, many individual well extractors who cannot physically or legally distinguish between “percolating groundwater” and “underflow” also report quantities pumped that are accessible on eWRIMS.² The time has come for a comprehensive state-level review of water data confidentiality policies for all water end-users and water sources that considers the interests of all citizens.

Are there any business gains to protecting 20-year-old data? Does society benefit at all by protecting 20-year-old data? What is the public benefit of making water data available? Are there business losses associated with releasing this claimed “proprietary information”? Is water data confidentiality socially beneficial or should it be abolished? If not abolished, should it be conferred for a limited time frame?

Before continued acceptance of indefinite water data confidentiality, the potential societal tradeoffs from limiting confidentiality must be examined based on the physical and societal relationships embodied in individual water rights and how readily accessible data may produce societal gains through better public analysis, monitoring and transparency of the water institutions charged with managing extractive and non-extractive uses, thus leading to better performance, accountability, credibility and confidence in the integrity of laws governing water use. This proposal examines these issues with reference to existing emissions reporting requirements and the economic theory of patents. Specific water data that serve the public interest is identified for disclosure either contemporaneously or after a fixed time delay. Recommended water data disclosure is limited to that which is necessary for the public purpose and structured to allow other data to remain proprietary to mitigate private costs. Finally, adjustments in the method of gaining accessibility for some data are considered in light of water system security concerns.

Existing Environmental Reporting and Public Access to Data

Requirements to disclose data on some aspects of business operations that impacts public health and commerce and grant public access are not new. EPA has long required reporting of emissions and public access to data that affects public health, commerce, and the environment. “Most U.S. environmental laws require that self-reported data be made available to the public.”³ The SO_x and NO_x allowance trading programs collect hourly data.

The accurate measurement and reporting of emissions is essential, along with the rigorous and consistent enforcement of penalties for fraud and noncompliance. Also critical is transparency,

² See discussion on interlinkages between surface water and groundwater in “Physical and Legal Relationship between Water Diversion/Extraction and Public Interest” section below, and footnote 9 references from that section for the nonexistence of an absolute technical or legal line that divides surface water flows from groundwater flows.

³ International Network for Environmental Compliance and Enforcement, “Principles of Environmental Compliance and Enforcement Handbook”, April 2009.

such as public access to source-level emissions and allowance data. The coupling of stringent monitoring and reporting requirements and the power of the Internet makes it possible for EPA to provide access to complete, unrestricted data on trading, emissions, and compliance. This promotes public confidence in the environmental integrity of the program and business confidence in the financial integrity of the allowance market. It also provides an additional level of scrutiny to verify enforcement and encourage compliance. Finally, accountability requires ongoing evaluation of the cap and trade program to ensure that it is making progress toward achievement of its environmental goal.⁴

EPA's 1995 policy "Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations" further creates incentives for regulated firms to self report violations of hazardous waste limits.

Patents

In the simplest form of the economic theory of patents, the government confers a exclusive property right on an inventor for a limited period of time to encourage investment in innovation in cases where the innovation could be easily appropriated/duplicated and the innovator could not recoup the investment costs that lead to the innovation. Patents require that the applicant publicly disclose the innovation for future public use and limits the time frame of the monopoly property right with the purpose of offsetting societal loss from monopoly with societal gains from innovation, thereby increasing *societal* benefits over the course of time. While the patent right assigns greater gains to the inventor, its purpose is to increase innovation for society and societal well-being more generally.

Patents can have other effects besides inducing innovation. For example, patents can also be used as litigative barriers-to-entry and for rent seeking. Patents can impede follow-on innovation until expiration, but increase future innovation after the patent expires through information disclosure. Furthermore, if the investment leading to an innovation is small or the discovery would likely soon be independently duplicated without the inducement of a monopoly property right, then patent research demonstrates that long-lived patents are detrimental to societal well being. In those cases, granting a monopoly right to an inventor for a long period of time produces excessive private gains at a cost to society. Some recent research on the gains from patents suggests the optimal time limit may be quite small in many circumstances.⁵

Proprietary Information, Water Data Confidentiality and the Public Interest

Protection of trade secrets is an alternative method of promoting investment in innovation. Government does not force disclosure of proprietary information to force diffusion of the innovation and reduction of economics rents for the benefit society. However, acceptance of the assumption of indefinite water data confidentiality ignores the potential societal tradeoffs beyond that between the value of innovation and economic rents.

⁴ EPA, "Cap and Trade Essentials", <http://www.epa.gov/captrade/documents/ctessentials.pdf>.

⁵ See for example, Boldrin, Michele and David K. Levine, "The Case Against Patents", *Journal of Economic Perspectives*, 2013, and a critique by Gilbert, Richard "A World without Intellectual Property? A Review of Michele Boldrin and David Levine's *Against Intellectual Monopoly*", *Journal of Economic Literature*, 2011.

Since agriculture is the largest sectoral water user in California, we discuss the societal tradeoffs in a farming context; however, the conceptual framework can be applied to other sectors. To examine those tradeoffs, we first analyze the physical and legal relationship between water diversion/extraction and the public interest, and then discuss the public values of dispensing with or limiting water data confidentiality in favor of public access. From this discussion we identify two potential subsets of individual farming unit water data whose release would foster the identified public benefits and thus improve water resource management. Finally, we discuss the potential impact on farming profits of releasing this data and how security of water system concerns might alter the proposal.

Physical and Legal Relationship between Water Diversion/Extraction and Public Interest

Both the physical properties of water flows and legal conventions governing its use only exist in relationship between the extractive user and other extractive users, which constitute the public at large, as well as in relationship to societal benefits from non-extractive uses and the public trust.

Groundwater extraction impacts both groundwater levels and stocks available for other extractors. Percolation beyond the root zone of water containing unused fertilizer and pesticide residues eventually impacts water quality of other extractors. The right to extract groundwater is a correlative right between landowners overlying an aquifer, a right always in relation to other landowners. In situ groundwater values include buffering periodic shortages of surface water supplies, subsidence avoidance, water-quality protection and prevention of seawater intrusion.⁶ Natural groundwater discharge can also support natural environments and recreation.

Surface water diversions and return flows physically and legally impact junior right holders and the environment. While usufructuary water rights establish the right to use, they also establish a relationship to public ownership of water. Beneficial use is the foundation of western appropriative water rights: “beneficial use shall be the basis, the measure, and the limit of the right” echo many western state constitutions and water statutes.⁷ As operatively defined in *United States v. Alpine Land & Reservoir*⁸ beneficial use is a relational concept:

There are two qualifications to what might be termed the general rule that water is beneficially used (in an accepted type of use such as irrigation) when it is usefully employed by the appropriator. First, the use cannot include any element of ‘waste’ which, among other things, precludes unreasonable transmission loss and use of cost-ineffective methods. Second, and often overlapping, the use cannot be ‘unreasonable’ considering alternative uses of the water.

⁶ Qureshi, M., Andrew Reeson, Peter Reinelt, Nicholas Brosovic, Stuart Whitten, “Factors determining the economic value of groundwater”, Economics of Groundwater Management issue of *Hydrogeology Journal*, International Association of Hydrogeologists, 2012.

⁷ Weil, Samuel C., *Water Rights in the Western States*, 1911.

⁸ *United States v. Alpine Land & Reservoir Co.*, 697 F.2d. 851, 854 (9th Cir. 1983) (discussing the beneficial use requirement of Section 8 of the Reclamation Act of 1902), cert. denied, 464 U.S. 863 (1983).

Waste and alternative uses are relative to other extractive users and with respect to non-extractive environmental, recreational and navigational in-situ uses.

Furthermore, understanding groundwater surface-water interactions is critical for evaluating interlinkages between alternative extractive and non-extractive uses, as groundwater extraction can reduce surface flow and surface water extraction can reduce groundwater flows.⁹

The Public Interest for Publicly Accessible Water Data

Publicly accessible water data creates the following public benefits that apply to the management and administration of water rights, conservation agreements, water trades, pollutant loading and water quality.

- 1) Allows independent public review of water resource models to better manage existing resources (data available only to restricted club creates opportunities for mismanagement).
- 2) Accountability for water right holders, local water agencies and consultants.
- 3) Reporting data and making it publicly accessible encourages compliance with existing laws and regulations.
- 4) Public verification of compliance with water rights, pollutant loading, and water conservation achievements tied to water exchanges/trades.
- 5) Public vigilance of public trust elements of water rights including environmental uses.
- 6) Public confidence in the integrity of laws governing water use.
- 7) Transparency (discourages political rent seeking, discourages protecting administrative turf/principal-agent problem, and discourages inequitable favorable treatment by local water agencies)
- 8) Reduction in delay time of regulatory solutions (and the water supply and public health consequences of those delays) caused by those who use water data confidentiality as a barrier to development and implementation of socially beneficial regulation.
- 9) Reinforces mutual credibility between agricultural sector and M & I sector water users, strengthening mutual acceptance of voluntary or mandatory drought reductions.
- 10) More civic and democratic participation.

Examples from recent years illustrate some of these issues.

The Salinas Valley Integrated Ground and Surface Water Model (SVIGSM) has been used to model historical benefits of reservoir operations, analyze proposals to halt seawater intrusion, and apportion cost for water projects and district operations. The

⁹ Moreover, there is no absolute technical or legal line that divides surface water flows from groundwater flows. For example, see section on “Myth: Groundwater is Separate from Surface Water” in Hanak, Ellen, Jay Lund et al., “Myths of California Water – Implications and Reality”, *West Northwest*, 2010; and Sax, Joseph L., “Review of the Laws Establishing the SWRCB’s Permitting Authority over Appropriations of Groundwater Classified as Subterranean Streams and The SWRCB’s Implementation of those Laws”, 2002.

Monterey County Water Resource Agency collects monthly groundwater pumping data from well operators and maintains the data in the Groundwater Extraction Management System (GEMS) database. Detailed pumping data from the GEMS database was used to calibrate pumping simulated by the consumptive use methodology for truck crops and vineyards and also verify and adjust irrigation efficiencies, and could be used to model higher resolution of spatial variations in pumping. “The accuracy of the SVIGSM depends on the accuracy of calibration and host data and parameters used in the model. These include... Estimates of ground water pumping and distribution...” as well as eight other factors.¹⁰ No analysis of the accuracy of the factor data was performed, and thus no propagation of error calculation to final results. However, by inspection of the model residuals, a “valley-wide level of accuracy of ± 5 feet” is claimed for the SVIGSM. The National Resource Council recommends a full error analysis of ground water models as standard practice.¹¹ Independent confirmation of this extensively used model and its accuracy are impossible without the data used in its construction and calibration. As extended drought limits surface deliveries to the Castroville Seawater Intrusion Project for blending with lower quality reclaimed water, accurate prediction with the SVIGSM of the extent that replacement pumping in the deep aquifer will induce seawater intrusion into the last unintruded coastal aquifer is critical.

Measurement and data availability from Imperial Irrigation District including conservation and flows to the Salton Sea provides another relevant example. Investments of the magnitude considered for Salton Sea restoration require 1) a transparent process in which the public and decision makers can reliably analyze alternatives, 2) cost-effective reduction of inflow uncertainties since design success critically depends on future water flows, 3) a robust design that has flexibility to be adjustable over the remaining range of possible future inflows.

Careful reading of recent reports by IID, DWR, U.S. Bureau of Reclamation, and consultants hired by each agency highlight the gaps in understanding of current flows and the need for improvement in measurement and database management. Stated succinctly, the critical data is not publicly available for review and thus disputes arise between the consultants of various stakeholders. Pointedly, this renders the analysis of future flows of water to the Sea as tenuous at best, as evidenced by the commendable uncertainty analysis in DWR’s January 2006 Draft Hydrology Report. Recent studies discussing private analysis of the data sources upon which restoration efforts are likely to be based indicate that the data is inconsistent and incomplete. The manner in which assumptions replace reliable data in the estimation of flows to the Sea is hidden from public scrutiny.

The opaque development and documentation of the data inputs used to calibrate the Imperial Irrigation Decision Support System (IIDSS), the model used to estimate changes in all flows through the Imperial Valley, do not satisfy the criteria for public transparency.¹² Stating that “Data gaps were identified and assumptions were made to

¹⁰ MCWRA, Draft Technical Memorandum Update of the SVIGSM, p. 27, October 1999.

¹¹ National Research Council, *Ground Water Models, Scientific and Regulatory Applications*, National Academy Press, Washington, D.C., 1990.

¹² IID, Summary Report IIDSS, December 2001.

fill them (p. 2-7)” without further explanation is insufficient. Stating that “This partitioning of on-farm water into consumptive use and tailwater and tilewater return flow components is a complex process within the on-farm system (p. 2-3)” without further explanation is insufficient. Stating “Because only limited flow measurements in the drainage system were available, professional judgment was used to determine the fractions of water deliveries that returned to the drainage system (p. 2-8)” without further explanation is insufficient.

Numerous attempts to quantify the flows through the water delivery and drainage system using water balance methods have been published over the years and reviewed during the recent Part 417 process and in connection with Salton Sea restoration. The disparate estimates of component flows arise due to a lack of *direct measurement*. Planning investments of the magnitude contemplated for Salton Sea restoration based on this level of uncertainty when much could be resolved through systematic measurement is nearly unconscionable.

As water becomes more scarce during shortage situations necessitating an allocation program and substantial investments in conservation programs, accurate measurement of flows through the water delivery and drainage system become crucial for effective design, implementation, and management of these programs. Moreover, the fairness, economic efficiency, accuracy of water accounting, and transparency of a water allocation program are all enhanced when all significant deliveries are reliably measured and recorded. The August 2006 Draft Final Report of the Equitable Distribution Study sheds some light on the reliability and consistency of recorded data. Independent consultants hired by IID to analyze allocation methods during shortage situations conclude:

Regarding an apportionment based on individual field history, after a careful analysis of the District’s data, we came to the conclusion that the District does not have a sufficiently consistent and complete record of these individual field deliveries and, therefore, it would not be practical for the District to apportion water based on the average historical delivery to each individual field.

The reason for this conclusion is as follows. There are almost 7,000 fields which have received at least one delivery of water between 1987 and 2005, and therefore have some sort of claim to receive water. About 5,000 of these fields received one delivery of water in every year over the period. The other 2,000 fields do not have a consistent long-run history of deliveries. Of the 5,000 fields with a long-run history of deliveries, we estimate that about 20-30% may have histories that are incomplete or questionable.³ In total, there are as many as 3,000 or more fields with histories that are problematic for apportionment based on individual field history (p. 3-4).

They further explain the “apparent” source of these inconsistencies:

Having explored the data on field deliveries, we have come to the conclusion that a short-term apportionment based on the average historical use of each field is not a practical proposition because of gaps and incompleteness in the data. These arise in two ways: (1) There is not a complete history for every field in the District that received water. (2)

There are sometimes errors in how the data were recorded which make the individual histories too unreliable for a statistical determination of history.

In October 2013, the IID board revised its shortage apportionment plan from 100% straight-line only to 50% historical use and 50% straight-line.

Proposed Measurement and Water Data Disclosure to Serve the Public Interest

The water data proposed for release to achieve the public benefits enumerated is limited to that which would allow for observation of water policy, rights and management outcomes on water sources and environmental flows. Water quantity and quality interactions of any water user with both other users and non-extractive uses, and thus the public beyond the unit, satisfies this criterion. Therefore, the proposed data requirement is the location, timing, quantity and quality of any diversion/extraction and location, timing, quantity and quality of return flows, whether surface runoff (tailwater) or deep percolation (also accounting for drain interception of percolation). Any other information about the practices on the farm would be unnecessary for the purposes of observing water quantity and quality resource management outcomes. Water diversion/extraction occurs at the farm gate or well making either the natural location for reporting. However, since multiple gates or wells could serve a field or farming unit, the water database would have to be structured to link appropriate diversion/extraction with return flow.

Since measurement of quantity and quality of return flows may incur substantial cost especially with respect to percolation, the farmer would have the option to report substitute information that could be used to estimate return flow location, timing, quantity and quality. Crop type, crop yield (to estimate ET), applied fertilizer and pesticides by type and quantity, irrigation technology, irrigation and fertilizer management processes, soil type, soil slope, and tailwater quantity measurement combined with available effective rainfall data would be a reasonable substitute for the minimal data requirements relating to return flows identified above. A further option could require reporting, but not disclosure, of this additional information if quantity and quality measurement data on return flows is reported.

These reporting and database requirements are robust for achieving the identified public benefits under the most likely potential future evolutions of water institutions to relieve reallocation pressures: 1) more extensive use of water markets for exchange of conserved water to improve allocative efficiency through shrinking the gap between the marginal value of water in different uses or 2) more extensive administrative or judicial evaluations of waste and alternative beneficial uses and subsequent “transfers” to achieve the same purpose.

Finally, the reason for the inclusion of return flow reporting requirements is two-fold. First, only actual return flow quantities can be diverted for subsequent use or left in-situ for environmental benefits. It is well-known by economists that increasing irrigation efficiency may not save any water, as consumptive use of water may increase even as water application decreases; more accurate timing and location of water in the root zone

increases consumptive use and crop yield and reduces return flow.¹³ Therefore, conservation programs measured in terms of changes in applied water without accounting for changes in return flow can only overestimate the actual amount of conserved water. Return flow measurements are needed for the determination of actual “wet water” conservation in terms of changes in consumptive use. Second, return flow quantity and quality are needed to assess water quality management outcomes. Both the quantity of pollutant loading and the dilution effect from increasing water quantity are needed to model later pollutant concentrations from multiple return flows.

Value of Protection of Water Data Confidentiality

How will the disclosure of previously confidential water data affect business? Since agriculture is the largest sectoral water user in California, we discuss the issues in a farming context. However, the framework of the analysis can be applied to other sectors.

The value of proprietary information to the holder and the ability to control the information depends on 1) any profit differential between those with the information and those without, 2) how widely the information is known by competitors, employees and suppliers, 3) the cost or ease to acquire or develop the proprietary information, and 4) the value of the proprietary information to competitors.

The two possible proposed data disclosure methods allow for less disclosure if an owner is willing to pay for quantity and quality measurements of return flows. Thus, if the owner attributes a large profit differential to proprietary information, return flow measurements will be more affordable and more information can remain confidential. For lower perceived value proprietary information, more information would be disclosed as a substitute for return flow measurements, but some information would remain proprietary: labor and equipment costs for field preparation, planting, and harvest.

These options allow for choice in disclosure relative to the value of the propriety information, and only that data necessary to achieve the identified public benefits through observation of water quantity and quality resource management outcomes are ever publicly disclosed.

On the other hand, disclosure and public scrutiny may encourage better utilization of applied water and improved economic performance for some farms. From Technical Report 2, Nitrogen Sources and Loading to Groundwater of recent SWRCB Nitrate Study (see footnote 1):

The role human decisions play in irrigation system performance and water management should not be overlooked. In SV and TLB, growers and their irrigators decide when, where, and how much water to apply. The operator manages soil water and, by extension, deep percolation. While

¹³ Caswell, Margriet, and David Zilberman , “The effects of well depth and land quality on the choice of irrigation technology”, *American Journal of Agricultural Economics*, 1986; Ward, Frank and Manuel Pulido-Velazquez, “Water conservation in irrigation can increase water use”, Proceedings of the National Academy of Sciences, 2008; and Huffaker, Ray, “Conservation potential of agricultural water conservation subsidies,” *Water Resources Research* , 2008.

pressurized irrigation systems, sprinklers and microirrigation, can precisely control water flow and thus have a greater technical potential for field uniformity and delivery efficiency, using a high-efficiency technology (e.g., drip) will only increase irrigation performance if managed properly. It is the management of those systems that results in optimal or non-optimal performance. Likewise, performance of surface irrigation systems are significantly influenced by operators and can achieve reasonable efficiency levels, though their absolute technical potential is far less than pressurized systems. As a point of reference, Hanson (1995) reported that efficiencies among irrigation types were similar in practice across nearly 1000 irrigation systems monitored in California. Drip and microsprinkler systems did not show appreciably higher performance (*ibid.*). Observed irrigation efficiencies ranged between 70 and 85% for both microirrigation and furrow irrigation. It is worth noting that actual efficiencies may be below or above this range, and that changes in management practice may have improved to capture the technical advantage of pressurized systems in the 16 years since this study was published. At least one study suggests that variance in efficiency may not have increased despite the recent use of more sophisticated equipment. When irrigation performance was measured on nine drip irrigated celery fields in the Salinas Valley, performance was low. Water application rates ranged between 85% and 414% of ET, indicating under- and over-irrigation were common despite advanced capabilities (Breschini & Hartz 2002). Celery may not be representative of other cropping systems less sensitive to water stress; however, the results illustrate the potential for current irrigation system mismanagement even with advanced technology. Though the ability to apply the desired amount of water with each application is limited by the configuration of the irrigation system and hence uniformity and efficiency are somewhat predetermined, there are many practices growers can use to optimize water delivery systems (Dzurella et al. 2012).

Therefore, while recommended data disclosure is limited for the identified public purpose and structured to allow other data to remain proprietary to mitigate private costs, public scrutiny may also encourage better water management and economic gains for other currently water inefficient farmers who do not possess that proprietary information, independent of any valuable proprietary information disclosure.

Water System Security

Concerns about potential for sabotage of water infrastructure systems has long existed but has greatly heightened since the 9/11 terrorist attacks.

Broadly speaking, water infrastructure systems include surface and ground water sources of untreated water for municipal, industrial, agricultural, and household needs; dams, reservoirs, aqueducts, and pipes that contain and transport raw water; treatment facilities that remove contaminants from raw water; finished water reservoirs; systems that distribute water to users; and wastewater collection and treatment facilities.¹⁴

For drinking water systems, most experts identified the distribution system as the single most important vulnerability and more experts identified it as among the top vulnerabilities than any other vulnerability.

The explanations they offered most often related to the accessibility of distribution systems at numerous points. One expert, for example, cited the difficulty in preventing the introduction of a contaminant into the distribution system from inside a building “regardless of how much time, money, or effort we spend protecting public facilities.” Experts also noted that since the water in the distribution system has already been treated and is in the final stages of being transferred to the

¹⁴ Copeland, Claudia, “Terrorism and Security Issues Facing the Water Infrastructure Sector”, Congressional Research Service, December 5, 2010.

consumer, the distribution of a chemical, biological, or radiological agent in such a manner would be virtually undetectable until it has affected consumers.¹⁵

As compared to the distribution system, very few experts identify the source water supply as the single most important vulnerability but they do identify it as a top vulnerability but at a lower rate than the distribution system because:

(1) that source water typically involves a large volume of water, which in many cases could dilute the potency of contaminants; (2) the length of time (days or even weeks) that it typically takes for source water to reach consumers; and (3) that source water will go through a treatment process in which many contaminants are removed.¹⁶

A state-level review on water data confidentiality must consider these real water security risks in the context of the public interest in conjunction with other risks to water quantity and quality. The discussion here is limited to potential modifications in data disclosure to reduce these risks, while still achieving the public interest gains of disclosure in water data.

Of the minimal data requirements for the public interest, disclosure of location of diversion/extraction is most often cited as the greatest security risk. Surface water diversion locations are public and known. Groundwater well location information is publicly disclosed in all western states except California. Therefore, precise well location disclosure should be reviewed in the context of these competing public interests.

Precise location is not needed for most of the public interest benefits enumerated above, except for “independent public review of water resource models to better manage existing resources.” From the perspective of modeling groundwater, most often accomplished by finite element calculations, well location only needs to be known up to the resolution of the model (finite element size). Thus, extraction and diversion locations could be publicly accessible with less precision, perhaps in broad areas or zones, such as “...to the nearest 40-acre subdivision...” from Section 5103 of the Water Code. Then, an application review board could be established to consider limited use and no public disclosure of more precise location data for legitimate modeling in pursuit of reviewing existing models or in development of independent models for the public interest. This extra layer of the disclosure process would mitigate the terrorist risk from direct public access to a specific subset of reporting requirements without substantially reducing the gains in water management benefits from direct access.

Conclusion

Little or no attempt has been made to balance the public and private interest with respect to water data confidentiality for all water users. With water becoming more economically scarce, the need for greater coordinated management at the state level, coupled with the unresponsiveness of local water agencies to data requests to review existing models and develop independent models, indicates the time has come for a

¹⁵ GAO, “Drinking Water: Experts’ Views on How Future Federal Funding Can Best Be Spent to Improve Security”, Report to the Committee on Environment and Public Works, U.S. Senate, p. 25, 2003.

¹⁶ GAO report p. 8.

comprehensive state-level review of water data confidentiality policies for all water end-users and water sources that considers the interests of all citizens.

Permanent confidentiality is not in the public interest. Disclosure of water data can improve water resource modeling and management, increase accountability, compliance, transparency, and credibility and reduce delays to solving pressing water quality and quantity problems. The scope of water data disclosure can be limited to that which most serves the public interest, thus mitigating potential profit losses from disclosure of proprietary information. Similarly, online, publicly accessible locational data for groundwater wells could be available only at a coarse spatial resolution in consideration of water security threats, but more precise locational data would be available after demonstrating a legitimate public purpose.

After consideration of the public and private interests, such a state-level review could establish a limited water data confidentiality period of 1-5 years or perhaps abolish confidentiality altogether.

Then a publicly accessible and searchable water information database, based on systematic measurement and recordkeeping of individual unit water use and return flows, would be established in furtherance of the public and private interests in better water resource modeling and management in the State of California.

LOCAL AGENCIES OF THE NORTH DELTA

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(916) 455-7300, osha@semlawyers.com

December 16, 2015

SENT VIA EMAIL (commentletters@waterboards.ca.gov)



Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

RE: Comment Letter – Emergency Regulation for Measuring and Reporting the Diversion of Water

Dear Ms. Townsend:

This letter is submitted on behalf of Local Agencies of the North Delta (“LAND”) commenting on the proposed Emergency Regulation for Measuring and Reporting the Diversion of Water (23 Cal. Code Regs., §§ 907 et seq. (“Measurement Regs.”)) proposed for adoption pursuant to Senate Bill 88 (“SB 88”). LAND is a coalition comprised of reclamation and water districts in the northern geographic area of the Delta.¹ Agricultural water users within the districts comprising LAND have experience complying with the Board’s water reporting requirements, and some of these users were also subject to the State Water Resources Control Board’s (“Board”) February 4, 2015 Order for Additional Information (“Additional Info. Order”). LAND members are concerned that the Measurement Regs. as proposed are infeasible and require additional modification prior to adoption.

LAND urges that the Board take adequate time to adopt Measurement Regs. that are both feasible and implement SB 88. Variations in geography and hydrology across the state militate against a one-size-fits-all approach to water measurement. Protection of agricultural lands and agricultural operations is important to our state’s future and the

¹ LAND member agencies cover an approximately 118,000 acre area of the Delta; current LAND participants include Reclamation Districts 3, 150, 307, 317, 349, 407, 501, 551, 554, 556, 744, 755, 813, 999, 1002, 2111, 2067 and the Brannan-Andrus Levee Maintenance District. Some of these agencies provide both water delivery and drainage services, while others only provide drainage services. These districts also assist in the maintenance of the levees that provide flood protection to homes and farms. This general area is also guaranteed adequate water supplies under the 1981 North Delta Water Agency Contract.

Board should take care that Measurement Regs. not provide further pressures that undermine the ability of agriculture to continue.

Comments on Proposed Regulations

§ 917(a) Reporting Reports of water diversion shall be submitted in accordance with a schedule approved by the Deputy Director for the Division of Water Rights. The schedule may require monthly, daily, or more frequent reporting.

It is critical to note that electronic data submission more “frequently” than monthly is nearly impossible. On a monthly basis, an operator can collect the data and then consolidate the information and then submit the numbers via the existing reporting system. Submittal of monthly information, however, is a burden and does increase the cost of agricultural operations. These increased costs were recognized at the time of the issuance of the 2015 Additional Info. Order.² The next time scale down would be weekly, this would be exceptionally onerous, but not necessarily infeasible in most cases. However, daily and hourly reporting basically forces all operators to get the most expensive, and in many case the most fragile, logging equipment, then specifically hire personnel to manually input data into eWRIMS. That requirement is unreasonable and in most cases simply infeasible.

The Measurement Regs. appear to imply by this hourly reporting standard that there is a yet to be defined information transfer system that would send the real-time information directly to that future program. That program would require a massive and complex telemetry system in areas in the mountains or in the Delta that lack cellular coverage. Data loggers and telemetry will undoubtedly result in large amounts of information replete with errors or gaps because they are not managed by humans, and therefore lack substantive quality control. Furthermore, the Board could not possibly receive and manage that information under any scenario. It appears that the this language may be tracking the approach Federal water project’s data logging and management complexity on the rest of the state without having the funding or the institutional capacity to support it.

LAND suggests that the Measurement Regs. include a periodicity for reporting requirements that is linked to a reasonable need for that level of information. For instance, in streams where fish passage is a concern, and water levels are very low, it is

² LAND is concerned that the Additional Info. Order. Still has not been lifted even though there does not appear to be a continuing need for the monthly frequency of reporting at this time.

conceivable that hourly data could serve an important purpose. In areas such as the Delta where water is always present, however, there would not be a conceivable need for that granular a level of data in order to address fish passage or related concerns. A one-size-fits-all approach is not appropriate, and excessive burdens on agricultural water users via the Measurement Regs. are unnecessary given the Board's ability to require submittal of more frequent reporting (as was done in February 2015) when the Board determines that the circumstances warrant the need for such information.

§ 933(b)(1) Data Recording. The measuring device shall be capable of recording the date, time, and at least one of the following: total volume of water diverted, flow rate, water velocity, or water elevation. The data shall be recorded in a format retrievable and viewable using Microsoft Xcel, Microsoft Access, or other software program authorized by the deputy director. The measuring device shall be capable of recording the required information as follows:

(A) For direct diversion:

- i. On an hourly or more frequent basis for a water right holder with a right or a claimed right to divert 1000 acre-feet of water per year or more.*
- ii. On a daily or more frequent basis for a water right holder with a right or a claimed right to divert 100 acre-feet of water per year or more.*
- iii. On a weekly or more frequent basis for a water right holder with a right or a claimed right to divert more than 10 acre-feet of water per year.*

The language associated with data recording for each of these classes of water rights is unclear as to equipment specifications. For instance, a weekly basis would allow the use of a simple flow totalizer, which is very robust and inexpensive. However, a more frequent basis appears to include all smaller increments of time. Therefore, the only compliant recorder installation under this description that could reasonable meet the finer increments of time would be the same expensive and fragile high-resolution equipment essentially required for the higher diversion amounts.

The scale for water reporting also appears to be significantly disproportionate for the associated water use and total water diversion. For example, a diversion of 10 acre-feet of water is nominally only able to support a total of 3 acres of an efficient crop, in a moderate climate. Those conditions only exist for some small specialist or 'hobby' operations. These operations are least likely to be able to implement and maintain data

logging equipment. LAND suggests the Board consider modifying the scaling as follows:³

- i. On an hourly or more frequent basis for a water right holder with a right or a claimed right to divert 3,000 acre-feet of water per year or more.
- ii. On a daily or more frequent basis for a water right holder with a right or a claimed right to divert 1,000 acre-feet of water per year or more.
- iii. On a weekly basis for a water right holder with a right or a claimed right to divert more than 300 acre-feet of water per year.

The above approach to reporting thresholds could potentially provide a more reasonable approach. For instance, for a farming operation with about 100 acres supplied by a water diversion might use about 2-3 af/acre, for a total of 200-300 af/yr. In any case, the technical demands of metering should be more in alignment with actual farming practices, and scale of water demand and use. If additional time is needed to fully explore these technical details, LAND urges the Board to take that time before adopting Measurement Regs.

§ 934 Measurement Method. *A measurement method is a protocol for measuring water diversions, other than through a measuring device at each authorized point of diversion, where the method is found by the deputy director to reasonably achieve the accuracy requirements of subdivision (d) of this section. The board encourages water right holders on a local or regional basis to cooperate and establish a measurement method or methods to measure direct diversion, diversion to storage, and withdrawal or release from storage in an efficient and cost effective manner which meets the accuracy requirements of subdivision (d) of this section. Any measurement method must be able to quantify the amount of water diverted under all separate priorities of rights being exercised.*

It is unclear how a measurement method for a diversion could be capable of differentiating the basis of the right being claimed for that diversion. This language should be stricken.

(a) Request for Measurement Method.

(1) Form and Content. A Request for Approval of Measurement Method shall be

³ As explained above, LAND suggests that the periodicity of any reporting requirements also be linked to a reasonable need for that level of detail in the particular water body.

prepared by a California-registered Professional Engineer. The request shall describe how the measurement method will meet the requirements of this Chapter and include, at a minimum, the following information:

- (A) Name and contact information of all participants, including designation of a manager to serve as the primary contact person.*
- (B) Map showing location of participants and covered lands (including all assessor parcel numbers). The map shall conform to the mapping requirements of article 7 of chapter 2 of division 3 of this title.*
- (C) Description of the measurement method, including how the method will be capable of measuring the volume of water diverted, rate of direct diversion, rate of collection to storage, and rate of withdrawal or release from storage.*
- (D) Documentation required under subdivision (d) of this section verifying the accuracy of the measurement method.*
- (E) A detailed description of how installing and maintaining a measuring device at each point of diversion is not feasible, would be unreasonably expensive, would unreasonably affect public trust resources, or would result in the waste or unreasonable use of water.*
- (F) Description of the permitted, licensed, registrations, certificates and water right claims covered by the measurement method including: file number, owner name, water right type, priority of diversion, monthly and annual diversion amounts, place of use, purpose of use, and alternative sources of water.*
- (G) Evaluation of public trust needs including minimum in-stream flows and water quality concerns or bypass requirements of any of the water rights involved.*
- (H) Evaluation of enterprise income of the water users if claiming installing and maintaining measuring and monitoring devices would be unreasonably expensive.*

It is unclear why an engineer must prepare a report including all of the information listed in (A)-(G) above. Several items are administrative, and only Items (C) and (D) appear to be directly related to engineer qualifications, and even this activity could also be simply supervised by an engineer. Other items could better be addressed by the water users and other individuals besides engineers, especially for smaller farming information. Especially Items (G) and (H) do not appear to be items that are directly relatable to engineering. With respect to (G), public trust needs, those issues should be addressed as necessary in the water rights and special status species enforcement processes as needed. It is unclear why the certification of a measurement method must include such an analysis. With respect to Items (E) and (H), economic concerns, such an analysis would also not need to be completed by an engineer, and an engineer may not have special expertise in this area.

Most of the information listed in section 917 should not be required to be prepared by an engineer. These requirements as written would create an unreasonable and unnecessary financial burden on ongoing agricultural operations. These requirements should be modified to limit the scope to require engineer preparation of only that information that is necessary.

§ 917. Reporting Insufficient Flows to Support All Diversions *When flows or projected available supplies in a watershed or subwatershed are sufficient to support some but not all projected diversion demand, the Deputy Director for the Division of Water Rights may require water diverters located within the watershed or subwatershed to electronically submit monthly or more frequent reports of water diversion.*

(a) Reports of water diversion shall be submitted in accordance with a schedule approved by the Deputy Director for the Division of Water Rights. The schedule may require monthly, daily, or more frequent reporting. In determining the frequency of reporting, the Deputy Director for the Division of Water Rights shall not exceed the frequency of recording required under section 933, subdivision (b)(1), of this title.

(b) Water right diversion demand projections made under this section may be based on reported diversion and use data, including but not limited to data submitted with Progress Reports by Permittees, Reports of Licensees, Reports of Registration and Certificate Holders, Supplemental Statements of Water Diversion and Use, and reports filed by watermasters pursuant to Water Code section 5101, subdivisions (d) and (e).

(c) Water availability projections may be based on: (1) Projected full natural flow data supplied by the Department of Water Resources or its successor; (2) Projections from the National Weather Service, California Nevada River Forecast Center, and similar sources; (3) Stream gage data; and (4) Other data the Deputy Director for the Division of Water Rights determines is appropriate, given data availability, data reliability, and staff resources.

(d) The failure to electronically submit diversion reports requested in accordance with the applicable schedule approved by the Deputy Director for the Division of Water Rights is a violation subject to civil liability of up to \$500 per day pursuant to Water Code section 1846. Authority: Sections 348, subdivision (a), 1058, 1840, and 1841 Water Code. Reference: Sections 348, subdivision (a), 1846, 5101, 5103 and 5104, Water Code

LAND is concerned that section 917 may be used to justify Board orders that are not fully supported by the best available and most reliable data regarding demands and water availability. LAND supports the language suggestions provided in the December 16, 2015 comments of the Central Delta Water Agency.

* * *

Jeanine Townsend
State Water Resources Control Board
December 16, 2015
Page 7 of 7

Thank you for considering these comments. We look forward to working with Board staff to ensure the Monitoring Regs. work for farmers as well as meet the informational needs of the Board.

Very Truly Yours,

By: 
Osha R. Meserve

ERIC GARCETTI
Mayor

Commission
MEL LEVINE, *President*
WILLIAM W. FUNDERBURK JR., *Vice President*
JILL BANKS BARAD
MICHAEL F. FLEMING
CHRISTINA E. NOONAN
BARBARA E. MOSCHOS, *Secretary*

MARCIE L. EDWARDS
General Manager

December 16, 2015



Jeanine Townsend, Clerk to the Board
State Water Resources Control Board (SWRCB)
1001 I Street, 24th Floor
Sacramento, California 95814

Dear Mrs. Jeanine Townsend, Clerk to the Board:

Subject: Comment Letter – Emergency Regulation for Measuring and Reporting the Diversion of Water

The city of Los Angeles Department of Water and Power has reviewed the draft Emergency Regulations for Measuring and Reporting the Diversion of Water that was published by the SWRCB on December 7, 2015. We appreciate the opportunity to provide the following comments to the draft emergency regulation for measuring and reporting the diversion of water. LADWP's comments are structured in two parts:

Part 1. Specific Comments to the proposed emergency regulation for measuring and reporting, agency draft for public comment dated December 7, 2015

Part 2. General Comments In response to list of concepts and SWRCB staff recommendations provided and presented at the stakeholder outreach meetings that were conducted during the first two weeks of November 2015

A copy of this comment letter and enclosures will also be submitted electronically in PDF format to the Clerk to the Board via email addressed to commentletters@waterboards.ca.gov.

If you have any questions or need more clarification, please contact Lizbeth Calderon, Civil Engineering Associate, at (213) 367-2501.

Sincerely,



James G. Yannotta
Manager of Aqueduct

LC:fj
Enclosures

**PART 1:
SPECIFIC COMMENTS**

**PREPARED IN RESPONSE TO
PROPOSED EMERGENCY REGULATION FOR
MEASURING AND REPORTING
AGENCY DRAFT FOR PUBLIC COMMENT
DATED DECEMBER 7, 2015**

**REFER TO ATTACHMENT "A" FOR COPY OF
PROPOSED EMERGENCY REGULATION**

**SECTIONS CITED REFER TO
CALIFORNIA CODE OF REGULATIONS
TITLE 23, DIVISION 3, CHAPTER 2.7
AS PRESENTED IN PROPOSED EMERGENCY REGULATION
(UNLESS OTHERWISE NOTED)**

LADWP appreciates the opportunity to provide input, and appreciates consideration of our comments as the emergency regulation is refined.

§917. Reporting – Insufficient Flows to Support All Diversions.

When flows or projected available supplies in a watershed or subwatershed are sufficient to support some but not all projected diversion demand, the Deputy Director for the Division of Water Rights may require water diverters located within the watershed or subwatershed to electronically submit monthly or more frequent reports of water diversion.

LADWP COMMENTS:

LADWP held water rights in the Owens and Mono Valleys are predominantly pre-1914 appropriative and riparian water rights. Additionally, the City of Los Angeles owns over 310,000 acres of land in the Eastern Sierra. As one of the principal land and senior water right holders in the Eastern Sierra, LADWP operates consistent with the current legal water rights hierarchy or as adjudicated by court decree. This provision should only apply in watersheds or subwatersheds where the Deputy Director makes a determination of urgent, drought, or emergency conditions. Otherwise, this provision unduly regulates water rights holders.

§ 920. Supplemental Statements of Water Diversion and Use.

(e) If the use of an alternative supply of water or any water conservation efforts have resulted in a cessation or reduction in use, the report should include a description of the conservation efforts employed and indicate the extent and monthly amount of the reduction in water use due to these water conservation efforts.

LADWP COMMENTS:

The monthly amount of reduction in water use due to water conservation efforts should only be required when claiming credit for the amount of water conserved towards the authorized use pursuant to Water Code section 1011.

§931 Definitions.

(g) “Qualified individual” means:

(1) For diversions greater than or equal to 100 acre-feet per year:

(A) A California-licensed contractor authorized by the State License Board for C-57 well drilling or C-61 Limited Specialty/D-21 Machinery and Pumps; or

(B) a California-registered Professional Engineer.

(C) a professional subject to oversight by a California-registered Professional Engineer and employed to install, operate, and maintain water measurement and reporting devices or methods.

(2) For diversions less than 100 acre-feet per year, a person trained and experienced in water measurement and reporting. This may include the water right holder or the water right holder’s agent.

LADWP COMMENTS:

- For Diversions greater than or equal to 100 acre-feet per year, “qualified individuals” should include trained hydrographers and hydrologists with a minimum of 5-years of experience in the operation and maintenance of water measurement and reporting devices or methods.

- “Professional” as referenced in Section 931(g)(1)(c) does not appear to be defined and may be subject to interpretation. LADWP recommends a “professional” could consist of a person trained and experienced in water measurement and reporting devices or methods, and spends more than 20% of their average work day dealing with water measurement and reporting.
- Oversight of “a professional” pursuant to Section 931(g)(1)(c) should be available as an option to all “qualified individuals” pursuant to Section 931, rather than only California-registered Professional Engineers.

§932 Applicability.

(c) Effective Dates. The deadlines for the installation and certification of measuring devices or method shall be:

- (1) On or before July 1, 2016, for a water right holder with a right or a claimed right to divert 1000 acre-feet of water per year or more.*
- (2) On or before January 1, 2017, for a water right holder with a right or a claimed right to divert 100 acre-feet of water per year or more.*
- (3) On or before January 1, 2018, for a water right holder with a right or a claimed right to divert greater than 10 acre-feet of water per year.*

LADWP COMMENTS:

- LADWP, a public utility, holds many water rights in the Eastern Sierra and potentially uses hundreds of measurement stations that employ numerous devices or methods to monitor and record diversions of water. The effective dates are counterintuitive for water right holders such as LADWP that have to evaluate hundreds of measurement stations for compliance with these regulations.
- For certain circumstances, such as LADWP which has hundreds of measurement stations to evaluate for compliance, the effective dates should include a deadline option to submit implementation plans for measurement stations that need to be brought into compliance. Water right holders with approved implementation plans or actively working with the Board to develop an acceptable plan should be considered compliant with these regulations.

§932 Applicability.

(d) Increasing the Measurement Threshold

- (1) Beginning January 1, 2017, [t]he executive director may issue orders to increase the 10 acre-foot reporting threshold of subdivision (a) in a watershed or subwatershed incrementally to or above 25 acre-feet. The executive director may authorize an increased reporting threshold after:*
 - (A) Considering the total monthly quantities diverted in relation to the monthly quantity of water available within the watershed or subwatershed; the requirements of any policy, decision or order of the board or a court; and the need for diversion and bypass information to evaluate impacts to public trust resources; and*
 - (B) Reviewing any relevant information submitted by affected water right holders or other interested parties regarding a proposed increase in reporting threshold; and*
 - (C) Determining the benefits of the additional reporting information at a specific reporting threshold are substantially outweighed by the cost of installing measuring devices or employing methods for measurement.*

(D) The executive director shall not increase the measurement threshold in a watershed or subwatershed above those established in any other regulation, policy, decision, order or other legal requirement adopted by the board, a Regional Water Quality Control Board, or a court, unless the change is authorized by previous requirements.

LADWP COMMENTS:

Factors considered by the executive director to evaluate whether to authorize increases to the measurement threshold should include:

- The benefit of the reporting information when
 - No other water right holders, except for the one exercising the diversion, are located downstream of the source waterway and diversion.
 - Other water right holders are not impacted, such as for diversions from springs that are beneficially used or consumed or terminated all on property under the same ownership (even if water traverses property lines).
- Environmental considerations such as diversions located on Forest Service land, BLM land, or in a Wilderness designated area such that installing a measuring device (and perhaps a new roadway to access the location) will unduly disturb the environment.

§932 Applicability.

(d) Increasing the Measurement Threshold

(3) The executive director may review each proposal to increase the reporting threshold on a case-by-case basis.

(4) The executive director may authorize an increased reporting threshold for a period not to exceed five years. If changing conditions warrant, the executive director may modify or cancel any such authorization.

(5) The executive director shall maintain a list of reporting thresholds for watersheds or subwatersheds greater than 10 acre-feet.

(6) A decision or order issued under this section by the executive director is subject to reconsideration under article 2 (commencing with section 1122) of chapter 4 of part 1 of division 2 of the Water Code.

LADWP COMMENTS:

- For 932(d)(3), Clarify that the executive director may issue orders to increase the 10 acre-feet reporting threshold on a case-by-case basis and that orders to increase the measurement threshold are not limited to entire watersheds or subwatersheds.
- For 932(d)(4), clarify that once the authorization threshold expires, authorizations to increase the reporting threshold may be renewed, if conditions warrant.

§933 Measuring Device Requirements.

(b) Data

LADWP COMMENTS:

LADWP turns off and removes the recording equipment from hundreds of stations each winter to protect against freezing. The data collection and recording requirements should not apply to diversions when flow is turned off through the diversion for the off-season (such as during the winter months for irrigation diversions). A requirement to leave recording equipment at the diversion site

and continue to inspect and collect data when there is no plan to divert flows for the winter months would be an unreasonable expectation and waste of resources.

§933 Measuring Device Requirements.

(b) Data

(1) Data Recording. The measuring device shall be capable of recording the date, time, and at least one of the following: total volume of water diverted, flow rate, water velocity, or water elevation. The data shall be recorded in a format retrievable and viewable using Microsoft Excel, Microsoft Access, or other software program authorized by the Deputy Director. The measuring device shall be capable of recording the required information as follows:

(A) For direct diversion:

- i. On an hourly or more frequent basis for a water right holder with a right or a claimed right to divert 1000 acre-feet of water per year or more.**
- ii. On a daily or more frequent basis for a water right holder with a right or a claimed right to divert 100 acre-feet of water per year or more.**
- iii. On a weekly or more frequent basis for a water right holder with a right or a claimed right to divert more than 10 acre-feet of water per year.**

LADWP COMMENTS:

For some diversions, LADWP measures and records data using a propeller meter (totalizers). In most of these cases, a propeller meter is used because the slope of the diversion ditch is very flat so a flume or weir will not function accurately. In other cases where a propeller meter is used, the diversion goes into a pipe where the water flows under a road or goes down a very steep slope. In these areas, power lines are not available so mechanical measuring devices or solar powered ones are the only options. LADWP has found that mechanical propeller meters to work best in these situations.

Propeller meters measure total volume, and LADWP reads the meters every two weeks and every time a flow change is made to a diversion. The readings on the meter are recorded and average daily flow between readings is calculated.

LADWP Recommended Regulation change: Where flow conditions are not appropriate for devices such as flumes and weirs (specifically areas with very little ground slope), volumetric dial meters can be used instead (such as propeller meters or AVFM meters). Readings from such meters should be taken on at least a monthly basis and any time the flow into the diversion point is substantially changed.

Additionally, LADWP uses spreading diversions to divert water from creeks during very wet years (and rarely during flash flooding events) where there isn't enough capacity downstream of the creek. There are dual purposes in the water spreading practice: 1) To recharge ground water basins and 2) To protect downstream facilities from possible damage caused by high flows. Many spreading diversion locations are on Forest Service or BLM land. Typically, LADWP spreads water approximately once every 5 or 6 years and only for part of the peak runoff period. The water rights of others are not affected by these diversions.

Flow measurement and recording for LADWP spreading diversions varies depending on many different factors. Some spreading diversions have flumes installed, but do not have recording devices installed. In cases where flumes are installed, recording devices are installed temporarily just prior to spreading operations (except in cases of flash flooding where LADWP could not anticipate the spreading operation). The vast majority of LADWP spreading diversions do not have a measuring device installed. When the spreading diversions without a measuring device are operated, flows are

recorded by estimating the flows on a daily basis by using a known cross section of the diversion ditch near the diversion point and estimating the flow velocity. The daily flow recordings are then interpolated between readings.

LADWP Recommended Regulation Modification: Where diversions are not consistently operated on a year-to-year basis for the purposes of groundwater recharge and/or flood protection, then flow recordings can be made on a daily basis instead of an hourly basis. In addition, flow measurement at such diversion points can be estimated using a known cross section and estimated velocities by qualified professionals.

§933 Measuring Device Requirements.

(b) Data

(2) Data Submittal.

(B) By January 1, 2020, a water right holder who either diverts more than 10,000 acrefeet annually or, on a monthly basis diverts more than 50 percent of the monthly median flow of the watershed (Hydrologic Unit Code (HUC) 10 as shown on the Division's eWRIMS database) where the diversion is located shall provide real-time telemetered diversion data via a public website that displays the data on at least a daily bases, that is updated weekly, at minimum. The data shall be provided to the board upon the request of the executive director in a format retrievable and viewable using Microsoft Xcel, Microsoft Access, or other software program authorized by the deputy director.

LADWP COMMENTS:

Asking LADWP to provide real-time data for tens of measuring stations, many of which are located in remote locations such as Forest Service and BLM land with no access to power and no cell phone coverage is an unreasonable expectation. The effort and expense would be significant and the benefit questionable, as LADWP operates consistent with the current legal water rights hierarchy or as adjudicated by court decrees. This provision should only apply in watersheds or subwatersheds where the Deputy Director makes a determination of urgent, drought, or emergency conditions. Otherwise, this provision unduly regulates water rights holders.

§933 Measuring Device Requirements.

(g) Installation, Maintenance and Performance Requirements.

A measuring device shall be installed, maintained, operated, inspected, and monitored to ensure the accuracy standards of subdivision (d) of this section are met. The installation of a measuring device shall be performed by a qualified individual.

(h) Calibration. The measuring device shall be calibrated by a qualified individual upon installation and at least once every three years thereafter. The water right holder shall be responsible for more frequent calibration of measuring device(s) as necessary to ensure the accuracy requirements of subdivision (d) of this section are met.

LADWP COMMENTS:

A "professional" subject to oversight by a "qualified individual" should also be permitted to install and calibrate the measuring device. Refer to LADWP comments for Section 931(g); LADWP recommends a "professional" could consist of a person trained and experienced in water measurement and reporting devices or methods, and spends more than 20% of their average work day dealing with water measurement and reporting.

§933 Measuring Device Requirements.

(l) Inadequate Measuring Device. If a measuring device fails to meet the accuracy requirements of subdivision (d) of this section, the water right holder shall repair or replace the measuring device to meet such requirements.

(1) Notification. A water right holder shall timely notify the board in writing upon detecting that the holder's measuring device does not comply with the accuracy requirements of subdivision (d) of this section. The notification shall include the water right holder's plan to take appropriate, timely corrective action to comply with the accuracy requirements of subdivision (d) of this section.

(2) Enforcement. Failure to timely repair or replace a measuring device that does not comply with the accuracy requirements of subdivision (d) of this section is a violation of this regulation.

LADWP COMMENTS:

The board should notify water right holders of impending enforcement action, to allow an opportunity for self-corrective action.

§934 Measurement Method.

A measurement method is a protocol for measuring water diversions, other than through a measuring device at each authorized point of diversion, where the method is found by the deputy director to reasonably achieve the accuracy requirements of subdivision (d) of this section. The board encourages water right holders on a local or regional basis to cooperate and establish a measurement method or methods to measure direct diversion, diversion to storage, and withdrawal or release from storage in an efficient and cost effective manner which meets the accuracy requirements of subdivision (d) of this section. Any measurement method must be able to quantify the amount of water diverted under all separate priorities of rights being exercised.

(a) Request for Measurement Method.

(2) Action by the deputy director. Only complete forms accompanied by maps will be accepted for review. No action will be taken on incomplete requests.

(A) The measurement method will be reviewed and, if found to reasonably meet the purposes of this section, authorized by the deputy director. A measurement method may be conditionally authorized if it meets the requirements of this Chapter.

(B) A measurement method shall not be authorized for any project with an existing or prior gage, or where any requirement of any contract, , policy, order, decision, judgment, determination, or other regulatory requirement of the board, a Regional Water Quality Control Board, or a court requires that diversions be gaged. A measurement method shall not be authorized for any project where it can reasonably be interpreted that gaging is necessary to meet such regulatory requirements.

LADWP COMMENTS:

Certain circumstances warrant consideration of measurement methods despite existing or prior gages. Measurement devices in need of upgrades or replacement may trigger unintended consequences such permits or certifications from federal agencies (such as Forest Service, BLM, Fish & Wildlife Service, and ACOE), or approval from private land owners when the measurement device is not located on property owned by the water right holder. LADWP recommends the provision of section 934(a)(2)(B) be preceded by the term, "Generally" to allow consideration for site-specific evidence.

§934 Measurement Method.

(f) Operation and Performance Requirements. A measurement method shall be operated and maintained to ensure the accuracy standards of subdivision (c) of this section are met. Field testing and re-analysis that the measurement method meets the requirements of this section shall be performed by a California-registered Professional Engineer upon installation, and at least once every three years thereafter.

LADWP COMMENTS:

- LADWP recommends consistency in criteria for individuals performing field-testing. Subsection (d), Certification of Measurement Method Accuracy, permits field-testing performed by an individual trained in the use of relevant field-testing equipment, so long as the results are documented in a report approved by a California-registered professional engineer. Meanwhile, this subsection (f) requires field testing and re-analysis be performed by a California-registered Professional Engineer upon installation, and at least once every three years thereafter.
- A “professional” subject to oversight by a “qualified individual” should also be permitted to perform field testing and re-analysis. Refer to LADWP comments for Section 931(g); LADWP recommends a “professional” could consist of a person trained and experienced in water measurement and reporting devices or methods, and spends more than 20% of their average work day dealing with water measurement and reporting.

§934 Measurement Method.

(a) Inadequate Measurement Method. If a measurement method fails to meet the accuracy standards of subdivision (c) of this section or the conditional approval by the deputy director, the measurement method shall be corrected to ensure it complies with these requirements.

(1) Notification. The water right holders employing a measurement method shall notify the board in writing within 30 days of finding a measurement method does not comply with the accuracy standards of subdivision (c) of this section or the conditional approval by the deputy director. The notification shall include a plan to take appropriate, timely corrective action.

(2) Enforcement. Failure to correct defects or to ensure the measurement method complies with the accuracy standards of subdivision (c) of this section is a violation of this regulation.

(3) Measuring Devices Required. If defects in the measurement method are not timely corrected, measuring devices shall be installed at each point of diversion previously covered by a measurement method within 90 days of notification from the board that such measurement method has been deemed inadequate.

LADWP COMMENTS:

The board should notify water right holders of impending enforcement action, to allow an opportunity for self-corrective action.

§935 Alternative Compliance for a Measuring Device or Measurement Method Requirement.

(a) The deputy director may consider alternative compliance to one or more of the requirements of section 933 and section 934 of this title upon finding that strict compliance is not feasible, would be unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water.

(b) The deputy director may authorize alternative compliance for a specific measuring device or measurement method, for a type of measuring device, or for similar measurement methods.

(c) Request from a Water Right Holder for Alternative Compliance. A water right holder may file a request alternative compliance with the deputy director.

(1) The request shall be filed electronically on a form available on the board’s website.

- (2) The request shall describe how strict compliance with one or more of the requirements of section 933 and/or section 934 of this title is not feasible, would be unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water:
- (3) The request shall describe how the proposal is a reasonable alternative to one or more of the requirements of section 933 and/or 934 of this title.
- (4) The deputy director may review each request for alternative compliance on a case-by-case basis. Alternative compliance proposals may be conditionally approved.
- (5) The deputy director may require a water right holder to submit annual reports or a compliance plan to ensure the conditions of approval of the alternative compliance are met.

LADWP COMMENTS:

Factors considered by the deputy director when evaluating alternative compliance requests should include:

- Benefit (or lack of benefit) of data, in circumstances such as when:
 - No other water right holders, except for the one exercising the diversion, are located downstream of the source waterway and diversion.
 - Other water right holders are not impacted, such as for diversions from springs that are beneficially used or consumed or terminated all on property under the same ownership (even if water traverses property lines).
- Environmental considerations such as diversions located on Forest Service land, BLM land, or in a wilderness designated area such that installing a measuring device (and perhaps a new roadway to access the location) will unduly disturb the environment.
- Technological and scientific considerations of best application for certain circumstances (see comments on section 933 above)
- Location and type of diversions, such as spreading diversions during flash floods that are not easily predicted, or spreading diversions that provide flood control and groundwater recharge only during very wet years
- Circumstances where applicable permits, approvals, or certification cannot be acquired, whether it be a definitive denial by issuing agency, or acquisition timeline.

§936 Request for Additional Time.

A water right holder may submit a request for additional time to comply with the provisions of this Chapter on a form available on the board's website. Additional time may be granted by the deputy director upon a showing of good cause. The additional time granted by the Deputy Director shall not exceed 24 months, combined, under all extension requests.

LADWP COMMENTS:

- Water right holders with approved implementation plans or actively working with the Deputy Director to develop an acceptable plan should be considered compliant with these regulations.
- Timeline for action plan, included as part of approved implementation plan should be considered separate and independent of the "request for additional time (which shall not exceed 24 months, combined, under all extension requests, per this section)."

**PART 2:
GENERAL COMMENTS**

**PREPARED IN RESPONSE TO
LIST OF CONCEPTS & SWRCB STAFF RECOMMENDATIONS
DISTRIBUTED AT THE INFORMATIONAL MEETINGS HOSTED BY
WATER BOARD STAFF IN NOVEMBER 2015**

**REFER TO ATTACHMENT "B" FOR CITED
LIST OF CONCEPTS AND SWRCB STAFF RECOMMENDATIONS**

LADWP appreciates the opportunity to provide input, and appreciates consideration of our comments as the emergency regulation is shaped and formulated.

1.) Timeline for Compliance

Under the new legislation, the measurement requirements could go into effect as early as January 1, 2016. What is a reasonable amount of time for diverters to install measurement devices or methods? (Concept 10)

***State Water Board Staff Recommendation:** The measurement requirements should be implemented on a staggered basis. Staggered implementation could lead to increased compliance. Timelines for compliance should consider the size of diversion and the characteristics of the watershed that the diversion is located in.*

Where appropriate, the regulation should allow for interim and multi-year plans to allow diverters to achieve full compliance.

LADWP Recommendation:

LADWP generally agrees with SWRCB staff recommendation that the emergency regulations should accommodate multi-year implementation plans with appropriate timelines for compliance. However we would like to emphasize that proper time allowance for planning, budgeting, acquisition of needed permits, applicable CEQA documentation, and compliance with applicable water quality regulations are essential. Additionally, reasonable alternatives submitted to the board for consideration should be considered compliant while those requests are being evaluated by the board.

2.) Measurement devices and methods

Should measuring devices that are approved as meeting the existing requirements of other state and federal agencies be grandfathered in? If so, which ones, and under what conditions? (Concept 5)

***SWRCB Staff Recommendation:** Measuring devices or methods meeting the existing requirements of other state and federal agencies should be grandfathered in as much as possible provided they approximate the accuracy standards set forth in the regulation. The State Water Board should review the measurement requirements of cited agencies*

Should the measurement requirements be based on accuracy standards, a specific list of approved devices, or another approach? (Concept 7)

***SWRCB Staff Recommendation:** The regulation should not list specific measuring devices or specify methods. Measurement devices and methods should be required to meet reasonable accuracy standards.*

LADWP Recommendation:

LADWP generally agrees with SWRCB staff recommendation for concept 5, that measuring devices or methods meeting the existing requirements of other agencies (such as USGS) should be grandfathered as much as possible.

LADWP generally agrees with SWRCB staff recommendation for concept 7, that measurement devices and methods should be required to meet reasonable accuracy standards. However, a universal standard may not be appropriate for all circumstances and the regulation should be flexible and provide a framework for considering reasonable alternatives for compliance. Additionally, published examples (uncodified) of pre-approved devices and methods satisfactory to the board would streamline compliance.

Devices currently used by LADWP and suggested for pre-approval:

Flumes: Parshall, Replogle, Trapezoidal, Short Throated, Ramp Flume or Long-Throated, and H Flumes

Weirs: Rectangular, Rectangular Contracted, V-notch; Cipolletti, Sharp Crested, and Broad Crested

Flow Meters: Ultrasonic, Magnetic, Venturi

Acoustic meters (such as produced by SonTek)

Volumetric dial meter (where low ground slope or other conditions do not allow for accurate standard measurement)

Langemann Gate

Level measurement in meter section (with properly calibrated rating curve based on manual current metering)

Alternative compliance methods recommended by LADWP for pre-approval are detailed in section 3.

3.) Alternative Compliance

Should the regulation specify areas or circumstances where the diversion threshold for required measurement may be greater than 10 acre-feet per year? If so, in what areas of the state, or under what circumstances, should a higher diversion threshold be established? (Concept 6)

SWRCB Staff Recommendation: *The regulation should not list specific areas or specific circumstances where a diversion threshold greater than 10 acre-feet per year may be established. The regulation should include a framework that allows the State Water Board to establish a higher diversion threshold in specific watersheds or under specific circumstances. The cost of measurement and the relative size of the diversions compared to the natural flow, overall diversion demand, and instream uses in the watershed should be factors in determining if a higher threshold may be established.*

What reasonable alternatives should be considered for complying with the measurement requirements if strict compliance is considered infeasible, unreasonably expensive, or unreasonably affect public trust uses, or result in the waste or unreasonable use of water? (Concept 9)

SWRCB Staff Recommendations: *Determination of these circumstances is situation dependent. The regulation should establish a framework for considering alternative approaches to compliance for a specific measuring device or measurement method, or for a type of measuring device. When reviewing a request for an alternative, the State Water Board should consider the impact of the diversion(s) on the watershed based on watershed characteristics and the relative size of the diversion(s) to the overall amount of natural stream flow. A water user requesting an alternative approach should submit a reasonable plan for attaining compliance. A water user should be required to diligently implement the proposed plan.*

LADWP Recommendation:

For water right holders diverting 10 acre-feet of water per year or more, the new requirements include maintaining a record of all diversion monitoring at time intervals of one hour or less. However, a universal standard may not be appropriate under all circumstances and the 10 acre-feet threshold and hourly data collection requirement should only apply where appropriate. LADWP generally agrees with SWRCB staff recommendations that the regulation should: include a framework that allows the State Water Board to establish a higher diversion threshold in specific watersheds or under specific circumstances; and establish a framework for considering alternative approaches to compliance for a specific measuring device or measurement method, or for a type of measuring device. However, providing published examples (uncodified) identifying commonly encountered scenarios and acceptable alternative compliance may streamline compliance. Common scenarios encountered during LADWP operations are detailed below along with LADWP suggested alternative standards.

LADWP Recommended Alternative Compliance Standards for Common Scenarios:

a) Spreading Diversions

LADWP uses spreading diversions to divert water from creeks during very wet years (and rarely during flash flooding events) where there isn't enough capacity downstream of the creek. There are dual purposes in the water spreading practice: 1) To recharge ground water basins and 2) To protect downstream facilities from possible damage caused by high flows. Many spreading diversion locations are on Forest Service or BLM land. Typically, LADWP spreads water approximately once every 5 or 6 years. The water rights of others are not affected by these diversions.

Flow measurement and recording for LADWP spreading diversions varies depending on many different factors. Some spreading diversions have flumes installed, but do not have recording devices installed. In cases where flumes are installed, recording devices are installed temporarily just prior to spreading operations (except in cases of flash flooding where LADWP could not anticipate the spreading operation). The vast majority of LADWP spreading diversions do not have a measuring device installed. When the spreading diversions without a measuring device are operated, then flows are recorded by estimating the flows on a daily basis by using a known cross section of the diversion ditch near the diversion point and estimating the flow velocity. The daily flow recordings are then interpolated between readings.

LADWP Recommended Alternative Standard: Where diversions are not consistently made on a year-to-year basis for the purposes of groundwater recharge, then flow recordings can be made on a daily basis instead of an hourly basis. In addition, flow measurement at such diversion points can be estimated using a known cross section and estimated velocities by qualified professionals (qualified professionals being registered engineers or trained hydrographers and hydrologists who spend more than 20% of their average work day dealing with flow measurement devices and data collection).

b) Volumetric Dial Meters (such as propeller meters / area-velocity-flow meters)

For some diversions, LADWP measures and records data using a propeller meter. In most of these cases, a propeller meter is used because the slope of the diversion ditch is very flat so a flume or weir will not function accurately. In other cases where a propeller meter is used, the diversion goes into a pipe where the water flows under a road or goes down a very steep slope. In these areas, power lines are not available so mechanical measuring devices or solar powered ones are the only options. LADWP has found that mechanical propeller meters to work best in these situations.

Propeller meters measure total volume, and LADWP reads the meters every two weeks AND every time a flow change is made to a diversion. The readings on the meter are recorded and daily average flow between readings is calculated.

LADWP Recommended Alternative Standard: Where flow conditions are not appropriate for devices such as flumes and weirs (specifically areas with very little ground slope), volumetric dial meters can be used instead (such as propeller meters or AVFM¹ meters). Readings from such meters must be taken on at least a monthly basis and any time the flow into the diversion point is substantially changed.

c) Spring Flow

LADWP generally agrees with SWRCB staff recommendation for concept 6 that the regulation should include a framework that allows the State Water Board to establish a higher diversion threshold in specific watersheds or under specific circumstances. However, factors cited for consideration to make a determination should clearly be denoted as non-exclusive.

Additional LADWP Recommended Factors to consider if higher diversion thresholds may be established (non-exclusive list):

- i. Diversion is located on Forest Service land, BLM land, or in a Wilderness designated area such that installing a measuring device (and perhaps a new roadway to access the location) will unduly disturb the environment.
- ii. No other water right holders, except for the one exercising the diversion, are located downstream of the waterway and the diversion.
- iii. Sites where the water source originates (such as from a spring), is diverted, and is consumed or terminated all on property under the same ownership (even if water traverses property lines).

LADWP Recommended Alternative Standard: For scenarios where strict compliance with 10-acre feet threshold is infeasible or diversions do not affect the water rights of downstream water right holders, then flow measurement at such diversion points may be estimated using a known cross section or other estimation method by qualified professionals and recorded at least on a monthly basis and any time the flow into the diversion point is substantially changed.

d) Reservoir Outflows & Langemann Gate Locations

LADWP Recommended Alternative Standard: LADWP records some flows such as Reservoir Outflows and at Langemann Gates as a Daily average that is calculated in the field by a RTU² unit that records a read (generally every 15 minutes) and computes a daily average to be sent back to the office over a SCADA³ system. Only the daily averages are kept as part of the permanent record. LADWP would like to see this method of measurement and recording to be considered sufficient to meet the new regulations.

¹ AVFM: Area-velocity-flow meters

² RTU: Remote terminal unit

³ SCADA: Supervisory control and data acquisition system

e) **Diversions turned off for the season**

LADWP turns off and removes the recording equipment for hundreds of stations each winter to protect against freezing.

LADWP Recommendation: The hourly data collection requirement should not apply to diversions when flow is turned off through the diversion for the off-season (such as during the winter months for irrigation diversions). Requiring to leave recording equipment at the diversion site (and continue to inspect and collect data) when there is no plan to divert flows for the winter months would be an unreasonable expectation.

4.) **Installation of Measuring Devices**

Who should be allowed to install or maintain a water measuring device or method? Should a certification process be required for measuring devices or methods to ensure they meet the regulation's accuracy standards? (Concept 11)

SWRCB Staff Recommendations: *The regulation should be flexible to allow qualified individuals to install and maintain water measurement devices that have been lab certified, provided the installation is made in accordance with the protocols specified by the manufacturer.*

Where lab certification is not applicable, field certification of a measurement device or method should require a licensed engineer or other qualified professional.

The regulation should require periodic field inspections to verify the device or method continues to provide measurements meeting the regulation's accuracy standard.

The inspection process could be prioritized based on the size of a diversion or other criteria.

LADWP Recommendations:

LADWP generally agrees with SWRCB staff recommendations, aside from who should be allowed to install water measurement devices, and offers the following input:

a) **Who should be allowed to certify and maintain flow measuring devices?**

SWRCB Staff recommendation for concept 10 does not define "qualified individuals" or "other qualified professionals".

LADWP Recommendation: A qualified professional could consist of registered engineers or trained hydrographers and hydrologists who spend more than 20% of their average work day dealing with flow measurement devices and flow measurement data collection.

b) **Who should be allowed to install flow measuring devices?**

LADWP Recommendation: Anyone should be allowed to install a flow measuring device as long as it is certified by a qualified professional who would be in responsible charge.

c) **What is reasonable frequency for periodic field inspections?**

LADWP Recommendation: Semi-annual field inspection is reasonable to account for seasonal variations, namely the runoff and non-runoff season.

d) **What kind of "evidence" should be provided to the board to demonstrate device functioning properly?**

LADWP Recommendation: For standard devices such as flumes and weirs, record of semi-annual inspection reports confirming flow conditions and that the device conditions are satisfactory should be sufficient. For other devices, perhaps a manual current metering of the flow to confirm the installed device is measuring correctly can be required (if manual current metering is appropriate for the flow conditions).

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December 17, 2015

Transmitted via email to: commentletters@waterboards.ca.gov

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814



Subject: Comment Letter – Emergency Regulation for Measuring and Reporting the Diversion of Water

Dear Ms. Townsend:

MBK Engineers represents numerous water right holders throughout the State and have extensive experience with water measurement, data recording and reporting of water diversion and use. The purpose of this letter is to provide comments to the December 7, 2015 Agency Draft Proposed Emergency Regulation for Measurement and Reporting (Proposed Regulation) prepared by the State Water Resources Control Board (SWRCB) pursuant to Senate Bill 88 (SB 88). Our comments are based on our experience and knowledge of diversions and diversion facilities throughout the State.

In general the Proposed Regulation attempts to create a comprehensive measurement, data collection, and reporting regulation applicable statewide. However, the Proposed Regulation fails to recognize the diverse conditions that exist throughout the State, which affect the ability to measure and quantify diversions. Examples of some of the unique conditions that will prove challenging to measure include tidally influenced diversions in the Delta (siphons), historically developed diversion facilities, diversion in remote and rugged areas where physical access and access to power and communication systems may be limited, natural springs and undefined channels supplying water for irrigation or stockponds, harsh natural and biological elements, and areas requiring high instantaneous rates of diversion for frost control purposes, among others. Each of these conditions will pose unique challenges to measure diversions and may also require significant costs for installation and maintenance of devices as well as reconfiguration of existing diversion facilities to meet the accuracy standards identified in the Proposed Regulation. We recommend the SWRCB consult with a leader in water measurement such at the Irrigation Training and Research Center (ITRC), California Polytechnic State University, San Luis Obispo or similar to better understand these unique conditions and provide outreach opportunities to holders of water rights or claimed rights that this Proposed Regulation effects.

The Proposed Regulation requires a water right holder, with a right or a claimed right to divert 1,000 acre-feet or more annually, to install measurement devices or employ a

measurement method and certify the accuracy of a measurement device or method by July 1, 2016. The July 1, 2016 deadline for those water right holders will result in less than six months to identify, obtain, and install or construct a device or develop a measurement method and to certify the accuracy of the device or method. Given the unique conditions of some diversion facilities, installation of measurement equipment or devices will require permits from various agencies, including but not limited to the CADFW, USACE, USFWS, NMFS, or SWRCB. In addition, there is a significant number of devices that will require installation and/or certification throughout the State by that deadline, with some points of diversion requiring multiple devices. We recommend an implementation deadline for compliance by water right holders with a right or claimed right for diversions of 1,000 acre-feet or more each year be no less than one year after the SWRCB adopts a final regulation.

We acknowledge that the Proposed Regulation allows water right holders to submit requests for additional time to comply with the provisions of the order, however, this will also take time for water right holders to prepare and submit the request and for the Deputy Director to review and process. Further, the Proposed Regulation limits the extension of time to no more than 24 months under all requests. Because the time required to obtain necessary permits may result in the inability to install and certify measuring devices even within the extended deadline of 24 months, we recommend the Proposed Regulation be modified to allow the Deputy Director discretion in granting requests for extension of time.

Although the Proposed Regulation allows water right holders the ability to propose alternative compliance for a measuring device or measurement method, the requests must be developed by a California-registered Professional Engineer to be considered on a case-by-case basis by the Deputy Director. There is concern that the SWRCB's Division of Water Rights (Division) does not currently have the staff to review and approval these alternative compliance plans within the time constraints listed in the Proposed Regulation. Not only will the requests for alternative compliance be a potential time burden to the Division, the time and financial burden to the water right holder will be significant. We recognize that the SWRCB needs to be responsive to the actions directed by the Legislature through SB 88; however, a better understanding of the usefulness of the data measured and reported along with the costs associated with those data is needed. To our knowledge, the SWRCB has made no estimate of the costs (both time or capital costs) to water users or to the State associated with the Proposed Regulation, nor have we seen a description of how this potential significant amount of data will be used and for what benefit. It is recommended that a cost/benefit assessment of the measures identified in the Proposed Regulation be conducted.

The Proposed Regulation requires water right holders with a right or a claimed right for diversion of 1,000 acre-feet or more per year to measure and record diversions on an hourly, or more frequent basis. The purpose and usefulness of these data in compliance and enforcement of water rights, including the determination of water availability is unclear. For example, water rights in larger watersheds such as the Sacramento River watershed cannot be managed on an hourly or more frequent basis. In addition, the costs associated with purchasing and installing data loggers or other equipment to record and maintain data at this temporal resolution will be significant and is unreasonable if those data cannot be used for the intended purpose. Therefore, we recommend the SWRCB review the need for this frequency of diversion data and modify the Proposed Regulation to consider regions or watersheds where availability of more frequent data

would be useful for water right compliance and enforcement and limit this requirement to those areas.

The Proposed Regulation identifies specific accuracy standards for diversions according to the volume of water diverted. It is unclear how these accuracy standards were arrived at or if there is technical support for these accuracy standards. It is recommended that the SWRCB consult with leaders in water measurement, such as the Irrigation Training and Research Center (ITRC), California Polytechnic State University, San Luis Obispo or similar, to arrive at reasonable accuracy standards, which should also take into account unique measurement challenges.

The Proposed Regulation would require water right holders to submit the annual Progress Reports by Permittee and Reports of Licensee by the end of March of the year following diversion and use of water. As discussed during stakeholder workshops, many diverters rely on data from the USGS and will not have final data in time to meet the end of March reporting deadline. The Proposed Regulation requires these water users to file initial reports using preliminary or provisional data by the March deadline and to file amended reports by the end of June. We recognize the Division's concern that the new annual reporting requirement for Supplemental Statements of Water Diversion and Use, Reports of Registration, and Certificate Holders may overload the SWRCB's computer network. However, the requirement to submit reports based on preliminary data and submit amended reports once final data is available will unnecessarily burden many water users by requiring them to perform analysis of complex projects multiple times per year. In addition, the submittal of reports and amended reports has the potential to place an additional burden on the SWRCB's computer network, rather than alleviate the concern. In order to accommodate the desire to stagger reporting deadlines and to limit the added burden to water users, we recommend the Proposed Regulation be changed to require annual water use reports for permits, licenses, registrations, and certificates be filed by June 15 of the year following the diversion and use of water.

If you have any questions or require additional information regarding the comments contained in this letter, please contact me at (916) 456-4400.

Sincerely,
MBK ENGINEERS



Gary Kienlen, P.E.

GK/nl
SB 88 Comment Letter 12172015

cc: David Guy, Northern California Water Association



Mendocino County Farm Bureau

303-C Talmage Road • Ukiah, CA. 95482 • (707) 462-6664 • Fax (707) 462-6681 • Email: mendofb@pacific.net

Affiliated with the California Farm Bureau Federation and the American Farm Bureau Federation

December 16, 2015



State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Via Email: commentletters@waterboards.ca.gov
paul.wells@waterboards.ca.gov

RE: SB 88 and the Draft Emergency Regulation for Measuring and Reporting on the Diversion of Water

Dear Board Members and Staff,

The Mendocino County Farm Bureau (MCFB) is a non-governmental, non-profit, voluntary membership, advocacy group whose purpose is to protect and promote agricultural interests throughout the county and to find solutions to the problems facing agricultural businesses and the rural community. MCFB currently represents approximately 1200 members.

After reviewing the language within the proposed emergency regulation for measuring and reporting December 7, 2015 agency draft for public comment, MCFB would like to provide the following comments, questions and suggestions.

General Comments:

- Since reporting deadlines will potentially be changing for a number of diverters, it is requested that the SWRCB promptly notice all diverters of the required changes to reporting deadlines. It is also important that the eWRIMS online reporting system be altered in a timely manner in order for diversions to be reported prior to the deadline. Directions for how to properly report under the requirements of SB 88 and the related regulation should also be clearly described to diverters in future correspondence.
- If changes to reporting frequency are to be implemented, sufficient evidence of a benefit to the watershed or subwatershed needs to be considered for the additional reporting and data processing requirements. Sufficient notice should be provided to diverters if any change in reporting frequency is anticipated.
- This regulation will create additional monitoring standards for a number of diverters and will add layers of complexity to the reporting process. The complexities of individual diversion systems and fiscal impacts to the diverter need to be considered. Will there be an economic impact report affiliated with this regulation?
- The SWRCB needs to be prepared to provide workshops throughout California to discuss the new compliance standards, timeframes for compliance, etc. and address diverter questions once the regulation is adopted.

§917. Reporting – Insufficient Flows to Support All Diversions

When flows or projected available supplies in a watershed or subwatershed are sufficient to support some but not all projected diversion demand, the Deputy Director for the Division of Water Rights may require water diverters located within the watershed or subwatershed to electronically submit monthly or more frequent reports of water diversion.

(a) Reports of water diversion shall be submitted in accordance with a schedule approved by the Deputy Director for the Division of Water Rights. The schedule may require monthly, daily, or more frequent reporting. In determining the frequency of reporting, the Deputy Director for the Division of Water Rights shall not exceed the frequency of recording required under section 933, subdivision (b)(1), of this title.

What is the process that the SWRCB will use to determine if, "flows or projected available supplies in a watershed or subwatershed are sufficient to support some but not all projected diversion demand"? Over the past few years the water rights curtailment process (both initiation and completion of curtailments) as well as the required flow standards for curtailed water sheds has not been clear and has lead to confusion amongst diverters. SB 88 provides mandates for changes to water use/diversion measurement requirements, so regulation development as related to possible curtailments or instream flows does not seem to be necessary as related to SB 88.

If the SWRCB is planning on varying the amount of water made available to a diverter or the frequency requirements for the data submittal process for water rights diversion and use reporting, there needs to be a clear standard for how this will be accomplished as well as sufficient notification time to affected diverters. This is especially critical for those involved with agriculture as short notices for water rights curtailments can provide little time to alter management strategies or secure additional sources of water when available. Crop and animal health can be impacted by lack of water supply as well as create financial hardship for the agricultural operation. Changes to reporting frequency will also require changes to management strategies or the need for additional staff to monitor/collect the additional water rights information, so there should be ample time provided by the SWRCB to account for any expected changes to reporting timing requirements.

§ 920. Supplemental Statements of Water Diversion and Use.

(a) Supplemental statements of water diversion and use shall be filed on forms available at the board's website. A supplemental statement shall be filed ~~annually~~ annually within six months of the close of the twelve month reporting period ~~annually~~, or promptly if there is a change in the name or address of the person diverting water, or more frequently as directed under section 917. Notice to the board of changes in name, address or ownership must also be reported electronically on the ~~change of name, address or ownership~~ supplemental statement of change form on the board's website. Filing the change of name, address or ownership supplemental statement of change form does not eliminate the requirement to file a supplemental statement of water diversion and use.

Since reporting deadlines will potentially be changing for a number of diverters, it is requested that the SWRCB promptly notice all diverters of the required changes to reporting deadlines. It is also important that the eWRIMS online reporting system be altered in a timely manner in order for diversions to be reported prior to the deadline. Directions for how to properly report under the requirements of SB 88 and the related regulation should also be clearly described to diverters in future correspondence.

See comments under §917 on water use/diversion reporting frequency.

§ 920. (d) If a substitute or alternative water supply, such as groundwater, contract water, or recycled water, is being used in lieu of surface water to be reported under a statement, the report should indicate the source and amount of substitute or alternative water used and the amount of surface water offset on a monthly basis.

~~(e) If the use of an alternative supply of water or any water conservation efforts have resulted in a cessation or reduction in use, the report should include a description of the conservation efforts employed and indicate the extent and monthly amount of the reduction in water use due to these water conservation efforts.~~

The term contract water needs to be clarified. Does this apply to any water contracted through any water district or is this intended to be limited to the state and federal water project contracts?

There is a concern that with the additional measurement requirements, coupled with water conservation efforts, that there could be attempts to potentially reduce water rights assignments. It is critically important that more accurate measurement requirements do not discourage conservation efforts or lead to forfeiture of water rights.

§ 924. Water Use Reports of Registration and Certificate Holders.

(a) Reports of registration and certificate holders shall be filed annually within three months of the close of the twelve month reporting period. Provisional streamflow data may be used in preparing the water use report if final streamflow data is not available by the reporting deadline. If provisional streamflow data is used in the water use report, an amended report based on final streamflow data should be filed within six months of the close of the of the twelve month reporting period. Any report not timely amended shall be deemed final. The report shall be filed electronically on a form available at the board's website. Compliance with the requirement to file a water use report is a condition of every registration or certificate. A failure to file a report under this section is a violation of registration and certificate terms, as applicable.

Is provisional streamflow and final streamflow referring to USGS streamflow gauges that are in proximity to the diversion in question? What if no USGS gauges are able to be referenced or are not applicable for comparing watershed flow information for a specific diversion?

This section should be clarified so that the timeline for reporting, the streamflow requirements and the amendment process for reporting are easily understood by diverters. A timeline for reporting and compliance requirements needs to be distributed to registration and certificate holders in a judicious manner so that diverters have sufficient time to report water diversion and use information.

§ 925. Progress Reports by Permittee.

(b) Annual progress reports by permittee shall be filed within three months of the close of the twelve month reporting period no later than July of the next year succeeding the year of diversion on forms available at the board's website. Provisional data and information may be used in the progress report if final data is not available by the reporting deadline. If provisional streamflow data are used in preparing the progress report, an amended report based on final data shall be filed within six months of the close of the twelve month reporting period. Any reports not timely amended shall be deemed final. A failure to file a progress report is a violation of permit terms.

This section should be clarified so that the timeline for reporting, the streamflow requirements and the amendment process for reporting are easily understood by diverters. A timeline for reporting and compliance requirements needs to be distributed to permit holders in a judicious manner so that diverters have sufficient time to report water diversion and use information.

§ 925 (d) If a substitute or alternative water supply, such as groundwater, contract water, or recycled water, is being used in lieu of surface water that is required to be reported under this section~~report~~, the report should indicate the source and amount of substitute or alternative water used and the amount of surface water offset on a monthly basis.

~~(e) If the use of an alternative supply of water or any water conservation efforts have resulted in a cessation or reduction in use, the report should include a description of the conservation efforts employed and indicate the extent and monthly amount of the reduction in water use due to these water conservation efforts.~~

There is a concern that with the additional measurement requirements, coupled with water conservation efforts, that there could be attempts to potentially reduce water rights assignments. It is critically important that more accurate measurement requirements do not discourage conservation efforts or lead to forfeiture of water rights.

§ 929. Reports of Licensee.

(b) Reports of licensee shall be filed annually within three months of the close of the twelve month reporting period and not later than July of the next year succeeding the year of diversion on forms available at the board's website. Provisional data and information may be used in the report of licensee if final data is not available by the reporting deadline. If provisional streamflow data is used in preparing the report of licensee, an amended report based on final streamflow data shall be filed within six months of the

This section should be clarified so that the timeline for reporting, the streamflow requirements and the amendment process for reporting are easily understood by diverters. A timeline for reporting and compliance requirements needs to be distributed to right holders in a judicious manner so that diverters have sufficient time to report water diversion and use information.

§ 929 (d) If a substitute or alternative water supply, such as groundwater, contract water, or recycled water, is being used in lieu of surface water that is required to be reported under this section report, the report should indicate the source and amount of substitute or alternative water used and the amount of surface water offset on a monthly basis.

(e) If the use of an alternative supply of water or any water conservation efforts have resulted in a cessation or reduction in use, the report should include a description of the conservation efforts employed and indicate the extent and monthly amount of the reduction in water use due to these water conservation efforts.

There is a concern that with the additional measurement requirements, coupled with water conservation efforts, that there could be attempts to potentially reduce water rights assignments. It is critically important that more accurate measurement requirements do not discourage conservation efforts or lead to forfeiture of water rights.

CH 2.8 MEASURING AND MONITORING

§931 Definitions

(i) “Type of measuring device”: SB 88 also mentions that electricity records dedicated to a pump and a recent pump test; Calibrated staff gauges and pressure transducers as accurate measurement devices that the SWRCB should consider. These should also be included as examples of acceptable measuring devices in the definition.

(j) “Water right holder”: If there is no diversion of water, as in most stock ponds or licensed sheet flow ponds, is there a requirement to comply with the new SB 88 standards?

§932 Applicability.

(b) Determination of Diversion Threshold for Requiring Measurement – the determination of whether a diversion meets the threshold for required measurement (stated in subsection (a) of this section or as adopted in accordance with subsection (d) of this section) shall be made by the deputy director. When making such a determination, the deputy director shall consider:

- (1) Multiple points of diversion for a water right used by the same person or serving the same place and purpose of use.
- (2) Multiple water rights with shared point or points of diversion.

At the November public meeting in Santa Rosa, SWRCB staff stated that any use of contract water would not be included in calculating the threshold for compliance with measurement requirements under SB 88. This needs to be included in the section above.

(d) Increasing the Measurement Threshold

SB 88 [Article 3, 1840 (b) (2)] specifically mentions that the SWRCB may increase the 10 acre foot reporting threshold to 25 acre feet if: “it finds that the benefits of the additional information within the watershed or subwatershed are substantially outweighed by the cost of installing measuring devices or employing methods for measurement for diversions at the 10 acre foot threshold.”

The cost impacts for implementing the additional measurement requirements and related cost/benefit needs to be fully considered as there could be significant financial hardship created for compliance with the requirements of SB 88. Determination of the benefit to cost ratio is subjective, so there needs to be a clear process for how this change in measurement threshold will be applied.

§933 Measuring Device Requirements.

It is appreciated that the recommendation is to not overly limit the measuring devices or methods that can be used to meet compliance with the requirements of SB 88. Since “best available technology” is constantly changing, there needs to be consideration for what will best meet water reporting needs without forcing diverters to upgrade measurement devices every time improved technology becomes available. Consideration also needs to be given for diversions that may be restricted from using “best available technology” due to location, topography, lack of electrical connection, etc. Diverters have invested a significant amount of money in recent years on metering devices for compliance with water use reporting. This regulation may make that investment obsolete.

There also needs to be consideration of impacts to senior water rights holders that have older rights that may have the inability to easily comply with new metering standards because of the nature of the age of their diversions and related facilities.

Diverters that are required to install new metering devices may also be limited in how and when installations are performed based on additional regulatory requirements such as 1600 permits from the California Department of Fish and Wildlife.

Any real time telemetered monitoring will create an excessive amount of data that may never prove to provide any benefit for watershed management. This is especially true if the SWRCB does not have an adequate data tool to handle the huge quantities of input data as well as the additional staff to analyze the provisional data (with consistent protocols) in real time in order to implement immediate actions for watershed management.

§933 is not easy to follow and will create significant confusion for diverters to fully understand. There are multiple compliance dates, timelines, requirements, etc. The SWRCB is encouraged to provide an easier means of understanding the requirements of this section (similar to the charts/tables included in the fact sheet summary) in future correspondence to impacted diverters.

§933(b)(2)(C) For a reservoir subject to drawdown and refill during the collection to storage season, or that is otherwise operated in a cyclical manner, the maximum and minimum water surface elevations, the corresponding reservoir volume, and the monitoring dates shall be measured and the maintained.

Are there separate considerations for on-stream or off-stream reservoirs? For reservoirs that are operated in a cyclical manner, will each pond “recharge” be required to be recorded? This requirement needs to be clearly explained to diverters with storage rights.

§933(b)(2) (D) For each reservoir, if water is diverted or flows into the reservoir under more than one basis of right, including groundwater or water purchased under a contract, the amounts reported to the board shall be limited to the amounts covered by the water right being reported. A record of the alternative supplies entering the reservoir throughout the year shall be maintained to demonstrate that water stored is under a separate basis of right or contract.

This section seems to be conflicting with the language that is listed under the requirements for reporting substitute/alternate water supply sources described earlier in the regulation. “If a substitute or alternative water supply, such as groundwater, contract water, or recycled water, is being used in lieu of surface water that is required to be reported under this section~~report~~, the report should indicate the source and amount of substitute or alternative water used and the amount of surface water offset on a monthly basis.”

The reporting of alternative water supplies needs to be clarified.

§933 (e)(I) – This section unfairly burdens diverters that have already installed measuring devices (before January 1, 2016). It is stated that these diverters must submit certification of accuracy with the next "water use report" which would be by June 30, 2016. If there are existing devices that do not meet the newly adopted accuracy standards, then these diverters will have a short time frame to install compliant measurement devices or potentially submit a request for additional time to comply. As mentioned earlier, diverters who have taken the incentive to install measurement devices prior to the SB 88 standards being implemented should not be punished. This time frame needs to be extended so that diverters have a full understanding of what is required in the new regulation.

§933 (j) Accessibility. The measuring device shall be installed in a manner such that it is readily accessible for reading, inspection, testing, repair or replacement. The water right holder shall make the measurement device available for inspection by an authorized representative of the board upon request. The water right holder shall provide the board's representative with reasonable access to inspect the measuring device. Failure to provide such access is a violation of this regulation

Not all diversion points are easily accessible with some being in areas of rough terrain with limited access routes. How is readily accessible defined? What is considered reasonable access? What is the time frame for SWRCB representatives to require access?

§934 Measurement Method

It is appreciated that an option for measuring diversions, other than through a measuring device, has been provided in this section. However, the ability for diverters to request a cooperative alternate measuring method is overly constricted by the related list of requirements and will therefore discourage the use of this option.

It is stated in §934 (a)(1) that a request for the approval of a measurement method shall be prepared by a California registered professional engineer. The information requested to be submitted in (A)-(H) seems to go beyond the capabilities of an engineer to determine on behalf of the diverters. This is especially true for (G) where the engineer would

be asked to evaluate the public trust needs, instream flow and bypass requirements of the watershed in question. This alone would most likely limit the number of registered engineers that would be willing to take on the task of requesting an approval for a measurement method.

§935 Alternative Compliance for a Measuring Device or Measurement Method Requirement.

For both §934 and §935, there is no clear timeframe provided for when a request should be submitted to the SWRCB for an alternative compliance option. There is also no discussion of how a determination made by the deputy director on an alternative method may be appealed by the diverter(s). The SWRCB should include an explanation of the timeframe and appeal process for alternative compliance options in the regulation.

§936 Request for Additional Time

Depending on the number of metering devices that a diverter needs to install, the financial investment may require a multiyear plan and the need for additional time for compliance.

Also if the demand for new installations within a watershed is excessive, there may be limitations on available equipment or the ability to have qualified individuals install the devices.

It is important to have a process in place for requesting additional time for compliance. If a request of additional time is denied, what is the appeal process?

§937 Report of Water Measuring Device.

A clear explanation of report filing requirements needs to be provided to the diverters along with instructions on how to access all of the various forms that are required as part of this regulation.

MCFB appreciates the opportunity to provide comment on the proposed emergency regulation for measuring and reporting the diversion of water as related to SB 88 requirements. MCFB encourages the SWRCB and staff to consider the comments and suggestions above as well as address the questions presented to you in this comment letter during the process of finalizing the regulation language.

Sincerely,



Frost Pauli
President



NEVADA IRRIGATION DISTRICT

1036 W. Main Street, Grass Valley, CA 95945-5424
(530) 273-6185 ~ Fax: (530) 477-2646 ~ www.nidwater.com

December 17, 2015



VIA ELECTRONIC MAIL: commentletters@waterboards.ca.gov

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Re: Comment Letter – Emergency Regulation for Measuring and Reporting the Diversion of Water

Members of the State Water Resources Control Board:

Nevada Irrigation District (NID) appreciates this opportunity to provide comments on the proposed water measuring and reporting regulations. While NID supports the State Water Resources Control Board's (SWRCB) efforts to develop a more accurate understanding of water diversion activities throughout the state, the proposed regulations will be all but impossible to effectively implement across the state's varied and complex water diversion systems. NID's water system is particularly complex compared to those of most water users in the state, and this complexity brings to light foundational problems in the regulations as currently proposed. The SWRCB should not adopt these proposed regulations; modifications are needed to accomplish feasibility, reasonableness, and accuracy in implementing SB 88's water measurement directives.

As an initial matter, we strongly suggest that these regulations be developed and implemented through a traditional rulemaking process, which would provide an opportunity for stakeholders and staff to fully explore and resolve potential problems with the proposed regulations that may not be immediately apparent in an abbreviated rulemaking process. SB 88 directed the SWRCB to adopt implementing regulations as emergency regulations that will remain in place indefinitely. The emergency regulation process is intended to allow state agencies to quickly implement time-limited regulations without following the processes required for traditional regulations. The lack of procedural protections in the emergency regulation process is usually balanced by their time-limited nature. To impose *permanent* emergency regulations eliminates the only check that would have balanced the lack of procedural protections applicable to emergency regulations. Flaws in the rushed regulatory program will perpetuate indefinitely, leading to unnecessary and impossible burdens being placed on water right holders. Although SB 88 directs the SWRCB to adopt initial measurement and reporting regulations as emergency regulations, the SWRCB should, immediately upon adopting the emergency regulations (ideally, before they take effect), begin the process that is normally required to make emergency

regulations permanent, as described in section 11346.1(e) of the Government Code. This will ensure that flawed regulations will not permanently burden those for whom compliance will be incredibly expensive if not impossible under the current proposal.

Rough estimates indicate that initial compliance costs for the proposed regulations for diverters such as NID may well exceed a hundred thousand dollars for measurement devices alone, and may require hiring additional staff. Comments on specific issues in the regulations follow.

Proposed § 917 (Reporting – Insufficient Flows to Support all Diversions)

There needs to be a more focused condition defined as to when this provision would be invoked. Would calculations of insufficiency consider whether diversions are consumptive or non-consumptive, whether they are direct diversions or diversions to storage, and to pre- and post-1914 rights? The hydrology is the largest factor in how much we divert; there is rarely enough water available to divert the face value of all or our rights and if non-consumptive power diversions are included in calculations of water use, then it will always appear as if there are insufficient flows, even though the insufficiency would be illusory. As we commented in relation to the current informational order, with the complexity of our system it takes a significant effort to just report with provisional data, which would be in addition to—not in lieu of—annual reporting. .

Proposed § 925 (Progress Reports by Permittee)

Filing by March 31 is not practical utilizing the water right program that we have developed with Division staff input. First, access to our remote, high-elevation diversion sites is all but impossible in the winter and spring months, when data would need to be retrieved to report by a March 31 deadline. Data would have to be retrieved as late as possible due to normal snow conditions limiting access, reducing the time available to process the data and generate a report. A March 31 deadline would likely require hiring a helicopter at \$900/hour just for the purpose of accessing the sites and retrieving the data. Under the proposed regulation, we would be forced to submit provisional data and then amend our submission once final data become available—a huge waste of staff resources. The inability of the SWRCB computer system to receive large volumes of data is not a sufficient justification for forcing water suppliers to make two reports, knowing that the initial provisional report will need to be corrected. Second, our storage calculations for any particular month require utilization of data from the following month as well, so calendar-year use cannot be calculated until after January 31 of the following year, leaving only two months to collect and process the data.

Due to the complexity of our system, data from pre-1914 and post-1914 water rights must be entered at the same time in order to work out irregularities. Requiring staggered submission would result in more frequent needs to amend filings. As a result, we will have to complete all of our filings by the earliest due date.

If the only reason for the staggered, earlier reporting deadlines is the limitations of the SWRCB computer system, then that system should be upgraded, rather than create an immense burden on water right holders to work around the computer system's limitations.

Proposed § 929 (Reports of Licensee)

This proposed regulation has the same problems as proposed § 925, discussed above.

Proposed § 932(c)(1) (Applicability - Effective dates)

We have at least seven diversion measurement locations that do not have devices capable of direct measurement. If it is determined that our alternative methods are not acceptable, there is no way we will be able to get through engineering, design, environmental review, permitting (including FERC approval), and installation by July 1, 2016 for the larger sites and probably not by January 1, 2017 for the smaller ones. Effective dates must be extended to make compliance feasible.

Proposed § 933 (Measuring Device Requirements)

(b)(2)(A) Reporting data for each measurement device is not the same as reporting data from each water right, as is implied by the language. The District has numerous points of diversion that are also points of rediversion, and the measurement at those diversion points is for the total flow, which includes the comingled water—in other words, water diverted or rediverted under multiple water rights may pass together through a single gaging structure at the same time. Raw gage measurement data must be analyzed and processed to determine how much water was diverted under each right.

(b)(2)(B) Clarifications are needed. Is the 10,000 acre-foot threshold determined by water right, or by the total sum of all of a diverter's water rights? Is the 50% monthly median flow threshold based on historic or real-time hydrology? The problems related to commingling of diverted and rediverted water under (b)(2)(A) also apply here. Developing and implementing a process to comply with these reporting requirements is going to be very expensive to achieve and maintain—even our reservoir storage in most places is done under multiple rights. The requirement to report real-time flow data is a departure from SB 88's water right diversion reporting requirements.

(c) (Calculating Volume from Recorded Data) Calculating volume is a basic skill and is the outcome of everyday water measurement practices. We should not need to report the methods. Delete this section.

(e) (Certification of Measuring Device Accuracy) No certifications of accuracy should be required at measurement sites where data is collected and compiled under supervision of the USGS.

Overall, proposed section 933 could be shortened to include only subdivisions (g), (h), (i), and (j); the accuracy standard could be incorporated into subdivision (g).

Proposed § 937 (Report of Water Measurement Device)

This is unnecessary and duplicative, creating an unnecessary burden on water right holders that provides no additional benefit to the state. By submitting the various reports as described in these proposed regulations, the diverters are attesting to the accuracy of the information contained therein. This requirement will be burdensome to comply with and provides no benefit.

Respectfully submitted,

p.p. 

Remleh Scherzinger, P.E.
General Manager

North Eastern California Water Association

P.O. Box 367, McArthur, CA 96056

NECWA's Mission is to protect and enhance water rights, water quality and riparian areas to the benefit of agriculture, the environment, recreation, and wildlife in the Northeastern California region

November 24, 2015



To: California State Water Resources Control Board

Sent via Email to: dwr-measurement@waterboards.ca.gov

Re: Senate Bill 88 and the Emergency Regulation for Measuring and Reporting the Diversion of Water.

From: North Eastern California Water Association

The North Eastern California Water Association (NECWA) appreciates the opportunity to comment on the proposed regulations to implement SB-88. NECWA represents landowners in the Upper Pit River Watershed with 80,723 acres currently enrolled in the Irrigated Lands Regulatory Program.

NECWA thanks you for holding a hearing in Redding, CA. Unfortunately, the meeting notice was received only a few days prior. Many of our water right holders within the Upper Pit River Watershed are unaware of SB-88 and its significant impacts.

... "Commencing January 1, 2016, Senate Bill 88 would require a person who diverts 10 acre-feet of water per year or more under a permit or license to install and maintain a device or employ a method capable of measuring the rate of direct diversion, rate of collection to storage, and a rate of withdrawal or release from storage. This bill would also require a person who diverts water under a registration, permit, or license to report to the state board, at least annually, and authorize the state board to adopt regulations requiring measurement and reporting of water diversions." ..

SWRCB needs to make sure that the proposed law is not forfeiting any water rights that are tied to the actual property right. In the last few years, our landowners have shown good stewardship and used less than their allotted water right. Conscientious and respectful should be awarded not penalized. Remember that California water is diverted in many ways. One size does not fit all.

SB-88 may require diverters to obtain a 1602 permit from California Department of Fish and Wildlife to install a measurement device. Additionally, if steelhead or salmon are present they may need to consult the National Marine Fisheries (and possibly obtain a permit) and may also need an Army Corps of Engineers permit. Permits can take years to obtain with substantial cost to the landowner. How does this fit into the regulation?

NECWA is an advocator for education. Bi-Annual workshops are held in conjunction with the local UC Cooperative Extension to reinforce the importance of water management. Workshops include water volume to crop yield, options and implementation of water flow measuring devices, downloading and summarizing transducer data, and changes in water regulations. NECWA landowners have proven to be conscientious and respectful stewards of the environment and the land.

January 1, 2016 does not allow those affected by the law to educate themselves or prepare for the proposed regulation. Numerous landowners in our watershed are not on-line and have multiple diversion points, exploiting the financial and technical difficulties that these water right holders will face.

SB-88 should be put on hold and revised into a workable piece of legislation that benefits the people of California.

Sincerely,

A handwritten signature in cursive script that reads "Ted deBraga". The signature is written in dark ink and is positioned above the printed name.

Ted deBraga
North Eastern California Water Association, President



477 Bret Harte Drive
Murphys, CA 95247

phone (209) 728-1387
fax (209) 728-1391
web www.ncpa.com

December 16, 2015

Mr. Paul Wells
State Water Resource Control Board; Division of Water Rights
100 I Street, 14th Floor / P.O. Box 2000
Sacramento, CA 95812
(transmitted via email to paul.wells@waterboards.ca.gov)



SUBJECT: Draft Emergency Regulation for Measuring and Reporting on the Diversion of Water

Dear Mr. Wells,

The Northern California Power Agency (NCPA) appreciates the opportunity to submit comments on the State Water Resource Control Board's (SWRCB's) draft emergency regulation to implement Senate Bill 88. We recognize the SWRCB's need for water diversion records; however, we believe that some of the language proposed in the draft emergency regulation will be overly burdensome and in some cases redundant in intent (and possibly conflicting in application) to other existing regulatory reporting requirements.

We strongly recommend that provision be made for the 12-month reporting period to be based on a water year (October 1 - September 30) rather than a calendar year. All of our water diversion sites are subject to *Stream Gauging and Flow Monitoring Plans* which were developed as required by the SWRCB Water Quality Certification for the project, and developed in coordination with the SWRCB, the California Department of Fish and Wildlife, the Federal Energy Regulatory Commission, the US Forest Service, and the US Geological Service (USGS). This data is aggregated and reported on a water year rather than a calendar year basis for many reasons, including:

- a. USGS standards which define the water year.
- b. Inaccessibility of many of the high Sierra sites during winter and early spring.
- c. Commercial "water accounting software" such as Hydstra, Wiski, and Aquarius which are all designed and configured to report based on a October – September water year.
- d. California's mediteranean climate with a well defined "wet" season which is interrupted by calendar year reporting.

Based on accessibility constraints, reporting within three months of the close of the twelve month water year (October 1 – September 30) would be feasible; however, reporting within three months of the calendar year per Section 929(b) would not always be feasible. Submitting on a calendar year basis is especially problematic for the months of October – December, which have not been through the USGS data validation and quality control process required for USGS

acceptance and publishing on the USGS website. “Premature” submittal to the SWRCB results in a strong probability of subsequent revision and/or the possibility of having conflicting flow records in the public domain. We are already seeing this happen for October-December data submitted in response to the SWRCB’s calendar year submittal requirements for Statements of Water Diversion and Use.

The requirement to publish data on a website should be required only in instances where the data is not already in the public domain. For instance, FERC Cooperators such as NCPA coordinate closely with (and under oversight by) the USGS, and this data is publicly accessible on the USGS website. We believe that granting a certain amount of flexibility as to the location and timing of publishing data (so as to comply with USGS schedules) would be prudent.

Also, for non-consumptive uses such as hydroelectric generation, where all flow is returned to the same watershed without harm to downstream diverters, it would appear that there is negligible benefit from even requiring measuring and reporting to the SWRCB. In these circumstances, a complete exemption may be appropriate.

Please do not hesitate to contact our office at (209) 738-1387 if you have any question or would like further discussion.

Sincerely,
NORTHERN CALIFORNIA POWER AGENCY



Randy Bowersox, P.E.
Manager, Hydroelectric Facilities



NCWA
Northern California Water Association



*To advance the economic, social and environmental sustainability of Northern California
by enhancing and preserving the water rights, supplies and water quality.*

December 17, 2015

Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

RE: Comments on the Emergency Regulation and Reporting the Diversion of Water

Dear Ms. Townsend:

The Northern California Water Association (NCWA) recognizes the importance and the challenges of developing a statewide program for monitoring and reporting water diversions. For a regulation to be successful, it must be crafted in a way that it can be implemented throughout the state and still provide information of value to the regulated entity and the State Water Resources Control Board (SWRCB).

NCWA shares the concerns raised by MBK Engineers in its December 17, 2015 comment letter and we urge the SWRCB staff to work closely with MBK and water resources managers in the Sacramento Valley to address the problems they have identified with the proposed regulation. MBK Engineers' experience with water management throughout the state would provide great value to the regulation development and increase the likelihood that that final product will achieve the desired result of being practical and implementable by the diverse types of water users throughout California. Likewise, water resources managers from the Sacramento Valley bring practical experience to the process and operate a broad range of delivery systems that would be valuable for creating an understanding of how the various parts of the regulation could be implemented.

Monitoring and reporting data is an important part of information management that needs to occur to ensure that water in the state is being used to the greatest extent possible for beneficial uses. It is important that the regulations guiding the monitoring and reporting generate information that will support this objective.

NCWA is strongly committed to advance the economic, social, and environmental sustainability of the Sacramento Valley by enhancing and preserving its water rights, supplies, and water quality for the rich mosaic of farmlands, refuges and managed wetlands, meandering rivers that support fisheries and wildlife, and cities and rural communities in the region.

Sincerely,

Todd N. Manley
Director of Government Relations



Water Resources ♦ Flood Control ♦ Water Rights

GILBERT COSIO, JR., P.E.
MARC VAN CAMP, P.E.
WALTER BOUREZ, III, P.E.
RIC REINHARDT, P.E.
GARY KIENLEN, P.E.
DON TRIEU, P.E.
DARREN CORDOVA, P.E.
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CONSULTANTS:
JOSEPH I. BURNS, P.E.
DONALD E. KIENLEN, P.E.

December 17, 2015

Transmitted via email to: commentletters@waterboards.ca.gov

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Subject: Comment Letter – Emergency Regulation for Measuring and Reporting the Diversion of Water

Dear Ms. Townsend:

MBK Engineers represents numerous water right holders throughout the State and have extensive experience with water measurement, data recording and reporting of water diversion and use. The purpose of this letter is to provide comments to the December 7, 2015 Agency Draft Proposed Emergency Regulation for Measurement and Reporting (Proposed Regulation) prepared by the State Water Resources Control Board (SWRCB) pursuant to Senate Bill 88 (SB 88). Our comments are based on our experience and knowledge of diversions and diversion facilities throughout the State.

In general the Proposed Regulation attempts to create a comprehensive measurement, data collection, and reporting regulation applicable statewide. However, the Proposed Regulation fails to recognize the diverse conditions that exist throughout the State, which affect the ability to measure and quantify diversions. Examples of some of the unique conditions that will prove challenging to measure include tidally influenced diversions in the Delta (siphons), historically developed diversion facilities, diversion in remote and rugged areas where physical access and access to power and communication systems may be limited, natural springs and undefined channels supplying water for irrigation or stockponds, harsh natural and biological elements, and areas requiring high instantaneous rates of diversion for frost control purposes, among others. Each of these conditions will pose unique challenges to measure diversions and may also require significant costs for installation and maintenance of devices as well as reconfiguration of existing diversion facilities to meet the accuracy standards identified in the Proposed Regulation. We recommend the SWRCB consult with a leader in water measurement such as the Irrigation Training and Research Center (ITRC), California Polytechnic State University, San Luis Obispo or similar to better understand these unique conditions and provide outreach opportunities to holders of water rights or claimed rights that this Proposed Regulation effects.

The Proposed Regulation requires a water right holder, with a right or a claimed right to divert 1,000 acre-feet or more annually, to install measurement devices or employ a

measurement method and certify the accuracy of a measurement device or method by July 1, 2016. The July 1, 2016 deadline for those water right holders will result in less than six months to identify, obtain, and install or construct a device or develop a measurement method and to certify the accuracy of the device or method. Given the unique conditions of some diversion facilities, installation of measurement equipment or devices will require permits from various agencies, including but not limited to the CADFW, USACE, USFWS, NMFS, or SWRCB. In addition, there is a significant number of devices that will require installation and/or certification throughout the State by that deadline, with some points of diversion requiring multiple devices. We recommend an implementation deadline for compliance by water right holders with a right or claimed right for diversions of 1,000 acre-feet or more each year be no less than one year after the SWRCB adopts a final regulation.

We acknowledge that the Proposed Regulation allows water right holders to submit requests for additional time to comply with the provisions of the order, however, this will also take time for water right holders to prepare and submit the request and for the Deputy Director to review and process. Further, the Proposed Regulation limits the extension of time to no more than 24 months under all requests. Because the time required to obtain necessary permits may result in the inability to install and certify measuring devices even within the extended deadline of 24 months, we recommend the Proposed Regulation be modified to allow the Deputy Director discretion in granting requests for extension of time.

Although the Proposed Regulation allows water right holders the ability to propose alternative compliance for a measuring device or measurement method, the requests must be developed by a California-registered Professional Engineer to be considered on a case-by-case basis by the Deputy Director. There is concern that the SWRCB's Division of Water Rights (Division) does not currently have the staff to review and approve these alternative compliance plans within the time constraints listed in the Proposed Regulation. Not only will the requests for alternative compliance be a potential time burden to the Division, the time and financial burden to the water right holder will be significant. We recognize that the SWRCB needs to be responsive to the actions directed by the Legislature through SB 88; however, a better understanding of the usefulness of the data measured and reported along with the costs associated with those data is needed. To our knowledge, the SWRCB has made no estimate of the costs (both time or capital costs) to water users or to the State associated with the Proposed Regulation, nor have we seen a description of how this potential significant amount of data will be used and for what benefit. It is recommended that a cost/benefit assessment of the measures identified in the Proposed Regulation be conducted.

The Proposed Regulation requires water right holders with a right or a claimed right for diversion of 1,000 acre-feet or more per year to measure and record diversions on an hourly, or more frequent basis. The purpose and usefulness of these data in compliance and enforcement of water rights, including the determination of water availability is unclear. For example, water rights in larger watersheds such as the Sacramento River watershed cannot be managed on an hourly or more frequent basis. In addition, the costs associated with purchasing and installing data loggers or other equipment to record and maintain data at this temporal resolution will be significant and is unreasonable if those data cannot be used for the intended purpose. Therefore, we recommend the SWRCB review the need for this frequency of diversion data and modify the Proposed Regulation to consider regions or watersheds where availability of more frequent data

would be useful for water right compliance and enforcement and limit this requirement to those areas.

The Proposed Regulation identifies specific accuracy standards for diversions according to the volume of water diverted. It is unclear how these accuracy standards were arrived at or if there is technical support for these accuracy standards. It is recommended that the SWRCB consult with leaders in water measurement, such as the Irrigation Training and Research Center (ITRC), California Polytechnic State University, San Luis Obispo or similar, to arrive at reasonable accuracy standards, which should also take into account unique measurement challenges.

The Proposed Regulation would require water right holders to submit the annual Progress Reports by Permittee and Reports of Licensee by the end of March of the year following diversion and use of water. As discussed during stakeholder workshops, many diverters rely on data from the USGS and will not have final data in time to meet the end of March reporting deadline. The Proposed Regulation requires these water users to file initial reports using preliminary or provisional data by the March deadline and to file amended reports by the end of June. We recognize the Division's concern that the new annual reporting requirement for Supplemental Statements of Water Diversion and Use, Reports of Registration, and Certificate Holders may overload the SWRCB's computer network. However, the requirement to submit reports based on preliminary data and submit amended reports once final data is available will unnecessarily burden many water users by requiring them to perform analysis of complex projects multiple times per year. In addition, the submittal of reports and amended reports has the potential to place an additional burden on the SWRCB's computer network, rather than alleviate the concern. In order to accommodate the desire to stagger reporting deadlines and to limit the added burden to water users, we recommend the Proposed Regulation be changed to require annual water use reports for permits, licenses, registrations, and certificates be filed by June 15 of the year following the diversion and use of water.

If you have any questions or require additional information regarding the comments contained in this letter, please contact me at (916) 456-4400.

Sincerely,
MBK ENGINEERS



Gary Kienlen, P.E.

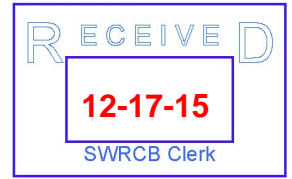
GK/nl
SB 88 Comment Letter 12172015

cc: David Guy, Northern California Water Association



O'Laughlin & Paris LLP

Attorneys at Law



December 17, 2015

Via Email and U.S. Mail

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814
Email: commentletters@waterboards.ca.gov

**Re: SENATE BILL 88 AND DRAFT EMERGENCY REGULATION
FOR MEASURING AND REPORTING ON THE DIVERSION OF WATER**

Dear Ms. Townsend:

The San Joaquin Tributaries Authority (SJTA) reviewed the draft emergency regulations for measuring and reporting (Proposed Regulations). The SJTA generally supports measuring and reporting data to the State Water Resources Control Board (State Water Board) and its members already measure and report diversions. However, we have concerns regarding the specific requirements of the Proposed Regulations, which significantly depart from the existing requirements. The SJTA believes the Proposed Regulations go beyond reporting requirements appropriate and necessary to enable the State Water Board to properly manage and allocate water resources. In addition, the SJTA is concerned with the failure of the State Water Board's identification of how this information will be used in the future and the delegation to the Executive Director.

(1) Overreaching Regulations

The Proposed Regulations require larger diverters to install water measuring devices that are capable of measuring water diversions on an hourly basis. (Cal. Code of Regs., Tit. 23, § 933(b)(1)(A)(i).) The Proposed Regulations also require measuring devices for the diversion of water to a pond of 10 acre-feet. (*Id.*, § 933(b)(1)(B)(iii).) In addition, the Proposed Regulations require double reporting if provisional data is initially relied upon. (*Id.*, at § 929(b).) These three requirements reflect the unnecessarily stringent nature of the Proposed Regulations. Neither the State Water Board's general responsibilities for water allocation nor the drought emergency call for minimizing the unreasonable use of water should result in the requirement to measure water diversions by the hour, installing measuring devices on small stock ponds, or duplicative reporting. This kind of information is simply too detailed for the State Water Board to use in any practical or meaningful manner.

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The Proposed Regulations will require water users to invest significant time, effort, and resources to comply with the very stringent requirements. This investment comes at a time where resources are already over-burdened. The State Water Board should revise the Proposed Regulations to ensure the requirements provide the State Water Board with sufficient information but do not unnecessarily burden water users.

(2) Purpose of Information Collection

The Proposed Regulations do not identify the purpose for requiring increased measuring and reporting requirements. It is unclear why the State Water Board is requiring this level of data, especially from water users who historically report diversion information. To the extent that the State Water Board identifies specific data gaps that are hindering its management and allocation of water resources, it should identify these specific gaps and craft reporting requirements to resolve those gaps. The Proposed Regulations fail to identify any specific problem with measuring and reporting and are not narrowly tailored to remedy any such deficiency. To the contrary, the Proposed Regulations require broad compliance with very stringent measuring requirements and fail to explain how the data will be used in the future. The State Water Board must revise the Proposed Regulations to disclose the purpose of the regulations and how it plans to use the collected data.

(3) Delegation to the Deputy Director

The Proposed Regulations delegate the authority to determine when flows are insufficient to support all diversions to the Deputy Director. (Cal. Code of Regs., Tit. 23, § 917.) This determination is significant and has implications beyond the reporting requirements in the Proposed Regulations. The delegation of such a determination is beyond the delegation authority of the State Water Board. The Proposed Regulations should be revised to remove such a delegation. In addition, the Proposed Regulations have the Deputy Director setting reporting schedules, determining thresholds for required measurement, authorizing software programs, and authorizing measurement methods. (Cal. Code of Regs., Tit. 23, § 917(a); 932(b); 933; 934.) These delegations are also beyond the authority of the State Water Board. Instead of delegating these decisions to the Deputy Director, the State Water Board should set forth these provisions in the Proposed Regulations so that stakeholders are able to understand the full impact of the regulations and provide comment on such proposed regulations.

(4) Unclear Requirements

Several components of the Proposed Regulations lack sufficient clarity to enable compliance. Section 932 of the Proposed Regulations requires measurement methods to determine the rate of water collected to storage. The Proposed Regulations should be revised to make clear that methods include calculations which are most often relied upon to calculate storage rates. Similarly, the Proposed Regulations lack clarity with regard to regulated entities and qualified individuals. Often water right holders rely on qualified individuals such as the United States Geological Survey (USGS) for measuring data and information. The Proposed Regulations seem to presuppose that the regulated entities can direct and/or control qualified individuals. Whereas, in practice, this presumption may not always be appropriate. The Proposed Regulations should recognize the practical implications of how

water right holders access and use existing information and revise the Proposed Regulations to reflect these limitations.

The SJTA appreciates the opportunity to comment on the Proposed Regulations, and we are hopeful the State Water Board will revise the Proposed Regulations pursuant to the comments above.

Very truly yours,



Valerie C. Kincaid

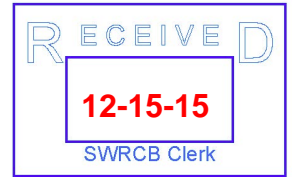
VCK/llw

cc: SJTA



PARADISE IRRIGATION DISTRICT

6332 Clark Road, Paradise CA 95969 | Phone (530)877-4971 | Fax (530)876-0483



November 23, 2015

State Water Resources Control Board
dwr-measurement@waterboards.ca.gov

Subject: Comments on the Emergency Regulation for Measurement and Reporting

Dear Sir or Madam:

Paradise Irrigation District (PID) has been following the development of the new measurement and reporting requirements contained in SB 88. PID writes to express its concern with the stated requirements and their application. Even with the use of best available technology it is impossible to achieve the required measurement accuracy over time intervals of one hour or less at PID facilities.

Background

SB 88 has created the requirement that water users begin new water measurement and recording efforts that include making hourly measurements of the rate of direct diversion, the rate of collection to storage, and the rate of withdrawal or release from storage. It further requires that these measurements must be "accurate measurements within an acceptable range of error." When asked to define what constitutes an acceptable range of error, Water Board staff indicated that the DWR standard would be applied. This standard apparently requires that a measurement should be accurate to within 10 percent for new measuring equipment, and within 12 percent for used equipment.

Article 3 of SB 88 lists 5 devices and methods for conducting these measurements. Considering these:

- The first method involves measuring pump output. For water right holders, like PID, that divert large flows of water by gravity, without pumping, this method is neither applicable nor practicable.
- Three methods involve making staff gage measurements. Measurements by staff gage are limited by various physical and practical conditions to a maximum accuracy of about ± 0.01 feet. For water right holders, such as PID, that divert continuously throughout the year, making hourly staff gage measurements is impractical due to the cost of providing the number of personnel necessary to carry out these measurements 24 hours per day/7 days per week/365 days per year. Also, in mountainous terrain, such as the territory in and around PID, at certain times of the year areas of the watershed and potential measurement points are inaccessible due to weather and other factors.

- The final method involves making stage measurements using a pressure transducer. When asked what level of error constitutes "best available technology" in pressure transducer equipment, State Board staff stated that an error of ± 0.1 percent could be considered to meet the best available technology standard. The sections that follow explain why hourly measurements are not feasible using best available pressure transducer technology.

Flow Measurement

Any method of measurement that uses water level data falls into one of two basic categories: stage/storage measurements or stage/flow-rate measurements. The use of stage/flow-rate measurements is problematic in PID's case because it owns and operates open, on-stream storage reservoirs. When measurements of stream flow are made there are several inflows that are not captured including overland flows, subsurface inflows, direct precipitation, and flows in streams judged too small to be feasible to instrument. Subsurface outflows and evaporation are also difficult to estimate and subsurface flows are impossible to measure.

Approximately 20 percent of the runoff from PID's watershed drains directly to one or the other of its two reservoirs. Since this is all water that cannot be measured by stream gages (since it does not flow in a stream) any stream flow measurement will necessarily understate the volume of water delivered to the reservoirs by at least 20 percent. This means that the error due to overland flow alone exceeds 10 percent of the measured flow and thus does not provide the mandated accuracy. While it is possible to apply a correction factor to *estimate* the overland flow (and other non-streamflow contributions) into the reservoirs it will not be possible to *measure* the total inflow. Once this estimate is formed it will be impossible to know whether the resulting data provide the required ± 10 percent accuracy.

Finally, there is the difficulty of accurately measuring flows across a wide range of values. Inflows to PID's reservoirs typically range from 0.1 cfs to 1,000 cfs. We are not aware of any practical metering device that can measure water flows, with the required accuracy, for flows that vary across four orders of magnitude.

Storage Measurement

PID has pressure transducers installed at each of its two reservoirs and the SCADA facilities to log this data, although telemetry is problematic due to the rugged terrain and heavy tree cover. These pressure transducers measure the water level over a range of 40 feet of elevation. Calculations of reservoir inflow have been prepared by solving mass balance equations on storage and outflow. Even for a thirty day measurement interval these calculations have been hindered by the limited accuracy of storage volume measurements. This is particularly true when flows are relatively low, as is typical during the months immediately preceding the interval of significant precipitation. The new regulation now

requires that the measurement interval be reduced by a factor of 720, from monthly readings to hourly readings.

Considering 0.1 percent accuracy to represent best available technology in pressure transducer water level measurement, the magnitude of error for pressure transducers operating over the 40 foot measuring interval mentioned above is ± 0.04 feet. But for the moment let us assume that it is possible to reduce the measurement error to ± 0.01 feet, consistent with careful staff gage readings. Even this level of accuracy is incapable of producing inflow rate measurements consistently in the range of $\pm 10\%$ error at flow rates below about 135,000 gpm (300 cfs) at PID's Paradise Lake reservoir, as shall be discussed below.

Paradise Lake reservoir has a surface area of about 240 acres when the water level is near spillway elevation. If the accuracy of a reading of water level is ± 0.01 feet this equates to an accuracy in volume measurement of $\pm 782,000$ gallons. District staff has modeled reservoir performance under various typical flow conditions and analyzed the ability of best available technology equipment to measure these flows. The results reveal that hourly readings will often produce data values of no meaning whatsoever, with hundreds to even thousands of percent errors under various typical conditions.

For example, if the water level in the reservoir is falling at a rate of 0.0025 ft/hour during a time when rate of inflow is 725 gpm and 4,000 gpm is being withdrawn for use, the hourly inflow calculation will overstate the inflow by 3,275 gpm for three hours (450% error) while the total reservoir level change remains too small to be detectable by best available technology. Then in the fourth hour, when the change in reservoir level finally becomes large enough to be detected, the inflow will be vastly understated (by 9,812 gpm, or 1350% error). Under these flow conditions the reservoir inflow calculation produces negative stream inflows; a physical impossibility.

Smoothing

District staff discussed their concerns regarding accuracy with water board staff at one of the measurement and reporting information meetings. Water board staff acknowledged that reservoir water level data will move in a stepwise manner and suggested smoothing the data to avoid the problems involved in performing a calculation that is inherently unstable.

While this may seem like a solution to the problem it is actually an admission that hourly measurements are generally not meaningful. The smoothing process would make use of reservoir level data collected over a longer time frame and attempt to interpolate reservoir levels in the intervening time steps. The result is not an hourly measurement, but an estimate of reservoir levels and flow rates. There is no way to know that the actual water level was indeed the same as the value estimated for any particular time

step, and the flow rate will no longer represent the value for a particular interval, but it will instead represent an average flow that fits the longer time interval.

Furthermore, the error in measurement is not simply a matter of being able to determine readings to a sufficiently small resolution. There is also the potential for a certain amount of random error in the resulting level data. An error of 782,000 gallons in an hourly measurement equates to an error in flow rate of almost 19,000,000 gallons per day, or 13,000 gpm. An error of 782,000 gallons in a daily measurement equates to an error of only 540 gpm. Random error will give the impression that reservoir volume is changing, when in fact the indicated change is not occurring. Random measurement errors can occur on any time scale but they will increase the magnitude of error in flow calculations as the reporting time scale becomes shorter.

Smoothing Interval

Based on the limitation on accuracy of the measurement of reservoir volume and on the allowable error in flow measurement, it is possible to calculate the time interval needed for smoothing. First, the required accuracy of flow measurement, A_F , (dimensionless) is:

$$A_F = \frac{|Q_a - Q_m|}{Q_a}$$

where: Q_a = Actual rate of inflow, gpm

Q_m = Measured rate of inflow, gpm

Then, the measured rate of inflow differs from the actual rate of inflow by:

$$Q_m = Q_a \pm \frac{E_V}{T_S}$$

where: E_V = Volumetric error, gallons

T_S = Smoothing Interval, minutes

Rearranging, and combining the two equations gives:

$$A_F = \frac{|Q_a - Q_m|}{Q_a} = \frac{E_V}{T_S Q_a}$$

Then, solving for the smoothing interval, T_S :

$$T_S = \frac{E_V}{A_F Q_a}$$

Analyzing the Paradise Lake reservoir, for a required 10 percent accuracy of flow measurement, an accuracy of volume measurement of $\pm 782,000$ gallons and an actual flow rate of 1 cfs (449 gpm) the smoothing interval is 290 hours, that is, 12 days. At an inflow rate of 12 cfs the smoothing interval is 24 hours.

At a smoothing interval of 1 hour or less (that is to say, with no smoothing of hourly readings) the inflow rate must be 300 cfs or more. Inflows in this range occur extremely infrequently. This demonstrates that most hourly measurements cannot provide the required $\pm 10\%$ accuracy. Since the value of Q_a is unknown in practice, it will not be possible to use the analysis above to make a determination of the appropriate smoothing interval to be used for calculating Q_m to the required level of accuracy.

Considering the technical obstacles to getting meaningful measurements on an hourly time scale, PID urges water board staff to reconsider the requirement to collect and report hourly diversion data for reservoir operations. Installation of best available technology for measurement of water diversions, while expensive, makes sense because the calculation of diversions will be hindered without good measurements of key parameters. However, an attempt to extend the accuracy of the resulting data beyond its natural limits does not make sense and is unscientific. Such an effort will be costly, without consequent benefit, and the data obtained will be misleading at best.

Reporting

The amendment to Section 5103 requires: "Each statement shall be prepared on a form provided by the board." Presumably this means an internet form on the board's website, as is the current practice. Assuming that a diverter provides hourly measurements, in compliance with the minimum requirement, this will comprise 8,760 points in time per year. Since the regulation requires that the date, time, rate of direct diversion, rate of collection to storage and rate of withdrawal from storage be reported, this means that, at a minimum, water right holders will be required to report 43,800 numerical values to the state each year, for each water right they hold.

Currently, the board's data reporting protocol requires that each data point be keyed into individual cells in an internet form. PID has three water rights to report. At a rate of 12,000 keystrokes per hour, a preliminary estimate of the time necessary for PID to complete the data entry task, under these conditions, for one year's measurements is 511 hours, or three person-months of fulltime employment.

If the proposed expansion in reporting is to take place, a streamlined process for data entry needs to be provided. A means must be available for diverters to upload the measurement data to the water board without re-keying it. This could be accomplished through the use of an electronic form (for example, a spreadsheet form) or by using a standard file format to upload and automatically populate the fields of the form on the board's website.

Conclusion

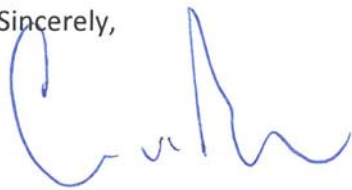
PID submits the following recommendations for implementation of the measurement and reporting regulations:

1. Remove the requirement for hourly measurement and reporting for any water rights holders for whom compliance with this requirement is impossible. This would include owners and operators of reservoir facilities where this requirement for reporting frequency, combined with the stated reporting accuracy of ± 10 percent, cannot be accomplished using best available technology.
2. Provide a streamlined method for reporting diversions data to the State. Eliminate the requirement for water rights holders to re-key data into the State's data collection system.

Thank you for giving consideration to our concerns regarding the development of the new measurement and reporting regulations. Paradise Irrigation District is committed to cooperating with the state water board to the extent possible. However, it would be unfortunate if the new regulations were implemented in a manner which makes compliance impossible.

If you have questions regarding these comments please contact the undersigned. Thank you.

Sincerely,



George Barber
General Manager, Paradise Irrigation District



Comments to the State Water Resources Control Board on Emergency Regulation for Measuring and Reporting the Diversion of Water – December 17, 2015

Henry McCann, Elisa Blanco, Alvar Escriva-Bou, Ellen Hanak, Jay Lund, Bonnie Magnuson-Skeels, Andrew Tweet¹

The PPIC Water Policy Center² and the UC Davis Center for Watershed Sciences are currently conducting a study of water information and accounting systems in 12 western states and three countries. As the State Water Board deliberates on the Draft Emergency Regulation for Measuring and Reporting on the Diversion of Water, it may be informative to consider successful measurement and reporting practices from other regions that face water scarcity. The suggestions offered below are adapted from practices employed by other state management entities with responsibilities and powers similar to those of the water board. We offer them to highlight potential opportunities for creating a more effective measurement and reporting program. We appreciate the opportunity to share preliminary findings of our research, and hope that these practices are useful considerations for the final measurement and reporting regulations.

Overview of preliminary findings: Best practices for measurement and reporting

Our preliminary findings suggest that regions actively using telemetric measurement technology, accounting for return flows, and developing public online access portals have stronger water accounting systems than regions that lack these tools. For example:

- Strategic use of telemetry-enabled monitoring networks provides a foundation for responsive water management and oversight. Colorado, some states in Australia, and major basins in Spain, for example, gather real-time measurements from reservoirs, gauges, diversions, and groundwater levels in one centralized accounting platform. They integrate real-time information into decision-making models to manage large water systems. This data collection technique offers the benefits of being instantaneously accessible and standardized, providing value to state oversight agencies, water users, and the public.

¹ Ellen Hanak is senior fellow and director of the PPIC Water Policy Center and Jay Lund is professor and director of the Center for Watershed Sciences at UC Davis. Henry McCann, Elisa Blanco, and Alvar Escriva-Bou are researchers at the PPIC Water Policy Center, and Bonnie Magnuson-Skeels and Andrew Tweet are researchers at the Center for Watershed Sciences at UC Davis.

² PPIC is a public charity. It does not take or support positions on any ballot measures or on any local, state, or federal legislation, nor does it endorse, support, or oppose any political parties or candidates for public office. Short sections of text, not to exceed three paragraphs, may be quoted without written permission provided that full attribution is given to the source. Research publications reflect the views of the authors and do not necessarily reflect the views of the staff, officers, or board of directors of the Public Policy Institute of California.

- Measuring and accounting for return flows enhances the ability of state oversight agencies to address complex water allocation problems. Return flows can be measured directly (as with wastewater treatment plants) or estimated indirectly. In either case, state agencies gain a better understanding of water availability when they account for return flows. Statewide accounting systems for return flows are common in Colorado, Texas, and Nebraska, for example.
- Water diversion and use reporting is transitioning from hard copies to online platforms. Texas, Kansas, and Nevada, among others, are now implementing online water user reporting and phasing out hard-copy reporting. Digital reporting reduces the processing time and facilitates standardization and quality control across water user reports.

While some of these elements are already incorporated into the draft regulations, some additions may improve the proposed measurement and reporting program. Here we examine three topics: 1) surface water diversion reporting, 2) technology for measurement, and 3) identification of scarcity conditions.

Recommendation 1: Enhance the scope, quality, and utility of data collected from surface water diversion reporting.

- **Require surface water diversion and use reporters to provide information on consumptive use and irrigation practices.** Department of Water Resources estimates show that return flows are a major supply of stream flows and water use in many California basins. Detailed accounting for consumptive use is a nearly universal challenge among water managers and oversight agencies. In our study, only the Texas Commission on Environmental Quality directly asked every water user to report annual estimates of return flows. Depending on the type of water use, consumptive water use may be very difficult or costly to measure directly. Alternatively, consumptive use can be estimated indirectly using information that is easier for users to measure and report. For example, the Kansas Department of Agriculture estimates agricultural consumptive uses indirectly by requiring water reporters to provide annually updated information on irrigation practices like crop type, irrigated acreage, and irrigation method. These metrics can be used to indirectly estimate consumptive use of individual operations. Many regions in our study had fragmented or incomplete records of irrigation practices. While agricultural water right permit holders and licensees in California currently provide some of this information in annual reports, it would be valuable to consider collecting all of the metrics above and expanding this requirement to riparian and pre-1914 water rights not currently required to do so.³ Recognizing that consumptive use estimates provided by

³ Riparians and pre-1914 appropriators are required to fill out Initial Statements of Water Diversion and Use (once), and Supplemental Statements of Water Diversion and Use (annually, according to SB 88). In both reports, users must describe the “purpose(s) for which the water was diverted and used,” but this doesn’t consistently solicit a full characterization of irrigation practices.

user reporting will be lagged, these estimates still provide important information for evaluating water availability and allocation decisions, especially during droughts.

- **Establish quality control safeguards.** Safeguards can help state oversight agencies make the most of data collected from user reports. In Kansas, for example, each annual water user report is read by state staff, where it is compared to the face value of water rights and flagged if excessively high, very low, or missing information. State employees investigate low-quality reports through personal outreach. Water diversion and use reporters who believe that their report will be read and verified may be more likely to provide accurate information. Simple computer programming could be very helpful in performing initial user report validation. A sampling program could validate user reports at a relatively low cost.
- **Include a protocol for periodic independent auditing and program review.** Auditing contributes to the effectiveness of a measuring and reporting program. The draft regulations incorporate several auditing provisions such as requiring installation reports on water measuring devices and requiring clear access to water measuring devices for inspection by state agents. The water board also could include an auditing provision that provides for periodic program-wide auditing by an independent body of experts. The audit would assess key aspects of the program: from certification of accurate measurement devices and measurement and estimation methods to data post-processing and final dataset accuracy. The first step in implementing an auditing system is to define clear data reporting and post-processing standards, exemplified by the National Water Accounting Standards developed in Australia.
- **Consolidate reporting into a single template and orient the reporting deadline around the water year rather than the calendar year.** Consolidating the core water diversion and usage portions of the principal water user report types into a single basic template would streamline data collection and facilitate quality control. Supplemental information specific to reporting requirements under each report type may be accommodated as add-ons to the basic water use report template. This type of consolidation is currently being considered by state water oversight agencies in Texas. Shifting the 12-month measuring period to end in October and collecting self-reported water diversion and use data during the fall and winter would allow the water board to evaluate water demand in anticipation of water scarcity conditions and potential curtailments in the spring or summer of the following year. Other western regions with statewide water user reporting, like Washington and Oregon, collect water diversion and use reports in winter (reports due by January 31st and December 31st, respectively).

Recommendation 2: Consider the strategic use of telemetry in conjunction with responsive decision-making tools and procedures.

- **Implement an investment plan for real-time monitoring.** Taking full advantage of telemetry technology requires decision-making tools and procedures that effectively incorporate real-time data. Telemetry-enabled monitoring devices collect field measurements for use in real-time, creating a foundation for more responsive centralized data collection, analysis, and decision making. For example, Colorado has a network of telemetry-equipped monitoring devices measuring streamflow, groundwater levels, and major diversions. This network is the cornerstone of Colorado’s centralized and real-time water management decision making models. Collecting accurate information on major diversions in real-time (somewhere between instantaneously and hourly) allows state water management to quickly and effectively model water management decisions at several spatial scales during times of scarcity and also indirectly measure water use using ancillary water balance models. To effectively implement an investment plan for a real-time monitoring system, we suggest identifying information gaps in priority areas—focusing on streams with large diversions and sensitive environmental areas.

Recommendation 3: Create standardized methods for anticipating scarcity and determining the need for more frequent reporting of diversion and use.

- **Prepare for more frequent monitoring in sensitive basins.** The new regulation will give the water board broader authority to require more frequent reporting by water users during times of scarcity. This provision builds on the water board’s existing authority to issue orders requesting more frequent reporting from individual water users, as it has done in the current drought. Anticipating scarcity conditions on specific rivers and streams is a common challenge in the American west and other parts of the world in part because climatic and streamflow forecasts lack the accuracy to predict hydrologic scarcity at high resolution. Several regions are working to create forward-looking modeling tools for anticipating scarcity at high resolution, including Australia, Texas, and Nebraska. California has an opportunity to build on tools like the [Drought Water Rights Allocation Tool](#) (DWRAT) developed by researchers at the UC Davis Center for Watershed Sciences in collaboration with water board staff. DWRAT combines forecasted natural flows, estimated demand from water rights, and allocation priorities for right-holders, the environment, and public health into an evaluation of water supply availability at the sub-basin scale. Scarcity probabilities for individual rivers and streams could be regularly evaluated and ultimately classified to correspond with appropriate measuring and reporting requirements.



(12/17/15) Public Workshop
Emergency Reg for Measuring & Reporting Diversions
Deadline: 12/17/15 by 12:00 noon

December 17, 2015

Jeanine Townsend, Clerk to the Board
 State Water Resources Control Board
 P.O. Box 100
 Sacramento, CA 95812-0100



Subject: Comment Letter – Proposed Emergency Regulations for Measuring and Reporting, December 7, 2015 Agency Draft for Public Comment

Dear Ms. Townsend,

The SFPUC, the owner and operator of the Hetch Hetchy Regional Water System, has reviewed the Proposed Emergency Regulations for Measuring and Reporting, December 7, 2015 Agency Draft for Public Comment and has the following comments. While the SFPUC acknowledges that the passage of Senate Bill 88, which added Article 3 “Monitoring and Reporting” to the Water Code commencing with section 1840, directs the State Board to develop emergency regulations for measuring and reporting water diversions, the proposed emergency regulations go beyond the direction of SB 88. Unfortunately, without being able to know the purpose and intent of many provisions in the proposed emergency regulations, it is difficult for the SFPUC to make constructive comments that reflect the practicalities of collecting and reporting water diversion data. The SFPUC encourages the State Board to establish additional workshops with diverters and water users, before the SWRCB adopts regulations, to work through the practical mechanisms for achieving specific purposes and intents the State Board may have in collecting and using this data.

In the meantime, the SFPUC offers the following preliminary comments:

1. Section 929 Reports of Licensee and 933 Measuring Device Requirements: Throughout these sections and possibly in other places within the proposed emergency regulations the language should be revised to acknowledge the reliance on USGS data for purposes of arriving at diversion rates and amounts. The SFPUC has a contract with USGS for several staff gages throughout our watersheds for which this data is the basis for determining inflow to and diversions from reservoirs. The USGS data will often remain provisional until the completion of the water year in September at which time they will review the data for the year and finalize. The reporting requirements proposed in the emergency regulations do not account for the USGS timeline in allowing for revised filings. These timelines should be revised to be consistent with USGS practices. In addition, calibration, accuracy and inspection/repair requirements should recognize the contracts that many diverters across the State have with the USGS. The

- Edwin M. Lee**
Mayor
- Francesca Vietor**
President
- Anson Moran**
Vice President
- Ann Moller Caen**
Commissioner
- Vince Courtney**
Commissioner
- Ike Kwon**
Commissioner
- Harlan L. Kelly, Jr.**
General Manager



USGS standard measurement and data review practices should be considered acceptable for compliance with the description of 'required accuracy' in Sec. 933(d) of the regulation.

2. Section 933(b)(2)(B) Data Submittal: the requirement for water right holders who divert more than 10,000 acre-feet annually or, on a monthly basis diverts more than 50 percent of the monthly median flow of the watershed to "provide **real-time telemetered** diversion data via a public website that displays the data on at least a daily bases, that is updated weekly at minimum," is problematic. Firstly, for most diverters whose diversions are entering a reservoir, a calculation is necessary (note: and permissible per the proposed emergency draft regulations) to arrive at a diversion rate and therefore, the data cannot be "telemetered real-time." Secondly, for such diverters daily calculations made at low inflows will often present negative inflow rate values as a result of reservoir elevations used in the calculation of diversion that have been affected by weather conditions and compounded measurement error from multiple devices. Thus, a daily calculation of diversion made on the basis of a calculated negative reservoir inflow may have no value for purposes of diversion rates. Finally, with this requirement the State Board is now requiring diversion rates be reported instantaneously or daily, depending on how one reads the language of Section 933(b)(2)(B), and not annually as was the intent and requirement of SB 88, Article 3 of Water Code 1840.
3. Section 933(j) Accessibility: the requirement that "measuring device shall be installed in a manner such that it is readily accessible for reading, inspection, testing, repair or replacement" is not practical. In many instance measuring devices within pipelines or tunnels must be installed in a straight section that is a distance 10 times the diameter of the pipeline or tunnel from the beginning of such a facility.
4. Section 935 Alternative Compliance for Measuring Device or Measurement Method Requirement: the alternate requirement compliance measure ought to expressly state a default process if certain conditions are established that modify reporting requirement to annual reporting particularly in the instance in which the water already authorized to be diverted by the same diverter would otherwise be diverted at a downstream reservoir.

We truly appreciated the opportunity to provide comments on the draft of this regulation and sincerely thank the SWRCB for their efforts.

Sincerely,



Steven R. Ritchie
Assistant General Manager, Water



December 17, 2015

VIA E-MAIL AND U.S. MAIL

State Water Resources Control Board
Attn: Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814
E-Mail: commentletters@waterboards.ca.gov

Re: Senate Bill 88 and Draft Emergency Regulations for Measuring and Reporting on the Diversion of Water

Dear Members of the Board:

The San Luis & Delta-Mendota Water Authority ("Water Authority") appreciates this opportunity to comment on Senate Bill 88 and the Draft Emergency Regulations for Measuring and Reporting on the Diversion of Water ("Draft Regulations"). If the State Water Resources Control Board ("Water Board") plans to adopt the Draft Regulations, the Water Authority requests that it first make two changes to address the concerns outlined below.

First, the Draft Regulations should be modified to increase transparency regarding the approval of exceptions from and alternative compliance for the reporting and measuring requirements otherwise required by the Draft Regulations. A number of the Draft Regulations describe exceptions or alternative compliance procedures for reporting and measuring, including the following:

- Draft section 932(d) would allow the Executive Director to "issue orders to increase the 10 acre-feet reporting threshold . . . to or above 25 acre-feet," assuming various criteria are met. (Draft § 932, subd. (d).)
- Draft section 934(e) would allow groups of water right holders to measure water at shared points of diversion and report combined information regarding their shared measurements. (Draft § 934, subd. (e).)
- Draft section 935 would authorize the Deputy Director to consider alternative compliance to one or more of the requirements of section 933 and section 934 "upon finding that strict compliance is not feasible, would be unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water." (Draft § 935, subd. (a).)

842 SIXTH STREET

SUITE 7

P.O. BOX 2157

LOS BANOS, CA

93635

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State Water Resources Control Board
Attn: Jeanine Townsend
Clerk to the Board
December 17, 2015
Page 2

- Draft section 936 would authorize the Deputy Director to grant additional time for compliance with the measuring and reporting requirements "upon a showing of good cause," for up to 24 months. (Draft § 936.)

In the interest of transparency, the Water Board should revise each of these sections to require posting on the Water Board website and transmittal through "lyris" to interested parties any decision granting any requests for such exceptions or approval of alternative compliance.

Second, the Draft Regulations should be modified to authorize water right holders to seek reconsideration of decisions on requests for alternative compliance. As noted above, the Draft Regulations describe a procedure in draft section 935 by which a water right holder may seek alternative compliance for a measuring device or measurement method. Although draft section 935 describes how a water right holder should make a request (Draft § 935, subd. (c)), and provides that the Deputy Director may grant such requests (Draft § 935, subd. (b)), it does not include any detail about appeals of the Deputy Director's decision. In contrast, draft section 932(d)(6) expressly provides that the decision to increase the reporting threshold is subject to reconsideration. (Draft § 932, subd. (d)(6).) Draft section 935 should include a counterpart to section 932(d)(6), to make clear the Deputy Director's decisions regarding alternative compliance are subject to reconsideration.

Thank you for your consideration.

Regards,



Jon D. Rubin
General Counsel

San Luis Obispo County Farm Bureau
4875 Morabito Place
San Luis Obispo, CA. 93401
805-543-3654

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814



RE: Comment Letter – Emergency Regulation for Measuring and Reporting the Diversion of Water

Dear Ms. Townsend:

The San Luis Obispo County Farm Bureau concurs with the following letter and comments submitted to the State Water Resources Control Board regarding SB 88 – areas of concern and suggestions for changes.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Sutton".

Dan Sutton
President
San Luis Obispo County Farm Bureau



CALIFORNIA FARM BUREAU FEDERATION
OFFICE OF THE GENERAL COUNSEL

2300 RIVER PLAZA DRIVE, SACRAMENTO, CA 95833-3293 · PHONE (916) 561-5665 · FAX (916) 561-5691

December 17, 2015

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

RE: Comment Letter – Emergency Regulation for Measuring and Reporting the Diversion of Water

Dear Ms. Townsend:

NANCY N. McDONOUGH, GENERAL COUNSEL

ASSOCIATE COUNSEL:

CARL G. BORDEN · KAREN NORENE MILLS · CHRISTIAN C. SCHEURING · KARI E. FISHER · JACK L. RICE

The California Farm Bureau Federation (Farm Bureau) is a non-governmental, non-profit, voluntary membership California corporation whose purpose is to protect and promote agricultural interests throughout the state of California and to find solutions to the problems of the farm, the farm home and the rural community. Farm Bureau is California's largest farm organization, comprised of 53 county Farm Bureaus currently representing more than 53,000 agricultural, associate and collegiate members in 56 counties. Farm Bureau strives to protect and improve the ability of farmers and ranchers engaged in production agriculture to provide a reliable supply of food and fiber through responsible stewardship of California's resources.

This letter was written jointly with Nick Bonsignore and Paula Whealen of Wagner and Bonsignore Consulting Civil Engineers, and Peter Kiel of Ellison, Schneider & Harris. Farm Bureau appreciates the opportunity to comment on the Proposed Emergency Regulation for Measuring and Monitoring (regulation).

While the need to comply with the provisions of Senate Bill 88 is clear, the regulation adopted by the State Water Resources Control Board (SWRCB) should strive to make the process as practical, efficient, and understandable as possible. Much has changed for water users in California over the past few years and while most people are trying to comply, the number and significance of changes make full understanding and compliance very difficult, particularly for small farming operations and homeowners who may not have sufficient time or resources to engage fully in the process. Please consider the practical implications of the requested changes along with the pressures those changes put on smaller operations.

General Comments:

Technical Capacity – There are a limited number of individuals with the qualifications and skills necessary to assist the thousands of affected water users in complying with this regulation. Nearly all of these individuals are already very busy, particularly given the numerous recent changes, and it is likely that the availability of qualified expertise will constrain the ability of water users to comply with the regulations. For this reason the time frames for installation and certification of devices should be extended.

Clarification – The impact of the regulations on water users must be conveyed in a format more understandable to the typical layperson. The SWRCB estimates there will be approximately 12,000 water users impacted by these regulations, nearly all of whom are more focused on the holidays than the technical language of the regulation. While accurate technical language is necessary, such language should be accompanied by plain language summaries explaining the practical implications of the regulation and how water users will be expected to comply. For example, a person should be able to look at a single chart and see what has changed for them based on the type and size of their diversion. There should also be a summary of which forms a water use must fill out under what circumstances, accompanied by copies of the forms so it is easier to understand what will be expected. Additionally, the distinction between annual supplemental statements required under Water Code §5104 and the occurrence of additional reporting under 917 should be clarified – currently it is somewhat difficult to understand the

different changes. This clarification should be provided prior to the SWRCB meeting when the regulations will be adopted so that water users can have a working knowledge of the regulations and will be better prepared to provide the SWRCB with field information to help improve implementation of the regulations.

Measurement by Method – The regulations do not appear to adequately allow for methods of measurement as identified in Water Code § 1840(a)(1)(B). Instead of providing for measurement by device **or** method, and then providing for a means of alternative compliance, the regulations focus on requiring devices and describe “methods” as a distinct alternative approach with more expansive requirements. For example, Water Code § 1840(a)(1)(B)(i) identifies electrical records dedicated to a pump and recent pump test as an appropriate method of measurement, but this is not clear in the regulation that this is an acceptable means of measurement. This and other methods are effective and efficient options that should clearly be identified as acceptable methods of measurement.

Season of Diversion – The regulation should clarify that the reporting requirement does not apply if a person is not actively diverting. For water users whose season of diversion is not during the period of time when there is a shortage, it is not necessary to report. If such reporting is required, there should be a simple means of compliance that does not involve, for example, hourly reporting of zeros.

Appeals – Additional provisions should be added providing for the ability to appeal decisions of the Deputy Director, including requests for measurement methods, requests for alternative compliance, and requests for additional time under sections 934, 935, and 936. The ability to appeal decisions should be similar to that authorizing appeal of an order on an increase in the measurement threshold, which is defined in section 932(c)(6) as being “subject to reconsideration under section 1122, et seq.” (Administrative appeal of a board decision or order.)

Editorial comments – References to “Xcel” should be changed to “Excel”. In Section 920(b) sentence 3 – add the word “form” after “statement of change”. Section 933(b)(2)(B) – are HUC 10 water basins available to the public on the SWRCB database?

Forfeiture Concerns – One of the key concerns water users have is that the new reporting requirements will increase the risk of forfeiture of their water rights when they implement conservation practices or use in lieu water. To alleviate this concern the regulations should clarify and streamline how water users should report conservation and in lieu water use to avoid risk of unintentional forfeiture. As with the comment above regarding the need for clarity, this issue in particular needs straightforward, plain language summaries so water users can understand how reporting under this regulation fits in with reporting conservation or in lieu use.

Specific Comments:

Section 917:

- **Decision Maker** – The determination to require additional reporting should be made by the Executive Director to ensure the appropriate legal and policy review is conducted.
- **Additional Reporting Trigger** – The trigger for additional reporting, described in the regulation as “when flows or projected available supplies in a watershed or subwatershed are sufficient to support some but not all projected diversion demand,” is too broad. As a practical matter most watersheds experience times when water is unavailable to certain users, but this is generally dealt with by the watermaster, compliance with permit/license terms, custom, or the simple fact there is no water to divert. These typical situations differ significantly from the conditions of the past two years where the SWRCB issued curtailment notices. Consequently it is not appropriate for the additional reporting trigger to be anytime projected demand is not to be met. Additional reporting should only be required during a declared drought emergency.
- **Monitoring vs. Reporting** – The requirement to report water diversion on a more frequent schedule than annually may be significantly more onerous than the requirement to install devices that are capable of recording diversion data. For example, while it may be feasible to install a device capable of recording hourly measurement (e.g. pressure transducer data logger), arranging for this information to be electronically reported on a daily or more frequently basis would require a significantly more advanced system. This would require essentially real-time monitoring that is not necessary to achieve appropriate management and would be extremely costly to install and maintain.
- **Frequency of Reporting** – The potential frequency of reporting requirements should be clarified. The reporting requirement in 917 indicates that the reporting frequency “shall not exceed the frequency of recording required under section 933, subdivision (b)(1).” Section 933, subdivision (b)(1) then provides that recording for large diversions shall be “on an hourly or more frequent basis” (emphasis added). It should be clarified that the reporting will not be required on a “more frequent basis” even if the data recording is provided more frequently.
- **Penalties** – Because this is a new and significantly different requirement, and because there is no truly reliable way for the SWRCB to reach and explain to all water users the implications of the regulations, the potential fine should be changed. For example instead of up to \$500 per day, the fine should be limited to \$500 for failing to report, and then once notified of noncompliance by the SWRCB, fines would then accrue on a daily basis.

Section 924

- There should be no additional reporting requirements for registrations and certificates. The amount of water utilized by registrations, particularly for stockponds, is not sufficient to warrant the additional reporting requirements.
- For many stockponds the maximum rate of diversion would be very difficult to identify. As a practical matter, this occurs during the largest rainfall event of the year (unless the

pond is already full) and would require significant investment to measure, while providing little benefit.

Section 931

- In subdivision (g), and elsewhere in the regulation (including Section 932(b)), it is not clear whether the term “diversion” applies to the actual amount diverted or the face value of the right. Use and application of the term “diversion” in section 931 (g) should be coordinated with other parts of the regulation, particularly sections 932 and 933.

Section 932

- Subsections (a) and (b) would be more consistent and clear with the following edits to Subsection (a):
 - (a) Except as provided in subdivision (d), ~~the following~~ water right holders shall install and maintain a measuring device or employ a measurement method capable of measuring the rate of diversion, rate of collection to storage, the rate of withdrawal or release from storage, and the total volume of water diverted or collected to storage for the following:
 - (1) A diversion under a permit or license authorizing a diversion greater than 10 acre-feet of water per year. Any person authorized to divert greater than 10 acre-feet of water per year under a permit or license.
 - (2) A diversion that is required under Water Code Part 5.1 to be reported in a Statement of Water Diversions that has been greater than 10 acre-feet of water per year. Any person who has previously diverted or intends to divert greater than 10 acre-feet of water per year and is required under Water Code Part 5.1 to file a Statement of Water Diversions and Use.
 - (3) A diversion under a registration authorizing a diversion greater than 10 acre-feet of water per year. Any person authorized to divert greater than 10 acre-feet of water per year or to have a storage facility with a capacity greater than 10 acre-feet under a registration.
- As shown in the proposed edit above, subsection (a)(3) should be amended to delete “or to have a storage facility with a capacity greater than 10 acre-feet” to parallel the structure of (a)(1) for permits and licenses. Water Code section 1228.1 limits diversions under livestock stockpond and small domestic registrations to 10 acre-feet or less per year; however, there are livestock stockpond and small domestic registrations for storage facilities with a volume greater than 10 acre-feet but with maximum diversion limits of 10 acre-feet or less.
- The deadline to install and certify a measuring device on water rights of 1,000 acre-feet per year should be changed from July 1, 2016 to January 1, 2017. First, in many instances it will likely be unnecessarily disruptive to complete the installation work during the irrigation season when facilities need to be operating. Second, if the work is conducted in a stream channel, there may be permits required that are not readily

obtained in such a short time frame and which conditions may prevent work during much of the winter and spring. Third, installation of measuring devices in a reservoir is best accomplished when the reservoir is empty or at least significantly drawn down, which typically occurs in the fall after irrigation season is over. The deadline to install and certify a measuring device on water rights of 1,000 acre-feet per year should be changed from January 1, 2017 to July 1, 2017. The effective dates for the 10 and 100 acre-foot threshold diversions should be updated to include the following edits:

(c) Effective Dates. The deadlines for the installation and certification of measuring devices or method shall be:

(1) On or before January 1, 2017 ~~July 1, 2016~~, for a water right holder with a right or a claimed right to divert 1000 acre-feet of water per year or more.

(2) On or before ~~January 1~~ July 1, 2017, for a water right holder with a right or a claimed right to divert 100 acre-feet of water per year or more but less than 1000 acre-feet of water per year.

(3) On or before January 1, 2018, for a water right holder with a right or a claimed right to divert greater than 10 acre-feet of water per year but less than 100 acre-feet of water per year.

Section 933

- **Data Retention** (b)(3) – A 10-year document retention period is unreasonably long. Typical document retention periods for regulatory permits and tax records are two or three years, and do not exceed five years. It is unclear why the raw device data must be retained for such a long period given the requirements to report synthesized data annually or more frequently to the Board.
- **Accuracy** (e) – While accuracy is important, before creating a “smog certificate” process for water diversion the SWRCB should do a cost benefit analysis to identify how frequently, if at all, it is actually necessary to recertify the accuracy of certain devices. Additionally, there should be a simple process to certify existing staff gauges and similar measurement devices.
- **Certification Date** (e)(1) – This section unfairly burdens diverters that have already installed measuring devices (before January 1, 2016). These diverters must submit certification of accuracy with the next "water use report" which would be by June 30, 2016. Alternatively, Sections 932(c)(2) and (3), and (1) if the SWRCB agrees to change it, allow diverters without devices already in place to have until 2017 or 2018 to install and certify devices. **A diverter that already has a device in place should not be required to submit certification sooner than a diverter that that does not have a device.**
- **Accessibility** (j) – Devices should be installed in a manner that is “reasonably” accessible, not “readily” accessible. Many points of diversion are not “readily” accessible due to their remote location, so it may be impossible to comply with a regulatory requirement for the device to be “readily” accessible, to the extent that term is commonly understood.

Letter to Jeanine Townsend, Clerk to the Board

December 17, 2015

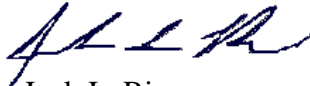
Page 7

Section 934

- The statutory language clearly provides that both devices and methods are appropriate, whereas the language of section 934 imposes additional requirements unrelated to the accuracy of the method. For example, (a)(1)(E), (G) & (H)) are not relevant to the accuracy of a method to measure diversion and more appropriately belong in the section providing for alternative compliance.
- Section 934(b)(1) requires data “recording” at the same frequency as measuring devices set forth in Section 933(b). An accepted measurement ‘method’ should have some flexibility in the frequency of determining the amount of water diverted, rather than being held to the same standards as those employing one of the acceptable measuring devices.

Thank you for considering these comments. If you have any questions please feel free to contact Jack Rice at (916) 561-5667 or jrice@cfbf.com.

Sincerely,



Jack L. Rice
Associate Counsel



Shasta County

BOARD OF SUPERVISORS

1450 Court Street, Suite 308B
Redding, California 96001-1673
(530) 225-5557
(800) 479-8009
(530) 225-5189-FAX

(12/17/15) Public Workshop
Emergency Reg for Measuring & Reporting Diversions
Deadline: 12/17/15 by 12:00 noon



DAVID A. KEHOE, DISTRICT 1
LEONARD MOTY, DISTRICT 2
PAM GIACOMINI, DISTRICT 3
BILL SCHAPPELL, DISTRICT 4
LES BAUGH, DISTRICT 5

November 17, 2015

To: California State Water Resources Control Board Chair Felicia Marcus
Sent via email to dwr-measurement@waterboards.ca.gov

Subject: Senate Bill 88 and the Emergency Regulation
for Measuring and Reporting the Diversion of Water

Thank you for the opportunity to comment on the proposed regulations to implement Senate Bill (SB) 88.

We appreciate you holding a hearing in Redding. Unfortunately, the notice of the hearing was received only a few days prior. Most water rights holders were unaware of SB 88 and its significant impacts upon their ability to divert water without fear of extreme fines and criminality. With the law going into effect January 1, 2016, no one has time to prepare or to know what needs to be done.

In writing the regulation, the California State Water Resources Control Board (SWRCB) must ensure that there is no erosion or forfeiting of water rights (which are an actual property right tied to the land owned) by this reporting process. Due to the drought or other factors, a water rights holder may use less than their allotted amount; that is a good action by the water rights holder that should be honored and should not be penalized.

Water is diverted in many different ways in California; one size does not fit all. This process needs to be conducted over a long period of time, not all at once. Your regulation should address the ability to stagger requirements over several years. Just the ability to have the emergency regulation written, presented for public comment, and then in place by January 1, 2016 is not a reasonable expectation.

The burden for an estimated 12,000 water right holders across the state to install a "best available" technology measurement device is truly unreasonable. We encourage you to consider current, very simple and straightforward technologies that are cost effective. Otherwise, the cost to the water rights holder and to SWRCB staff may be very large. That additional financial burden is unnecessary.

The requirements for the proposed rules for stock ponds should be raised to at least 50 acre feet or completely eliminated. The 50 acre foot requirement needs to be for each pond. Most ponds do not have defined channels feeding them (or have several). It is difficult or almost impossible to monitor them. Stockponds create riparian habitat that benefits wildlife and also contributes to groundwater recharge. Water rights holders report their stockpond use and pay their \$150 fee. Often the SWRCB

Chair Felicia Marcus
November 17, 2015
Page 2 of 2

website does not allow for reporting. Yet, no paper reporting is allowed. This is one example of the technical difficulties that will be experienced. And yet, water rights holders will be at risk of fines.

Diverters may be required to get California Department of Fish and Game, Section 1602 permits in order to install a measurement device. Additionally, if they are on a stream or river with steelhead or salmon they will need to consult National Marine Fisheries (and possibly obtain additional permits) and may also need an Army Corps of Engineers permit. This process often takes years to complete. How can this possibly work with the proposed regulation? The regulation must allow for flexibility and take into consideration other agency involvement.

It is difficult to understand how this information will enhance the ability for the SWRCB to manage water rights and diversions beyond what they currently have today.

Not only will it become difficult and costly for the SWRCB and the Department of Water Resources to actually manage all of the data, but it also appears that SB 88 has not been properly vetted through the hearing process. It should be put on hold and revised into a workable piece of legislation that could be of benefit to the people of California.

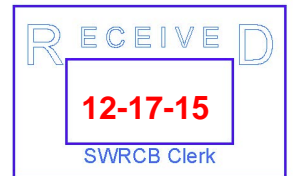
Sincerely,



LEONARD MOTY, CHAIRMAN
Shasta County Board of Supervisors

cc: Congressman Doug LaMalfa
Assembly Member Brian Dahle
Senator Ted Gaines
Senator Dianne Feinstein
Senator Barbara Boxer

commentletters



From: Wells, Paul@Waterboards
Sent: Thursday, December 17, 2015 1:20 PM
To: commentletters
Subject: FW: Draft Emergency Regulations for Measuring and Reporting on the Diversion of Water

From: Charleen Beard [<mailto:cbeard@co.shasta.ca.us>]
Sent: Thursday, December 17, 2015 11:56 AM
To: Wells, Paul@Waterboards
Cc: Eric Wedemeyer
Subject: Draft Emergency Regulations for Measuring and Reporting on the Diversion of Water

Hi Paul,

Thank you for this opportunity to comment on the subject regulation.

Comments on the Proposed Emergency Regulation for Measuring and Reporting
December 7, 2015 Agency Draft for Public Comment

1. Section 933(b)(1) Data Recording. Currently our meters do not record the date, time, or volume of water diverted. Our technicians or Operators read the meter, and record that information on a paper sheet, which is translated into Xcel monthly. Would that comply with the requirements of this section? If not, where is the funding for upgrading the measuring device and reporting system going to come from?
2. Section 933(b)(1)(A) options i, ii, and iii all include the language "or more frequent." Please include a cap on this. Shasta County manages 6 small water CSAs. We could comply with a weekly or daily reporting requirement if necessary, but we do not have the staffing to do hourly reporting, and hiring additional staff in order to comply with an hourly requirement would constitute a financial hardship.
3. As a municipal water supplier, our meters are used to determine chlorine dosing requirements for public consumption. If our meters are accurate enough to determine dosing for public consumption, why do we need to do additional accuracy testing to comply with the 5 year accuracy requirements?

Thank you,

Charleen Beard
Associate Engineer
Shasta County Department of Public Works
1855 Placer Street
Redding, CA 96001
Office: 530-245-6806



SONOMA COUNTY FARM BUREAU

Affiliated with the California Farm Bureau Federation and the American Farm Bureau Federation



December 16, 2015

State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Via Email: commentletters@waterboards.ca.gov
paul.wells@waterboards.ca.gov

RE: SB 88 and the Draft Emergency Regulation for Measuring and Reporting on the Diversion of Water

Dear Board Members and Staff,

Sonoma County Farm Bureau (Farm Bureau), an organization representing nearly 3,000 family farmers, ranchers, rural landowners and agricultural businesses in Sonoma County, appreciates the opportunity to share the organization's thoughts on SB 88 and the Draft Emergency Regulation for Measuring and Reporting on the Diversion of Water.

After reviewing the language within the proposed emergency regulation for measuring and reporting December 7, 2015 agency draft for public comment, Sonoma County Farm Bureau would like to reinforce the comments below made by Mendocino County Farm Bureau as well as those made by California Farm Bureau Federation.

Since reporting deadlines will potentially be changing for a number of diverters, it is requested that the SWRCB promptly notice all diverters of the required changes to reporting deadlines. It is also important that the eWRIMS online reporting system be altered in a timely manner in order for diversions to be reported prior to the deadline. Directions for how to properly report under the requirements of SB 88 and the related regulation should also be clearly described to diverters in future correspondence.

If changes to reporting frequency are to be implemented, sufficient evidence of a benefit to the watershed or subwatershed needs to be considered for the additional reporting and data processing requirements. Sufficient notice should be provided to diverters if any change in reporting frequency is anticipated.

This regulation will create additional monitoring standards for a number of diverters and will add layers of complexity to the reporting process. The complexities of individual diversion systems and fiscal impacts to the diverter need to be considered. Will there be an economic impact report affiliated with this regulation?

SWRCB needs to be prepared to provide workshops throughout California to discuss the new compliance standards, timeframes for compliance, etc. and address diverter questions once the regulation is adopted.

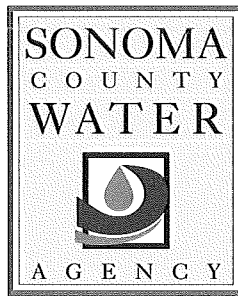
Sonoma County Farm Bureau appreciates your consideration on these issues.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jeff Carlton".

Jeff Carlton, chairman, Natural Resources and Environment Committee

CC: Board of Directors, Sonoma County Farm Bureau; Devon Jones, executive director, Mendocino County Farm Bureau; Jack Rice, associate council, California Farm Bureau Federation



CF/43-0-25 State Water Resources Control Board (SWRCB)
(ID 1181)

December 17, 2015

Sent via email to commentletters@waterboards.ca.gov and U.S. mail

Ms. Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Re: Emergency Regulation for Measuring and Reporting the Diversion of Water

Dear Ms. Townsend:

The Sonoma County Water Agency (Water Agency) appreciates the opportunity to comment on the proposed approach and draft emergency regulation implementing the requirements of Senate Bill 88 which was signed by Governor Edmund G. Brown, Jr. on June 24, 2015. The Water Agency comments encompass the review of the documents made available by the State Water Resources Control Board (State Board) and noticed in the December 3, 2015 revised notice.

The Water Agency holds water rights permits and licenses for direct diversions and diversions to storage that serve consumptive uses for municipal and agricultural water supplies and non-consumptive uses for hydropower generation and recreation in the Russian River watershed. The Water Agency is supportive of the State Board efforts to improve the accuracy and comprehensiveness of reporting of diversions and water use. Past metering and reporting in the Russian River watershed have not provided sufficient information for the Water Agency or State Board to properly characterize diversions in the watershed or their impacts on available supplies and instream flows. This uncertainty significantly limits the State Board's ability to protect public trust resources and water rights priorities.

The Water Agency has the following comments related to the approaches discussed in the *List of Concepts and Recommendations for the Emergency Regulation (11/2/2015)*:

- **Concept 1:** To coordinate data gathering among Agency contractors, retrieve non-provisional USGS stream flow data, and conduct water balance modeling to determine diversion allocation among the Water Agency's four water supply water rights permits takes considerable time. For this reason, the proposed deadline of April 1st would be too early to allow diverters to accomplish all of these tasks. The Water Agency proposes that the reporting deadline be June 1st or later.

- **Concept 3:** The proposal to use the combined face value of all bases of right for each place of use as the method for determining the diversion threshold for the measurement requirements would be difficult to implement due to poor mapping of many POUs and multiple water rights for ranches having several different POUs. To address this problem, the Water Agency proposes that the diversion threshold criteria be applied to a facility's total water rights that share a common POD or a group of PODs or that serve the same parcels or overlapping places of use.
- **Concept 6:** For direct diversions, the Water Agency supports maintaining the threshold at 10 ac-ft/yr. It is expected that an operation or facility using at least this amount of water would experience only a minor percentage increase in overall costs to comply with these regulations.
- **Concept 7:** The Water Agency supports the concept that specific measurement requirements should be based on reasonable accuracy.
- **Concept 9:** The Water Agency supports developing a framework for alternative measurement requirements and suggests that, in addition to considering the impact of diversion on the watershed, consideration also be given to the value of the monitoring information that would be provided.
- **Concept 10:** The Water Agency supports a one-year implementation period for less complex facilities and a multi-year implementation period for facilities that will require significant investments of time and resources.
- **Concept 11:** The Water Agency supports the concept that measuring equipment be required to be installed in accordance with manufacturer specifications, field verified after installation, maintained for accuracy, and inspected by State Board staff on a routine basis.

The Water Agency has the following comments related to the *December 7, 2015 Agency Draft for Public Comment*:

- Under Sections 925 and 929, the draft regulation proposes deadlines for progress reports by permittee and licensee reports before April 1st. It further proposes that if these reports are based on provisional streamflow data, then the water right holder shall file an amended report before July 1st.
 - The Water Agency is reliant on a third-party (USGS) to approve provisional streamflow data. This data is used to determine temporal water availability by the type of water (natural flow, imported water, and reservoir releases), which is required for the allocation of diversions among the Water Agency's four water rights permits. The current methodology employed by the third-party to approve data is limited by river conditions and there is a likelihood that approved streamflow data would not be available in time for the Water Agency to submit amended reports by July 1st. The Water Agency recommends that this requirement be revised to state that amended reports will be provided as approved data is made available. Having an arbitrary cutoff date that often cannot be met does not serve the public good. It is understood that prompt

corrections should be completed, but closing off potential amended reports before the streamflow data can be made available is unreasonable.

- Under Sections 925 and 929, the draft regulation proposes that diversions be reported on a point of diversion basis.
 - The Water Agency maintains four water rights for water supply purposes with each water right sharing many common PODs with some having in excess of 30 PODs. The Water Agency observes that under the proposed language of Section 935 that the Water Agency may seek via a request to the deputy director to have a consolidation PODs for the purpose of measurements.
- Under Sections 925 and 929, the draft regulation proposes that water conservation amounts be reported on a monthly basis.
 - The Water Agency uses the California Urban Water Conservation Council methodology for determining annual water conservation. Due to the diverse portfolio of water conservation programs employed, the Water Agency would not be to provide monthly water conservation amounts using this methodology.
- Under Sections 925 and 929, the draft regulation proposes that recycled water amounts be reported on a monthly basis.
 - The Water Agency does not directly control the recycled water system, but reports recycled water used to offset urban demands in its service area. Some of the recycled water systems have billing cycles of every two months, which would not allow the Water Agency to strictly conform to the draft regulations. The Water Agency recommends modifying the language to account for less than monthly billing cycles.
- Under Section 933, the draft regulation proposes that for water right holders that divert more than 10,000 ac-ft per year that real-time telemetry be used to provide diversion data via a public website. It further proposes that this data be provided at least on a daily time-step and updated weekly.
 - For reservoir operations, the Water Agency observes that this proposed language is problematic since in our operations diversions to storage can only be determined 30 days after a diversion occurs. The draft language should address the data publishing requirements for diversions to storage separately from direct diversions.
- Under Sections 925 and 929, the draft regulation proposes that measurement data collected under the proposed requirements of Section 933 for permits and licenses that authorize collection to storage shall be included in the annual reports.
 - The Water Agency observes that under Section 933 there are also measurement requirements for direct diversions as well. The Water Agency recommends that these records also be required in the annual reports.
- Under Section 933, the draft regulation proposes that a measuring device shall be calibrated at least once every three years.

- The Water Agency recommends that this language be updated to account for devices that do not require calibration, such as magnetic flowmeters. The Water Agency records most of its diversions using magnetic flowmeters.

The Water Agency thanks you for your consideration of these comments. If you have any questions, please contact Todd J. Schram, P.E. at (707) 524-1173 or tschram@scwa.ca.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Todd Schram". The signature is fluid and cursive, with a long horizontal stroke at the end.

Todd J. Schram, P.E.
Senior Water Resources Engineer

c: P. Jeane, D. Seymour - Sonoma County Water Agency
S. Shupe - Sonoma County Counsel
Alan Lilly - Bartkiewicz, Kronick & Shanahan

commentletters



From: Paul Teensma <Paul.Teensma@sce.com>
Sent: Thursday, December 17, 2015 10:37 AM
To: Wells, Paul@Waterboards; commentletters
Subject: Comment Letter – Emergency Regulation for Measuring and Reporting the Diversion of Water

Dear Mr. Wells, Ms. Townsend, and Members of the Board:

Southern California Edison Company (SCE) welcomes the opportunity to provide comment on the draft emergency regulation (Draft Regulation) proposed pursuant to Senate Bill 88 and published on December 7, 2015, by the State Water Resources Control Board (SWRCB). SCE recognizes the need for the SWRCB to better understand the availability and use of surface water in California, especially in times of scarcity. Collecting data is clearly an important early step in developing this improved understanding. SCE is concerned, however, that the proposed Draft Regulation will impose unnecessary and unjustified burdens on hydroelectric generation operations, while not providing the SWRCB with the data relevant to the goals of SB-88 and the proposed Draft Regulation. SCE believes that alternatives exist – particularly for non-consumptive users such as hydroelectric generation operations – that would reduce the economic impact of the Draft Regulation on hydroelectric generation while still accomplishing the SWRCB’s objectives. Moreover, the Draft Regulation, as currently proposed, might lead to conflict with regulations and laws governing the power market in California.

SCE’s hydroelectric generation and the water rights that support this generation are critical to the State of California.

SCE operates 33 hydroelectric generation projects throughout the State, with the capacity to generate 1,176 MW of electricity. It’s commonly accepted that 1 MW can power more than 1,000 homes. In addition to providing virtually emission-free energy, SCE’s hydroelectric generation provides critical ancillary services (such as voltage control) to the statewide power grid managed by the California Independent System Operator (CAISO). CAISO also requires SCE to provide generation from our hydroelectric generation units to some communities during peak demand and at other times when those communities become isolated from the statewide grid, such as during severe heat, wind, and/or precipitation storms. During these periods of critical need, it is essential that SCE can fully operate these hydroelectric generation units as allowed by the respective licenses issued by the Federal Energy Regulatory Commission (FERC).

Supporting this generation, SCE reports to the SWRCB on 24 permits, 27 licenses, and 34 supplemental statements. Almost all of these water rights are limited to hydroelectric generation and, by their nature, are not for consumptive uses (with very limited exceptions, primarily for the human health and sanitation of SCE employees stationed at some of these remote locations). Additionally, SCE has agreements with rural homeowners, farmers, water agencies, other utilities, and local, state, and federal agencies, to either deliver water to them or release water from our projects subject to certain conditions and schedules, and in compliance with water rights held separately by those downstream users. Of course, these are in addition to the requirements of our FERC licenses, which were issued with involvement from the public and public agencies, including the SWRCB and many others.

As applied to hydroelectric generators, the diversion reporting requirements in the proposed regulations do not provide SWRCB data that supports the goals of SB-88 and cannot be implemented effectively.

For practical purposes, SCE can be considered to “borrow” river water from locations that are relatively near the headwaters of river systems, often far removed from downstream consumptive users, and then SCE “returns” that water to the same river system. As such, over-measuring various temporary diversions of this water provides little insight into actual water supplies in a watershed, the consumptive uses of water throughout, and the overall availability or scarcity of the resource, the real target of SB-88’s data gathering authority. Consequently, water rights specific to hydroelectric generation should ideally be exempt from the Draft Regulation, as previously suggested to SWRCB staff by

other hydroelectric power producers. At a minimum, a distinct reporting requirement tailored to the unique nature of hydroelectric generation should be developed.

With respect to hydroelectric generation operations, SCE believes that the most critical information to downstream consumptive water rights holders, and the SWRCB in its efforts to effectively manage this precious resource, is the amount of water SCE holds in storage reservoirs and the schedule for releasing that water. SCE already shares this information with downstream users who have a need to know and – unless prohibited by other laws, regulations, and/or public policy interests – SCE can readily share this information with the SWRCB. SCE is concerned that the diversion information currently required in the Draft Regulation would be extremely burdensome to collect at hydroelectric generation operations and would not be readily useable by the SWRCB or other water users.

Certification requirements must be better defined.

The SWRCB asks for recommendation on “who should certify the adequacy of the alternatives to the measurement and monitoring requirements.” Downstream consumptive users of water from our non-consumptive projects are already satisfied with our level of monitoring and communication. SCE suggests that the individual responsible for installation and certification of measurement devices be able to certify the adequacy of alternatives. If there is a dispute regarding the adequacy of alternatives, a team comprised of representatives of the disputed SCE water right and the next downstream water right holder can certify. If the team cannot agree, the State Board should intervene within a specified time period.

SCE employs Hydrographers with extraordinary qualifications. All of our Hydrographers perform this work full time, have passed rigorous testing requirements, and are extremely well versed in standards created by agencies such as the U.S. Geological Survey (USGS). For these reasons, Hydrographers and their managers should be specifically spelled out as professionals who can certify compliance with the Draft Regulation as well as any alternative plans.

The amount of human resources dedication and cost of equipment required under the current Draft Regulation could become excessive and, in some cases, accessibility and environmental conditions could preclude some data gathering.

As noted above, SCE believes that the proposed measurement and reporting requirements focused on diversions are not appropriate for hydroelectric generation operations. With respect to the actual mechanics of data gathering, SCE believes that providing both provisional data and final data creates huge amounts of duplicative work. Because of SCE’s complex systems, extracting the data required for now-annual water rights reporting is already a comprehensive, exhaustive challenge. Currently, this data is extracted from our systems after the data has been validated by our Hydrographers and published by the USGS, for all locations spelled out in our FERC licenses. This process ensures that published data is accurate and can be used for valid, scientifically-based decision making. Plus, in addition to creating twice the work, publishing data that is not yet validated could create many misconceptions by individuals and entities who do not understand the processes involved.

To limit the amount of resources involved and to provide clarity on what data will need to be submitted, the Draft Regulation should make clear that an “end of pipe” measurement for complex hydroelectric generation systems will be allowed, provided that a plan for doing so is prepared by a qualified manager, engineer, and/or Hydrographer. If a single point of measurement is reasonably defined, then the amount of effort to provide both preliminary data and final, published data could be similarly reasonable. However, to comply with FERC, CAISO, and California Public Utilities Commission rules, it is possible that if the SWRCB requires real-time data, that data might still require SWRCB staff’s completion of a non-disclosure agreement.

Real-time data publication from hydroelectric generation operations may be regulated and controlled by other laws, regulations, and requirements.

Regulations and laws governing the electric power industry in California may restrict how much information about water flow through hydroelectric generation facilities can be shared. The electric market in California is designed, in part, to encourage price competition among generators, so that ratepayers pay the lowest price the market will allow. To

achieve this price competition, much information is proprietary and, in many cases, State and federal law dictate how much information may be shared among utilities and, sometimes, even within different departments of the same utility. In the case of hydroelectric generation, we are often not allowed to share certain real-time information about water movement because this will give competitors the ability to estimate how and when we intend to generate electricity from our hydroelectric plants. This could give them incentive to price electricity in a way that might hurt ratepayers.

On the other hand, our FERC licenses sometime require that certain data is published for the benefit of our ratepayers, environmental monitoring, and/or for the benefit of recreation users, such as whitewater rafters and boaters. This data can be similarly made available to the SWRCB without violating any regulation, law, or public policy objective.

Timing and methodology for determining insufficient supply must be defined.

Due to the staffing and resource demands described above, it is imperative that those responsible for compliance monitoring receive adequate notice to meet these demands. As such, the timing and methodology for determining insufficient water supply needs to be spelled out clearly in the Draft Regulation.

Conclusion

As currently proposed, SCE believes that the Draft Regulation would not be implementable at hydroelectric generation facilities and would not address the goals and objectives of SB-88 and the SWRCB as they relate to hydroelectric generation facilities. However, SCE is ready and willing to support the SWRCB in the development of workable solutions for hydroelectric generation operations, furthering the goals of SB-88, the SWRCB, and the public. Please contact me directly to schedule a time to discuss how SCE can help.

Paul Teensma
SCE Hydro Water Rights Manager
626.302.0662
Paul.Teensma@SCE.com

SPALETTA LAW PC

Post Office Box 2660
Lodi, California 95241
T: 209-224-5568
F: 209-224-5589

JENNIFER L. SPALETTA
Attorney-at-Law
jennifer@spallettalaw.com

December 17, 2015

State Water Resources Control Board
c/o Clerk of the Board
1001 I Street
Sacramento, CA 95814
Via Electronic Mail: commentletters@waterboards.ca.gov



Re: 12/17/15 Board Meeting Item 11 – Public Workshop on draft emergency regulations to implement the measuring and reporting requirements for diversion of water pursuant to Senate Bill 88

Dear Board Members:

Thank you for the opportunity to comment on the proposed emergency regulations to implement measurement and reporting requirements for diversion of water. Spaletta Law represents more than 40 individual landowners and companies who divert water pursuant to a variety of different types of water rights. Our clients are located throughout the state and will be significantly impacted by the proposed regulations.

These comments focus on the following:

1. Proposed Section 917 goes far beyond measurement and reporting and attempts to create a regulatory methodology for the Board staff to use to determine water availability for curtailment purposes. This is an improper subject for these regulations and was not authorized by SB 88.
2. Draft Sections 925 and 929 should provide that the permittees and licensees’ annual progress reports are due, at the earliest, within six months of the close of the 12-month reporting period. Requiring that these reports be submitted within three months is too early, and staggering reporting deadlines for permits and licenses and statements will create confusion.
3. The proposed measurement threshold in Section 932 should be increased from 10 acre-feet to 500 acre-feet to ensure the intent of the regulation, to provide more time for small diverters, is met.
4. Draft Section 933 cannot, without a warrant, obligate all water right holders to make their measurement devices available for inspection by Board staff.

5. Proposed Section 934 should be amended to reduce the type of information that water users must submit to request approval for a measurement method. The current requirements are overly burdensome and inconsistent with SB 88. Section 934 should also be amended to remove the requirement that measurement methods “be capable of recording the date, time, and total amount of water diverted . . . in a format retrievable and viewable using Microsoft Xcel, Microsoft Access, or other software program authorized by the deputy director.” This obligation effectively requires measurement methods to be measurement devices. Finally, Section 934 should be amended to clarify that individual water users need not be part of a group in order to request approval for a measurement method.

Enclosed with this letter, I have provided a redlined version of the proposed text of Sections 917, 925, 929, 932, 933, and 934 that incorporates our comments.

A. Proposed Section 917

1. Section 917 should not be used as a back-door method to create a regulatory standard for water availability determinations that has no basis in law or fact and has not been properly vetted or noticed for public comment

Proposed Section 917 allows the Deputy Director to require water diverters to submit monthly or more frequent reports “[w]hen flows or projected available supplies in a watershed or subwatershed are sufficient to support some but not all projected diversion demand.” It then describes what water right diversion demand and water availability projections may be based on:

Water right diversion demand projections . . . may be based on reported diversion and use data, including but not limited to data submitted with Progress Reports by Permittees, Reports of Licensees, Reports of Registration and Certificate Holders, Supplemental Statements of Water Diversion and Use, and reports filed by watermasters pursuant to Water Code section 5101, subdivisions (d) and (e).

§ 933(b).

Water availability projections may be based on:

- (1) Projected full natural flow data supplied by the Department of Water Resources or its successor;
- (2) Projections from the National Weather Service, California Nevada River Forecast Center, and similar sources;
- (3) Stream gage data; and
- (4) Other data the Deputy Director for the Division of Water Rights determines is appropriate, given data availability, data reliability, and staff resources.

§ 933(c).

We are very concerned that this regulation is a back-door method to create a regulatory standard for water availability determinations that has no basis in law or fact and has not been properly vetted, let alone noticed, for public comment. ***We urge the Board not to adopt Section 917 as proposed. It is not necessary to the regulatory scheme related to SB 88 and will create significant adverse consequences that can and should be avoided.***

Proposed Section 917(b)-(c) seeks to confirm the water availability analysis method used by Board staff in 2015 for curtailments. The validity of this method is questionable and is the subject of challenge in two pending enforcement actions involving West Side Irrigation District and Byron Bethany Irrigation District. Should the Board desire to adopt a regulation related to the determination of water availability, it should, at a minimum, wait until the conclusion of those proceedings, and any related litigation. Moreover, any regulatory effort to develop a methodology for determining water availability should be carefully and fully vetted with stakeholders in more than one public workshop or hearing prior to adoption. This issue is simply too important to be buried in this measurement and reporting emergency regulation.

2. Draft Section 917 is unnecessary and redundant considering Section 879 of the Code of Regulations

Draft Section 917 is also unnecessary and redundant considering Section 879 of the Code of Regulations.

Section 897(c)(2), which the Board readopted earlier this month, allows the Deputy Director, under certain circumstances, to “issue an order under this article requiring a water right holder, diverter or user to provide additional information related to a diversion or use described in (c)(1), including the claim of right; property patent date; the date of initial appropriation; diversions made or anticipated during the current drought year; basis of right and amount of a water transfer not subject to approval of the Board or Department of Water Resources; or any other information relevant to authenticating the right or forecasting use and supplies in the current drought year.”

The four circumstances under which the Deputy Director can issue an information order are laid out in Section 897(c)(1) as follows:

- (A) Upon receipt of a complaint that staff determines to merit investigation alleging interference with a water right by a water right holder, diverter or user;
- (B) Where a water right holder, diverter or user asserts a right to divert under a pre-1914 or riparian right in response to an investigation, curtailment order or any notice of curtailment, and no Statement of Water Diversion and Use for such right was on file with the Board as of January 17, 2014;
- (C) Where a water right holder, diverter or user responds to an investigation, curtailment order or any notice of curtailment by asserting a right to divert under a contract or water

transfer for which the Board has not approved a change petition and for which no record had been previously filed with the Board; or

(D) Upon receipt of information that indicates actual or threatened waste, unreasonable use, unreasonable method of diversion, or unlawful diversions of water by any water right holder, diverter or user.

The Deputy Director has relied on Section 879 to require water users to submit, among other things, monthly water-use reports.¹

Draft Section 917 now proposes to give the Deputy Director further powers to require water users to submit water-use reports. The proposal is unnecessary given the Deputy Director's existing powers—and an agency cannot adopt a regulation, particularly an emergency regulation, unless it is reasonably necessary. The Board has authority to adopt emergency regulations only in an “emergency,” meaning “a situation that calls for immediate action to avoid serious harm to the public peace, health, safety, or general welfare.”²

No emergency exists that justifies the Board's adoption of Section 917, because there is already an emergency regulation in place that allows the Board to seek more frequent reporting.

3. Draft Section 917 should at the least be modified to clarify that the Deputy Director and Executive Director's water-availability determinations may not be used to establish that water is unavailable at any specific diversion point

At a minimum, proposed Section 917 should be modified to clarify that the Deputy Director and Executive Director's water-availability determinations are for the sole purpose of requiring more frequent reporting and not to affirmatively determine water availability for diversion under any particular priority of right at any particular location.

The Board's potential reliance on water-availability determinations made in Section 917 to curtail water users would perpetuate the use of faulty data to make curtailment decisions that are economically devastating to water users. Section 917 allow Board staff to make water-availability determinations based on data easily accessible to Board staff, but not representative of what is actually available in a given watercourse.

The Board's use of DWR full natural flow (FNF) data in its water-supply determinations is particularly problematic for the Delta. Full natural flow is intended to measure the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds. One significant flaw, and there are several, in using FNF projections to estimate water available in the Delta is that it fails to take into account the varied sources of water available in tidally influenced Delta channels. Available water in these channels includes inflows from tributaries to the north and east, accretions from groundwater, water that is

¹ Order WR 2015-0002-DWR.

² Gov. Code 11342.545.

carried into the Delta from the west by tidal action, salvaged or developed drainage water, irrigation return flow from each of these sources - and most importantly - water from all of these sources that entered the Delta several months prior and has been moving back and forth in the Delta channels with the tide. DWR's computed FNF flows do not account for this reality and have essentially no direct relationship to the amount of water available in the Delta at any given time.

Finally, the Board's potential reliance on water-availability determinations made in Section 917 to restrict diverters' ability to exercise their water rights would violate basic due process protections. The due process clauses of the state and federal constitutions impose constraints on governmental decisions that deprive individuals of property, including water rights. The fundamental requirement of these clauses is that the government must provide individuals with the opportunity to be heard "at a meaningful time and in a meaningful manner" before taking their property.³ Application of this requirement here means that the Board and its staff must, before concluding that no water is available under a diverter's water right, provide that diverter notice and the opportunity to be heard on the evidence the Board is relying on for its water-availability determinations. Section 917, however, does not allow the public to participate in the Deputy Director's water-availability analyses. Instead, these decisions are made behind closed doors based on any evidence the Deputy Director sees fit. The potential that the Board or its staff will nonetheless rely on these closed-door determinations to define whether water is available at a given point of diversion raises a significant due-process issue.

B. Proposed Sections 925 and 929

1. Proposed language

Proposed Sections 925 and 929 expedite the due date for permittees and licensees' annual progress reports. Under current regulations, reporting is due in July of each year. The proposed regulations require reporting "within three months of the close of the twelve month reporting period," or March.

2. Permittee and licensee reports should be due, at the earliest, six months after the close of the 12-month reporting period

Permittee and licensee reports should be due, at the earliest, six months after the close of the 12-month reporting period (i.e., June), consistent with the reporting deadline for water-right statement holders. As the Board recognizes, reporting data might not be finalized by March. The Board's proposed fix for this problem is to have permittees and licensees provide provisional data in March and final reporting in June; but requiring multiple reporting is burdensome and without adequate justification. It will also create confusion and potential errors with reporting if these reports are not completed at the same time as statement reports.

³ See, e.g., *Mathews v. Eldridge* (1976) 424 U.S. 319, 333.

C. Proposed Section 932

1. Proposed language

Proposed Section 932(a) requires every water right holder who is authorized to divert more than 10 acre-feet per year under a permit or license, who has diverted or plans to divert more than 10 acre-feet per year and is required to file a statement of water diversion and use, or who is authorized to divert greater than 10 acre-feet of water per year or to have a storage facility with a capacity greater than 10 acre-feet under a registration, to “install and maintain a measuring device or employ a measurement method capable of measuring the rate of diversion, rate of collection to storage, the rate of withdrawal or release from storage, and the total volume of water diverted or collected to storage.”

Section 932(d) adds that the Executive Director may, beginning January 1, 2017, “increase the 10 acre-feet reporting threshold of subdivision (a) in a watershed or subwatershed incrementally to or above 25 acre-feet” after considering among other things “the total monthly quantities diverted in relation to the monthly quantity of water available within the watershed or subwatershed.”

2. The measurement threshold of Section 932 must be increased to at least 500 acre-feet

The measurement threshold of Section 932 must be increased to at least 500 acre-feet. Although SB 88 also generally requires water users who divert 10 acre-feet or more of water per year to install and maintain a measurement device or employ an acceptable measurement method, it also recognizes that this requirement may not be feasible or reasonable for all such water users. Section 1840(b)(1) of SB 88 accordingly provides that the Board may modify this monitoring requirement on finding either that (1) strict compliance is infeasible, is unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water, or (2) the need for monitoring and reporting is adequately addressed by other conditions of the water right.⁴

Strict compliance with Section 1840 is infeasible and unreasonably expensive for individual water users with small operations. A landowner who farms 150 acres likely diverts 300-500 acre-feet of water. Increasing the measurement threshold to 500 af is necessary to avoid imposing substantial costs on thousands of individual water users immediately who are unlikely to be able to comply with the regulation otherwise. This amendment would also focus measurement on the majority of water diverted, which will provide useful information in the near term.

⁴ See also Water Code Section 1840(b)(2).

Finally, in what appears to be a typographical error, Section 932(d) alternates between referring to a “measurement threshold” and a “reporting threshold” in Section 932(a). Section 932(a) sets a measurement threshold, not a reporting threshold. Edits are necessary to avoid confusion.

D. Proposed Section 933

1. Proposed language

Draft Section 933 establishes requirements for measuring devices used to comply with the new monitoring obligations. Subsection (j) and (k) of Section 933 allow Board staff to inspect all water right holders’ properties to determine whether their measuring devices have been installed and meet the Board’s requirements. The Board may penalize water right holders if it determines, at the inspection, that a measurement device fails to satisfy the Board’s regulations.⁵ And it may also penalize water right holders for refusing to allow the inspection.⁶

2. The Board cannot obligate water right holders, and particularly statement holders, to allow the Board to inspect their property without a warrant or permission

The Board cannot obligate all water right holders to allow the Board to inspect their property without a warrant.

The Fourth Amendment of the federal constitution provides that “[t]he right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.” “The basic purpose of this Amendment, as recognized in countless decisions of th[e] United States Supreme] Court, is to safeguard the privacy and security of individuals against arbitrary invasions by governmental officials.”⁷ And it fulfills this purpose, in the administrative context, by generally requiring government agencies to obtain a warrant or permission before conducting administrative searches of property.⁸

Section 933, as drafted, is inconsistent with the requirements of the Fourth Amendment and California law. Section 933 requires neither a warrant nor permission before requiring a water right holder to grant Board staff access to his or her property. And it imposes significant penalties on those water right users who decline to grant access. This requirement is particularly

⁵ See, e.g., Water Code § 1058.5(d).

⁶ See, e.g., Water Code § 1058.5(d).

⁷ *Camara v. Municipal Court of City and County of San Francisco* (1967) 387 U.S. 523, 528.

⁸ *Camara v. Municipal Court of City and County of San Francisco* (1967) 387 U.S. 523, 528, 533-34; see also Code of Civ. Proc. § 1822.50; *Tellis v. Municipal Court, Central Judicial Dist., Marin County* (1970) 5 Cal.App.3d 455, 458 [county ordinance authorizing entry to property by health officer without warrant would be unconstitutional].

problematic for statement holders, whose water rights are generally not subject to the Board's regulation and are not based on any permit or license issued by the Board.⁹

Section 933 must be amended to explain that the Board cannot require an inspection of water user's property without a warrant.

E. Proposed Section 934

1. The Board should clarify that individual water users need not be part of a group in order to request approval for a measurement method under Proposed Section 934

Proposed Section 934 describes measurement methods, other than the use of a measuring device, that water right holders can use to comply with the requirements of Section 932. As currently phrased, Section 934 indicates that a water right holder must be part of a group to request and use a measuring method to comply with Section 932. The Board should clarify that individual water users need not be part of a group in order to request approval for and use a measurement method under Section 934 to comply with Section 932's requirements. Notably, Water Code section 1840(a) permits an individual diverter to use a device or method. The regulation should not be more restrictive than the law.

2. The Board should streamline the process for requesting approval of a measurement method

The current language for Section 934(a) makes a request for approval of a measurement method overly burdensome.

Before using a measurement method to comply with Section 932's requirements, water users must submit a request for approval of measurement method, prepared by a California-registered Professional Engineer, that includes among other things the following unnecessary requirements:

- a. "A detailed description of how installing and maintaining a measuring device at each point of diversion is not feasible, would be unreasonably expensive, would unreasonably affect public trust resources, or would result in the waste or unreasonable use of water." The Board's demand for this information supposes that a water user must install a measuring device unless having one of a few accepted excuses. This requirement has no basis in SB 88's text. SB 88 allows a water user to either install a measuring device or employ an accepted measurement method, and treats both as equally satisfactory means of satisfying new monitoring requirements. The Board deviates from the Legislature's established programming in placing a strong preference on measuring devices.

⁹ *Millview County Water Dist. v. State Water Resources Control Bd.* (2014) 229 Cal.App.4th 879, 893 ["[T]he Board 'does not have jurisdiction to regulate riparian and pre-1914 appropriative rights.'"].

Water Code Section 1840(b)(1)(A) highlights the Board’s overreach. That subsection provides that the Board may modify the requirement that a water user install a measuring device or employ an accepted measurement method if “strict compliance is infeasible, is unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water.” In other words, a water user may not need to employ an accepted measurement method if she can show “strict compliance is infeasible, is unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water.” But the Board’s current draft language turns this on its head—requiring a water user to show one of these quoted circumstances exists to even employ an accepted measurement method. This requirement should be deleted as it is more restrictive than and conflicts with the law.

- b. The water right holder’s “file number, owner name, water right type, priority of diversion, monthly and annual diversion amounts, place of use, purpose of use, and alternative sources of water.” In effect, the Board would have a request for approval effectively serve as an informational order. The request should only need to include the water right file number, owner name, and place of use. The balance of the information is irrelevant for purposes of establishing a measurement method.
- c. An “[e]valuation of public trust needs including minimum in-stream flows and water quality concerns or bypass requirements of any of the water rights involved.” Again, this information has no relationship to a measurement method. It might be relevant information for a water-right application, but it cannot be required for a request for approval of a measurement method.
- d. An “[e]valuation of enterprise income of the water users if claiming installing and maintaining measuring and monitoring devices would be unreasonably expensive.” The Board seems to be requesting income records for any water right holder who asserts that installing a measurement device would be unreasonably expensive. Again, the Board is supposing that a water user must install a measuring device unless having one of a few accepted excuses, such as that installing a measuring device would be unreasonably expensive. This position is wrong. In addition, the requirement that a water user provide her income anytime she claims something is unreasonably expensive is overly intrusive and unnecessary. Water Code section 1840 expressly allows measurement methods, as well as devices, provided they meet the statutory criteria for accuracy.

Section 934 should be amended to delete the above unnecessary and burdensome requirements.

3. The Board’s data recording requirements effectively require a measurement method to be a measurement device

Proposed Section 934(b) requires any measurement method intended to comply with Section 932’s requirements to “be capable of recording the date, time, and total amount of water diverted . . . in a format retrievable and viewable using Microsoft Xcel, Microsoft Access, or other software program authorized by the deputy director.” The Board, in other words, requires acceptable measurement methods to be measurement devices.

If the Legislature wanted Senate Bill 88 to provide that only measurement devices could be used to satisfy new monitoring requirements, it would have done so. But it did not—it allowed the use of either a measurement device or an approved measurement method. And the Board’s regulations must respect the Legislature’s choice to allow water user’s to comply with new monitoring requirements using measurement methods. The term “method” is a very broad term, defined in Merriam-Webster’s online dictionary as “a procedure or process for attaining an object.”¹⁰ A procedure or process, unlike a device, is not something reasonably understood to mean something capable of recording various types of information in a format retrievable and viewable in a variety of software programs. Subsection (b) of Section 934 should be deleted to avoid defining a measurement method as effectively a measurement device.

F. Conclusions

For these reasons, I respectfully request that the Board:

1. Delete Section 917 as unnecessary to address an emergency, or at the least, amend Section 917 to clarify that any water-availability determinations made under this section will not be used to establish that water is unavailable at a specific point of diversion.
2. Amend Sections 925 and 929 to require licensee and permittee annual reports no earlier than June.
3. Amend Section 932(a) to increase the measurement threshold to at least 500 acre-feet. The current draft requirement that diverters of 10 acre-feet install measuring devices or employ measuring methods to measure the rate of diversion is infeasible and unreasonably expensive for Delta users.
4. Amend Section 933 to explain that the Board cannot require an inspection of water user’s property without a warrant.

¹⁰ See Merriam-Webster’s online dictionary, first definition, at <http://beta.merriam-webster.com/dictionary/method>.

5. Amend Section 934 to clarify that individual water users need not be part of a group in order to request approval for a measurement method.
6. Amend Section 934 to reduce the type of information that water users must submit to request approval for a measurement method—namely, by deleting Section 934(a)(1)(E)(G)(H) and most of Section 934(a)(1)(F).
7. Delete Section 934(b) and its requirement that measurement methods “be capable of recording the date, time, and total amount of water diverted . . . in a format retrievable and viewable using Microsoft Xcel, Microsoft Access, or other software program authorized by the deputy director.”

Thank you for the opportunity to present these comments. For your convenience, I am including a proposed redline of the regulations.

Very truly yours,



JENNIFER L. SPALETTA

Attorney at Law

Enclosure

§917. Reporting—Insufficient Flows to Support All Diversions

~~When flows or projected available supplies in a watershed or subwatershed are sufficient to support some but not all projected diversion demand, the Deputy Director for the Division of Water Rights may require water diverters located within the watershed or subwatershed to electronically submit monthly or more frequent reports of water diversion.~~

~~(a) Reports of water diversion shall be submitted in accordance with a schedule approved by the Deputy Director for the Division of Water Rights. The schedule may require monthly, daily, or more frequent reporting. In determining the frequency of reporting, the Deputy Director for the Division of Water Rights shall not exceed the frequency of recording required under section 933, subdivision (b)(1), of this title.~~

~~(b) Water right diversion demand projections made under this section may be based on reported diversion and use data, including but not limited to data submitted with Progress Reports by Permittees, Reports of Licensees, Reports of Registration and Certificate Holders, Supplemental Statements of Water Diversion and Use, and reports filed by watermasters pursuant to Water Code section 5101, subdivisions (d) and (e).~~

~~(c) Water availability projections may be based on:~~

~~(1) Projected full natural flow data supplied by the Department of Water Resources or its successor;~~

~~(2) Projections from the National Weather Service, California Nevada River Forecast Center, and similar sources;~~

~~(3) Stream gage data; and~~

~~(4) Other data the Deputy Director for the Division of Water Rights determines is appropriate, given data availability, data reliability, and staff resources.~~

~~(d) The failure to electronically submit diversion reports requested in accordance with the applicable schedule approved by the Deputy Director for the Division of Water Rights is a violation subject to civil liability of up to \$500 per day pursuant to Water Code section 1846.~~

Alternative proposal for §917:

§917. Reporting – Insufficient Flows to Support All Diversions

When ~~flows or~~ projected available supplies in a watershed or subwatershed are sufficient to support some but not all projected diversion demand, the Deputy Director for the Division of Water Rights may require water diverters located within the watershed or subwatershed to electronically submit monthly or more frequent reports of water diversion.

(a) Reports of water diversion shall be submitted in accordance with a schedule approved by the Deputy Director for the Division of Water Rights. The schedule may require monthly, daily, or more frequent reporting. In determining the frequency of reporting, the Deputy Director for the Division of Water Rights shall not exceed the frequency of recording required under section 933, subdivision (b)(1), of this title.

(b) Water supply and demand projections made under this section shall ~~may~~ be based on ~~the best available information and analysis reported diversion and use data, including but not limited to data submitted with Progress Reports by Permittees, Reports of Licensees, Reports of Registration and Certificate Holders, Supplemental Statements of Water Diversion and Use, and reports filed by watermasters pursuant to Water Code section 5101, subdivisions (d) and (e).~~ The Deputy Director’s determinations under this section relating to diversion demand projections and water availability projections may be used

only for the purpose of determining whether water diverters within a given watershed or subwatershed should be required to submit monthly or more frequent reports of water diversion, and for no other purpose.

(c) Water availability projections may be based on:

(1) Projected full natural flow data supplied by the Department of Water Resources or its successor;

(2) Projections from the National Weather Service, California Nevada River Forecast Center, and similar sources;

(3) Stream gage data; and

(4) Other data the Deputy Director for the Division of Water Rights determines is appropriate, given data availability, data reliability, and staff resources.

-(d) The failure to electronically submit diversion reports requested in accordance with the applicable schedule approved by the Deputy Director for the Division of Water Rights is a violation subject to civil liability of up to \$500 per day pursuant to Water Code section 1846.

§ 925. Progress Reports by Permittee.

(a) As specified in section 847 of this title, water right permit holders are required to file annual progress reports. Section 846 of this title provides that permittees may also be required to submit a written statement of the quantities of water beneficially used. Annual reports required under this section are in addition to any specific reporting requirements in a water right permit.

(b) Annual progress reports by permittee shall be filed within three-six months of the close of the twelve month reporting period no later than July of the next year succeeding the year of diversion on forms available at the board's website. Provisional data and information may be used in the progress report if final data is not available by the reporting deadline. If provisional streamflow data are used in preparing the progress report, an amended report based on final data shall be filed within six months of the close of the twelve month reporting period. Any reports not timely amended shall be deemed final. A failure to file a progress report is a violation of permit terms.

(c) The annual reports shall include the following information:

(1) A statement affirming compliance or non-compliance with permit terms and conditions;

(2) The construction status of the permitted project and status of current water use;

(3) The purpose(s) for which water is diverted and used. Use information to be provided includes:

(A) irrigation, including crop type and acreage;

(B) frost protection, including acres covered;

(C) heat control, including acres covered;

(D) industrial, including type of activity;

(E) stock watering, including number and type of animals;

(F) municipal, including approximate population served, and seven digit public water system number or other identifier;

(G) domestic, including number of persons served, lawn or garden area, etc., and seven digit public water system number or other identifier, if applicable;

(H) power generation, including installed capacity in kilowatts, megawatts or horsepower;

- (I) recreational, including boating, fishing or other water sports;
- (J) additional uses not named above, including environmental use;-
- (4) The amount of water taken from each point of diversion in each month (or shorter timeframe if otherwise required) from the source, including amount directly diverted and amount collected to storage, and the total annual amount of water diverted. Each month must contain an entry. If no diversion occurred in a given month, a "0" should be entered;
- (5) The maximum rate of diversion achieved from each point of diversion at any time during each month (or shorter timeframe if otherwise required) of the year, if available;
- (6) For permits that authorize collection of water to storage, the annual report shall also include the measurement data required to be collected in section 933 of this chapter.
- (d) If a substitute or alternative water supply, such as groundwater, contract water, or recycled water, is being used in lieu of surface water that is required to be reported under this section ~~report~~, the report should indicate the source and amount of substitute or alternative water used and the amount of surface water offset on a monthly basis.
- (e) If ~~the use of an alternative supply of water or~~ any water conservation efforts have resulted in a cessation or reduction in use, the report should include a description of the conservation efforts employed and indicate the extent and monthly amount of the reduction in water use due to these water conservation efforts.

§ 929. Reports of Licensee.

- (a) As specified in section 847 of this title, water rights license holders are required to file reports when requested by the board. Annual reports required under this section are in addition to any specific reporting requirements in a water right license.
- (b) Reports of licensee shall be filed annually within ~~three-six~~ months of the close of the twelve month reporting period and not later than July of the next year succeeding the year of diversion on forms available at the board's website. ~~Provisional data and information may be used in the report of licensee if final data is not available by the reporting deadline. If provisional streamflow data is used in preparing the report of licensee, an amended report based on final streamflow data shall be filed within six months of the close of the twelve month reporting period. Any reports not timely amended shall be deemed final.~~ A failure to file a licensee report is a violation of license terms.
- (c) The annual reports shall include the following information:
 - (1) A statement affirming compliance with license terms and conditions;
 - (2) The amount of water diverted;
 - (3) The purpose(s) for which water is diverted and used. Use information to be provided includes:
 - (A) irrigation, including crop type and acreage;
 - (B) frost protection, including acres covered;
 - (C) heat control, including acres covered;
 - (D) industrial, including type of activity;
 - (E) stock watering, including number and type of animals;
 - (F) municipal, including approximate population served, and seven digit public water system number or other identifier;
 - (G) domestic, including number of persons served, lawn or garden area, etc., and seven digit public water system number or other identifier, if applicable;

(H) power generation, including installed capacity in kilowatts, megawatts or horsepower;

(I) recreational, including boating, fishing or other water sports;

(J) additional uses not named above, including environmental use;

(4) The amount of water taken from the source from each point of diversion in each month (or shorter timeframe if otherwise required), including direct diversion amount and amount collected to storage, and the total annual amount of water diverted. Each month must contain an entry. If no diversion occurred in a given month, a “0” should be entered.

(5) The maximum rate of diversion achieved from each point of diversion at any time during each month (or shorter timeframe if otherwise required) of the year, if available;

(6) For licenses that authorize collection of water to storage, the annual report shall also include the measurement data required to be collected in section 933 of this chapter.

(d) If a substitute or alternative water supply, such as groundwater, contract water, or recycled water, is being used in lieu of surface water that is required to be reported under this report, the report should indicate the source and amount of substitute or alternative water used and the amount of surface water offset on a monthly basis.

(e) If ~~the use of an alternative supply of water or any~~ water conservation efforts have resulted in a cessation or reduction in use, the report should include a description of the conservation efforts employed and indicate the extent and monthly amount of the reduction in water use due to these water conservation efforts.

§932 Applicability.

(a) Except as provided in subdivision (d), the following water right holders shall install and maintain a measuring device or employ a measurement method capable of measuring the rate of diversion, rate of collection to storage, the rate of withdrawal or release from storage, and the total volume of water diverted or collected to storage:

(1) Any person authorized to divert greater than ~~±~~500 acre-feet of water per year under a permit or license.

(2) Any person who has previously diverted or intends to divert greater than ~~50±~~0 acre-feet of water per year and is required under Water Code Part 5.1 to file a Statement of Water Diversions and Use.

(3) Any person authorized to divert greater than ~~50±~~0 acre-feet of water per year or to have a storage facility with a capacity greater than ~~±~~500 acre-feet under a registration.

(b) Determination of Diversion Threshold for Requiring Measurement – the determination of whether a diversion meets the threshold for required measurement (stated in subsection (a) of this section or as adopted in accordance with subsection (d) of this section) shall be made by the deputy director. When making such a determination, the deputy director shall consider:

(1) Multiple points of diversion for a water right used by the same person or serving the same place and purpose of use.

(2) Multiple water rights with shared point or points of diversion.

(c) Effective Dates. The deadlines for the installation and certification of measuring devices or method shall be:

(1) On or before July 1, 2016, for a water right holder with a right or a claimed right to divert ~~2±~~000 acre-feet of water per year or more.

(2) On or before January 1, 2017, for a water right holder with a right or a claimed right to divert ~~10~~000 acre-feet of water per year or more.

(3) On or before January 1, 2018, for a water right holder with a right or a claimed right to divert greater than ~~1500~~ acre-feet of water per year.

(d) Increasing the Measurement Threshold

(1) Beginning January 1, 2017, [t]he executive director may issue orders to increase the ~~5010~~ acre-feet ~~reporting-measurement~~ threshold of subdivision (a) in a watershed or subwatershed incrementally ~~to or above 25 acre-feet~~. The executive director may authorize an increased ~~reporting-measurement~~ threshold after:

(A) Considering the total monthly quantities diverted in relation to the monthly quantity of water available within the watershed or subwatershed; the requirements of any policy, decision or order of the board or a court; and the need for diversion and bypass information to evaluate impacts to public trust resources; and

(B) Reviewing any relevant information submitted by affected water right holders or other interested parties regarding a proposed increase in reporting threshold; and

(C) Determining the benefits of the additional reporting information at a specific reporting threshold are substantially outweighed by the cost of installing measuring devices or employing methods for measurement.

(D) The executive director shall not increase the measurement threshold in a watershed or subwatershed above those established in any other regulation, policy, decision, order or other legal requirement adopted by the board, a Regional Water Quality Control Board, or a court, unless the change is authorized by previous requirements.

(3) The executive director may review each proposal to increase the ~~reporting measurement~~ threshold on a case-by-case basis.

(4) The executive director may authorize an increased ~~reporting-measurement~~ threshold for a period not to exceed five years. If changing conditions warrant, the executive director may modify or cancel any such authorization.

(5) The executive director shall maintain a list of ~~reporting-measurement~~ thresholds for watersheds or subwatersheds greater than ~~5010~~ acre-feet.

(6) A decision or order issued under this section by the executive director is subject to reconsideration under article 2 (commencing with section 1122) of chapter 4 of part 1 of division 2 of the Water Code.

(e) Other Measurement and Monitoring Requirements.

(1) Any person with a water right identified in or subject to a statute, order, policy, regulation, decision, judgment or probationary designation of the board, a Regional Water Quality Control Board, or a court is responsible for meeting the terms and conditions of the statute, order, policy, regulation, decision or judgment and the requirements of this Chapter. If there is any conflict or inconsistency between the measurement and monitoring requirements subject to the statute, order, policy, regulation, decision, judgment or probationary designation and the requirements of this Chapter, the more stringent requirement or requirements shall control in each instance.

(2) A permit, license, or registration holder is responsible for meeting the conditions of the permit, license, or registration and the requirements of this Chapter. If there is any conflict or inconsistency between the permit, license, or registration condition for

measurement and monitoring and the requirements of this Chapter, the more stringent requirement or requirements shall control in each instance.

§933 Measuring Device Requirements. [Relevant Portions]

(j) Accessibility. The measuring device shall be installed, to the extent feasible, in a manner such that it is readily accessible for reading, inspection, testing, repair or replacement. ~~The water right holder shall make the measurement device available for inspection by an authorized representative of the board upon request. The water right holder shall provide the board's representative with reasonable access to inspect the measuring device. Failure to provide such access is a violation of this regulation.~~

(k) Verification of Measuring Device. The board may ~~conduct a field inspection or~~ request additional information from the water right holder to determine if the measuring device has been installed and meets the requirements of this section. ~~The board may also inspect the measuring device of a water right holder to determine if the measuring device has been installed and meets the requirements of this section after obtaining any necessary consent or obtaining an inspection warrant pursuant to the procedure set forth in Title 13 (commencing with Section 1822.50) of Part 3 of the Code of Civil Procedure.~~ Failure to timely install a measuring device or verify its accuracy is a violation of this regulation.

§934 Measurement Method. A measurement method is a protocol for measuring water diversions, other than through a measuring device at each authorized point of diversion, where the method is found by the deputy director to reasonably achieve the accuracy requirements of subdivision (d) of this section. The board encourages water right holders on a local or regional basis to cooperate and establish a measurement method or methods to measure direct diversion, diversion to storage, and withdrawal or release from storage in an efficient and cost effective manner which meets the accuracy requirements of subdivision (d) of this section. Any measurement method must be able to quantify the amount of water diverted under all separate priorities of rights being exercised.

(a) Request for Measurement Method.

(1) Form and Content. ~~One or more water right holders may submit to the deputy director a~~ Request for Approval of Measurement Method. A request shall be prepared by a California-registered Professional Engineer. The request shall describe how the measurement method will meet the requirements of this Chapter and include, at a minimum, the following information:

(A) Name and contact information of all participants, including designation of a manager to serve as the primary contact person.

(B) Map showing location of participants and covered lands (including all assessor parcel numbers). The map shall conform to the mapping requirements of article 7 of chapter 2 of division 3 of this title.

(C) Description of the measurement method, including how the method will be capable of measuring the volume of water diverted, rate of direct diversion, rate of collection to storage, and rate of withdrawal or release from storage.

(D) Documentation required under subdivision (d) of this section verifying the accuracy of the measurement method.

~~(E) A detailed description of how installing and maintaining a measuring device at each point of diversion is not feasible, would be unreasonably expensive, would unreasonably affect public trust resources, or would result in the waste or unreasonable use of water.~~

~~(F) Description of the permitted, licensed, registrations, certificates and water right claims covered by the measurement method including: file number, owner name, water right type, priority of diversion, monthly and annual diversion amounts, and place of use, purpose of use, and alternative sources of water.~~

~~(G) Evaluation of public trust needs including minimum in-stream flows and water quality concerns or bypass requirements of any of the water rights involved.~~

~~(H) Evaluation of enterprise income of the water users if claiming installing and maintaining measuring and monitoring devices would be unreasonably expensive.~~

(2) Action by the deputy director. Only complete forms accompanied by maps will be accepted for review. No action will be taken on incomplete requests.

(A) The measurement method will be reviewed and, if found to reasonably meet the purposes of this section, authorized by the deputy director. A measurement method may be conditionally authorized if it meets the requirements of this Chapter.

(B) A measurement method shall not be authorized for any project with an existing or prior gage, or where any requirement of any contract, policy, order, decision, judgment, determination, or other regulatory requirement of the board, a Regional Water Quality Control Board, or a court requires that diversions be gaged. A measurement method shall not be authorized for any project where it can reasonably be interpreted that gaging is necessary to meet such regulatory requirements.

(3) Initial Term and Renewal. The deputy director may authorize a measurement method for a period not to exceed five years. Any request for renewal shall be on a form available on the board's website, and shall not be deemed complete unless the accuracy of the measurement method has been reviewed and re-certified by a California-registered Professional Engineer.

~~(b) Data~~

~~(1) Data Recording. The measurement method shall be capable of recording the date, time, and total amount of water diverted in accordance with the requirements of section 933 subdivision (b) of this title. The data shall be recorded in a format retrievable and viewable using Microsoft Excel, Microsoft Access, or other software program authorized by the deputy director.~~

~~(2) Data Submittal. Each water right holder or claimant shall submit data from the measurement method to the board pursuant to chapter 2.7 of division 3 of this title, or within 30 days of request of the board. Water use data for each twelve month reporting period shall be submitted on a form available on the board's website with the appropriate water use report including a Progress Report by Permittee, Report of Licensee, Supplemental Statement of Water Diversion and Use, and Water Use Reports of Registration and Certificate Holders.~~

(c) Required Accuracy. The accuracy of the measurement method to determine the volumes of water diverted, diverted to storage, and withdrawn or released from storage shall reasonably achieve accuracy standards comparable to the standards listed in section 933 subdivision (d) of

this title for individual measuring devices. The accuracy of the measurement method shall be determined by a California-registered Professional Engineer.

(d) Certification of Measurement Method Accuracy. The accuracy of a measurement method shall initially be certified and documented by field-testing performed by an individual trained in the use of relevant field-testing equipment. The results from the field testing shall be documented in a report approved by a California-registered Professional Engineer and shall be filed with the subsequent water use report. When the measurement method applies to water diverted for agricultural use, the certification shall be based on a statistically significant number of sampling points based on field size, include field testing and measurement during multiple phases of the crop-growth cycle, include all factors which influence water consumptive use demands, and calculate tailwater return flows. Field notes, calculations, and other materials used in the certification shall be included in the report.

(e) Shared Measurement Point Upstream of the Delivery Point or Farm Headgate. A group of water right holders may measure water diverted at a location upstream of their respective delivery points or farm headgates or at shared points of diversion if an agreement accepted by the deputy director is in place for the water right holders to share a measuring device located at the shared point of diversion. Water right holders using a shared measuring device under this subdivision shall report the following additional information to the board on an annual basis:

(1) The methodology used to apportion the volume of water delivered from the shared point of diversion to each downstream water right holder.

(2) The field or flow condition at each individual water right holder's delivery point downstream of the point of measurement including the duration of water delivery to the individual water right holder, annual water use patterns, irrigated acreage (including GIS map showing assessor's parcel number and USDA field identification number), crops planted, onfarm irrigation system, and other relevant distinctions in beneficial uses and water management practices.

(3) Any differences in consumptive use of water among the individual water right holders.

(f) Operation and Performance Requirements. A measurement method shall be operated and maintained to ensure the accuracy standards of subdivision (c) of this section are met. Field testing and re-analysis that the measurement method meets the requirements of this section shall be performed by a California-registered Professional Engineer upon installation, and at least once every three years thereafter.

(g) Inadequate Measurement Method. If a measurement method fails to meet the accuracy standards of subdivision (c) of this section or the conditional approval by the deputy director, the measurement method shall be corrected to ensure it complies with these requirements.

(1) Notification. The water right holders employing a measurement method shall notify the board in writing within 30 days of finding a measurement method does not comply with the accuracy standards of subdivision (c) of this section or the conditional approval by the deputy director. The notification shall include a plan to take appropriate, timely corrective action.

(2) Enforcement. Failure to correct defects or to ensure the measurement method complies with the accuracy standards of subdivision (c) of this section is a violation of this regulation.

(3) Measuring Devices Required. If defects in the measurement method are not timely corrected, measuring devices shall be installed at each point of diversion previously

covered by a measurement method within 90 days of notification from the board that such measurement method has been deemed inadequate.



December 17, 2015

Chair Marcus and Members of the
State Water Resources Control Board
By email to commentletters@waterboards.ca.gov

Subject: Comments on SB 88 Draft Emergency Regulation for Measuring and Reporting on the Diversion of Water

Summary

“You are what you measure.”

Dan Ariely
[Harvard Business Review](#)¹

We are writing on behalf of Trout Unlimited, The Nature Conservancy, and California Trout, organizations with more than 160 years of experience on behalf of rivers and fisheries in California.

Our groups enthusiastically support better measurement and reporting of water diversions. It is impossible for Californians to manage water without knowing how much there is and how people use it. In the 21st Century there is no question that all water diversions should be measured. A critical question – and challenge for the Board – is how to develop appropriate criteria and prioritize monitoring and reporting for different types of diversions across California.

In general, we support the proposed rule, including the tiered system intended to require more detailed measurements and faster implementation for the most important diversions. However, we recommend against using diversion size as the sole factor for prioritization. Diversions that might be inconsequential relative to Sacramento River flows could make all the difference for survival – or extirpation – of coho salmon in coastal streams. Instead, we recommend using the federal recovery plans for salmon and steelhead as a screening method so that even small diversions in coastal “Core” recovery watersheds receive top tier priority.

¹ Dan Ariely is an author and professor of Psychology and Behavioral Economics at Duke University. He notes that “Human beings adjust behavior based on the metrics they’re held against. Anything you measure will impel a person to optimize his score on that metric. What you measure is what you’ll get. Period. This phenomenon plays out time and again in research studies.” (See Hsee, Christopher K. and Yu, Frank and Zhang, Jiao and Zhang, Yan, Medium Maximization. Journal of Consumer Research, Vol. 30, 2003. Available at SSRN: <http://ssrn.com/abstract=929944>.)

Specifically, diversions in coastal Core A and B recovery plan streams would have the same measurement standard as that required for new permits in the North Coast Instream Flow Policy. Using the framework established in the rule, measurement standards for direct diversions and diversions to offstream storage correspond roughly to measurement category I and diversions in onstream storage to Measurement Category IV.

Diversions that only affect flows on rivers regulated by large dams, such as the mainstem Russian, may be excluded from this analysis. In fact, there may be even more flexibility to de-prioritize diversions between 10 and 25 acre feet than presented in the draft rule for those areas.

Finally, we applaud the provisions in the rule for collaborative measurement. Our organizations are working with local landowners and state agencies in coastal California and throughout the state to develop meaningful collaborative landowner programs that will support landowners to find better ways to improve water reliability and flows for fish.

Our specific recommendations for implementing this suggestion are presented below.

Comments and Recommendations

We applaud the State Water Board for beginning to require devices and standard methodologies for tracking and reporting water diversions. The State's inability to accurately track or account for water diversions is a major roadblock to sound, science-based water management – and it's long overdue for addressing this issue. This is a great step in the right direction towards correcting this problem and putting us on better footing for tackling the state's bigger water accounting and tracking problems.

While we understand that this emergency regulation is implementing specific legislation, we urge the Board to take additional steps to make appropriate device-based measurement and reporting a reality for all types of water diverters.

1. Prioritize Diversions in Core Recovery Streams for the California Coast

While S.B. 88 calls for reporting diversions of 10 acre feet or more, this threshold is arbitrary from the standpoint of aquatic systems. In smaller coastal streams the support critical coho and steelhead populations, diversions of far less than 10 acre feet can have very significant impacts on instream habitat. As the Board well knows from implementing this year's Drought Orders for the Russian River tributaries, even a "trickle" of water in the right place is a matter of life or death for coho and steelhead.

Conversely, in larger rivers and those with flows regulated from large dams, 10 acre feet may be too small an amount to warrant the added expense to water users and the state.

For streams in Coastal California, we urge the State Water Board to use the existing [Recovery Plans](#) and the [North Coast Instream Flow Policy](#) as a guide for streams that warrant reporting requirements.

a. Core Recovery Watersheds Identified by NMFS

The National Marine Fisheries Service has identified “Core” recovery watersheds for coastal California in recovery plans for the [Southern Oregon/Northern California Coast coho salmon](#), [Central California Coast coho salmon](#), [South-Central California Coast steelhead](#), and [Southern California steelhead](#). For each, NOAA identified “flows and water temperatures affecting all life stages” as key limiting factor. These Core A and B streams are compiled in the attached Letter from Patrick J. Rutten, NOAA Restoration Center Southwest Regional Supervisor, Maria Rea, Assistant Regional Administrator, NOAA California Central Valley Office, and Alecia Van Atta, NOAA Acting Assistant Regional Administrator, California Coastal Office, to Chuck Bonham, California Department of Fish and Wildlife, April 8, 2015.

Our organizations urge the State Water Board to prioritize water measurement and reporting for these streams. Specifically, we urge the State Water Board to use the measurement standards developed for the North Coast Instream Flow Policy for the Core A and B watersheds identified in these Recovery Plans. These standards are described in Policy Section 10 and implemented in [Standard Permit Terms](#). The Board should require that level of monitoring and reporting for all diversions in these areas.

To reduce unnecessary reporting burdens, we further recommend that the Board could exclude from this requirement diversions that only affect flow regulated rivers, such as the Russian. (Those diversions would be subject to the generally applicable standards found elsewhere in the rule.)

If further exclusions are desired, the Board could narrow the list more by exempting watersheds where flow is considered a “low” priority in the recovery plans, or where the watershed is urbanized and small diversions are likely to be insignificant relative to municipal demand. See attached spreadsheet for a list of Core A and B streams tagged for these factors.

b. Direct Diversions and Diversions to Offstream Storage

In coastal areas, the time of greatest water demand is also the time of greatest water scarcity and greatest danger for salmon and steelhead. Direct diversions represent the greatest threat to coastal fisheries, because they are most likely to operate during the most critical times for coho and steelhead and cannot be timed to periods of greater water availability.

The vast majority of direct diversions in coastal California operate via pumps. For these diversions, the frequency of recording has little effect on cost. Once the instruments are installed, data can be recorded at hourly intervals as easily as it can be recorded daily or monthly. For the stream, however, the frequency of recording is vital. For that reason the North Coast Policy mandates continuous measurement and hourly recording. That approach is warranted in this rule.

Measurement of Direct Diversions: We recommend that the State Water Board require measurement of all direct diversions in under the rule equivalent to the Policy, using [Standard Permit Term R](#), which is attached. This is substantially equivalent to the standard used in the draft rule for Measurement Category I.

Diversions to Offstream Storage: We recommend that diversions to offstream storage within the coastal recovery streams be treated like direct diversions, because their impact on aquatic resources is like that

of a direct diversion, and not like a diversion to onstream storage. We recommend that the State Water Board require measurement of direct diversions under the rule equivalent to the Policy, using [Standard Permit Term 46](#), which is attached. This is substantially equivalent to the standard used in the draft rule for Measurement Category I.

Timing: We recommend that this category be implemented as part of Measurement Category I, by July 1, 2016.

Installation: We do not recommend requiring that the measurements be implemented by a professional unless otherwise required by the rule.

c. Diversions to Onstream Storage

Measurement: Diversions to onstream storage are harder to record at hourly intervals, and that interval of recording is less important for management of aquatic resources. We recommend that the State Water Board require measurement of all direct diversions in under the rule equivalent to the Policy, using [Standard Permit Term 47](#) and [Standard Permit Term 52](#) attached. This is roughly equivalent to the standard used in the draft rule for Measurement Category IV. (If the diversion is large enough to warrant a higher level of measurement or reporting under other provisions of the rule, those provisions should apply.)

Timing: We recommend that this category be implemented as part of Measurement Category IV, by January 1, 2018 unless otherwise required by the rule.

Installation: We do not recommend requiring that the measurements be implemented by a professional unless otherwise required by the rule.

2. Consider Additional Flexibility in Future Amendments

The State Water Board has requested comment on the circumstances in which the threshold for measurement and reporting should be raised. Our groups do not make a specific recommendation at this time, but we agree that there are likely to be circumstances where a higher threshold is warranted.

We recommend that the Board direct staff to evaluate diversions that only affect flow regulated rivers as a metric for assessing a higher threshold.

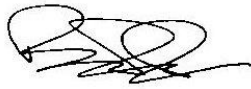
There may also be other circumstances where more stringent measurement and reporting thresholds are warranted than currently contemplated by the rule. Again, we do not make a specific recommendation at this time. Instead, we recommend that the Board direct staff to evaluate whether smaller diversions on unregulated rivers that have listed species in the Central Valley and Sierra Nevada or Cascades. Again, fisheries recovery plans may be useful as a screening device for those rivers.

Conclusion

It is imperative that California gain a better understanding of flows, groundwater-surface water dynamics and a clear framework to measure those conditions. We applaud the State Water Board for its draft rule.

Thank you for considering our comments. If you have any questions or would like further information, please contact the authors.

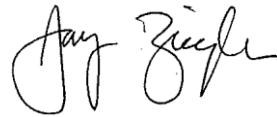
Sincerely,



Brian J. Johnson
California Director
Trout Unlimited



Curtis Knight
Executive Director
California Trout



Jay Ziegler
Director External Affairs and Policy
The Nature Conservancy

Category:
Reservoirs

Title:
Monitoring, Diversion, Offstream Storage

When Used:
For all rights that include diversion to offstream storage.

Background/Justification:
Wat. Code §§ 1058, 1605; Mandatory Term 15; Cal. Code Regs., tit. 23, §§ 925 et seq., 846; Policy for Maintaining Instream Flows in Northern California Coastal Streams § 10.0

TERM 046

No water shall be diverted to offstream storage under this right unless right holder is monitoring and reporting said diversion of water. This monitoring shall be conducted using a device(s) and methods satisfactory to the Deputy Director for Water Rights. The device(s) shall be capable of continuous* monitoring of the rate and quantity of water diverted and shall be properly maintained.

Right holder shall provide the Division of Water Rights with evidence that the device(s) has/have been installed with the first annual report submitted after device installation. Right holder shall provide the Division of Water Rights with evidence that substantiates that the device(s) is/are functioning properly every five years after device installation as an enclosure to the current annual report or whenever requested by the Division of Water Rights.

Right holder shall maintain a record of all diversions under this right that includes the date, time, rate of diversion at time intervals of one hour or less*, and the amount of water diverted. The records shall be submitted with the annual report or whenever requested by the Division of Water Rights.

(0060046)

*Continuous recording is required in the Policy area or in critical watersheds.

Category:
Reservoirs

Title:
Monitoring, Storage, Water Surface Elevation

When Used:
For use in all rights that include reservoirs unless site specific conditions preclude the installation of a device.

Background/Justification:
Wat. Code §§ 1058, 1605; Mandatory Term 15; Cal. Code Regs., tit. 23, §§ 925 et seq., 846; Policy for Maintaining Instream Flows in Northern California Coastal Streams § 10.0

TERM 047

No water shall be diverted under this right unless right holder is monitoring and reporting the water surface elevation in the reservoir(s). This monitoring shall be conducted using a device(s) and methods satisfactory to the Deputy Director for Water Rights. The device(s) shall be capable of monitoring water surface elevations from the maximum water line to the minimum water line known to exist for the reservoir(s) and shall be properly maintained.

Right holder shall provide the Division of Water Rights with evidence that the device(s) has/have been installed and the mark or reading corresponding to the maximum water line of the reservoir(s) with the first annual report submitted after device installation. Right holder shall provide the Division of Water Rights with evidence that substantiates that the device(s) is/are functioning properly every five years after device installation as an enclosure to the current annual report or whenever requested by the Division of Water Rights.

Right holder shall maintain a record of water surface elevations. The records shall be submitted with the annual report or whenever requested by the Division of Water Rights. The State Water Board may require release of water held in storage that cannot be verified by monthly records. Failure to maintain or submit the required records may result in the requirement to release the entire content of the reservoir's storage.

(0100047)

Category:
Reservoirs

Title:
Monitoring, Onstream Storage, Withdrawals and Releases

When Used:
For all water rights that include storage in an onstream reservoir.

Background/Justification:
Wat. Code §§ 1058, 1605; Mandatory Term 15; Cal. Code Regs., tit. 23, §§ 925 et seq., 846; Policy for Maintaining Instream Flows in Northern California Coastal Streams §§ 5.0, 10.0

TERM 052

No water shall be diverted under this right unless right holder is monitoring and reporting the withdrawal of water for beneficial use **and the release of water*** from the reservoir(s). This monitoring shall be conducted using **a device(s)** and methods satisfactory to the Deputy Director for Water Rights. The device(s) shall be capable of **continuous**** monitoring of the rate and quantity of water withdrawn for beneficial use **or released to the stream channel*** from each reservoir and shall be properly maintained.

Right holder shall provide the Division of Water Rights with evidence that the device(s) **has/have** been installed with the first annual report submitted after device installation. Right holder shall provide the Division of Water Rights with evidence that substantiates that the device(s) **is/are** functioning properly every five years after device installation as an enclosure to the current annual report or whenever requested by the Division of Water Rights.

Right holder shall maintain a record of all withdrawals of water for beneficial use **or releases of water to the stream channel*** under this right that includes the date, time, rate of withdrawal or release **at time intervals of one hour or less****, and the amount of water withdrawn or released. The records shall be submitted with the annual report or whenever requested by the Division of Water Rights.

(0100052)

***Monitoring of reservoir releases is required for onstream reservoirs in the Policy area or in critical watersheds.**

****Continuous recording is required in the Policy area or in critical watersheds.**

Category:
Special Situation

Title:
Monitoring and Reporting, Direct Diversion

When Used:
For use in all rights that include direct diversion.

Background/Justification:
Wat. Code §§ 1058, 1605; Mandatory Term 15; Cal. Code Regs., tit. 23, §§ 925 et seq., 846; Policy for Maintaining Instream Flows in Northern California Coastal Streams § 10.0

TERM R

No water shall be directly diverted under this right unless right holder is monitoring and reporting said diversion of water. This monitoring shall be conducted using a device(s) and methods satisfactory to the Deputy Director for Water Rights. The device(s) shall be capable of continuous* monitoring of the EITHER rate and quantity of water diverted** OR daily amount of water diverted*** and shall be properly maintained.

Right holder shall provide the Division of Water Rights with evidence that the device(s) has/have been installed with the first annual report submitted after device installation. Right holder shall provide the Division of Water Rights with evidence that substantiates that the device(s) is/are functioning properly every five years after device installation as an enclosure to the current annual report or whenever requested by the Division of Water Rights.

Right holder shall maintain a record of all diversions under this right that includes the date, time, rate of diversion at time intervals of one hour or less*, and the amount of water diverted. The records shall be submitted with the annual report or whenever requested by the Division of Water Rights.

(000000R)

* Continuous recording is required in the Policy area or in critical watersheds.

** For direct diversion in cubic feet per second or gallons per minute.

*** For direct diversion in gallons per day.

NOAA Recovery Plan Priority Watersheds

SONCC Coho Salmon	NOAA Priority	Recovery Plan low risk flows	Urban
Central Coastal Smith River	A	x	
Elk Creek	B	x	
Wilson Creek	B	x	
Lower Klamath River	A		
Redwood Creek	A		
Maple Creek/Big Lagoon	B		
Little River	B		
Strawberry Creek	B	x	
Norton/Widow White Creek	B		
Mad River	B		
Interior Klamath River Middle Klamath River	A		
Upper Klamath River	A		
Salmon River	B	x	
Scott River	A		
Shasta River	A		
Interior Trinity River Lower Trinity River	A		
Upper Trinity River	A		
SF Trinity River	B		
Southern Coastal Humboldt Bay Tributaries	A		
Lower Eel and Van Duzen	A		
Guthrie Creek	B	x	
Bear River	B	x	
Mattole River	B		
Interior Eel River SF Eel River	A		
Mainstem Eel	A		
Middle Fork Eel River	B		
North Fork Eel River	B		
Middle Mainstem Eel River	A		
Upper Mainstem Eel River	B		

CCC Coho Salmon	NOAA Priority	Recovery Plan low risk flows	Urban
Lost Coast - Navarro Point Usal Creek	B		
Lost Coast - Navarro Point Cottaneva Creek	B		
Lost Coast - Navarro Point Juan Creek	B		
Lost Coast - Navarro Point DeHaven	B		
Lost Coast - Navarro Point Wages Creek	B		
Lost Coast - Navarro Point Ten Mile River	A		
Lost Coast - Navarro Point Pudding Creek	A		
Lost Coast - Navarro Point Noyo River	A	x	
Lost Coast - Navarro Point Hare Creek	B		
Lost Coast - Navarro Point Jug Handle Creek	B		

Lost Coast - Navarro Point Casper Creek	B
Lost Coast - Navarro Point Russian Gulch	B
Lost Coast - Navarro Point Big River	A
Lost Coast - Navarro Point Little River	B
Lost Coast - Navarro Point Albion River	A
Lost Coast - Navarro Point Big Salmon Creek	B
Navarro Point - Gualala Point Navarro River	A
Navarro Point - Gualala Point Greenwood Creek	B
Navarro Point - Gualala Point Elk Creek	B
Navarro Point - Gualala Point Alder Creek	B
Navarro Point - Gualala Point Brush Creek	B
Navarro Point - Gualala Point Garcia River	A
Navarro Point - Gualala Point Gualala River	A
Coastal - Russian River	A
Coastal - Salmon Creek	B
Coastal - Pine Gulch	B
Coastal - Walker Creek	A
Coastal - Lagunitas Creek	A
Coastal - Redwood Creek	B
Santa Cruz Mountains - San Gregorio	B
Santa Cruz Mountains - Pescadero Creek	A
Santa Cruz Mountains - Gazos Creek	B
Santa Cruz Mountains Waddell Creek	A
Santa Cruz Mountains Scott Creek	A
Santa Cruz Mountains - San Vicente Creek	A
Santa Cruz Mountains - Laguna Creek	B
Santa Cruz Mountains - San Lorenzo River	A
Santa Cruz Mountains - Soquel Creek	B
Santa Cruz Mountains - Aptos Creek	A

CCC Steelhead	NOAA Priority	Recovery Plan	
		low risk flows	Urban
Coastal S.F. Bay - San Francisco Bay Estuary	N/A		x
Coastal S.F. Bay - Guadalupe River	A		x
Coastal S.F. Bay San Francisquito Creek	A		x
Coastal S.F. Bay Corte Madera Creek	A		x
Coastal S.F. Bay Stevens Creek	A		x
Coastal S.F. Bay Miller Creek (Marin Co.)	B		x
Coastal S.F. Bay San Mateo Creek	B		x
Coastal S.F. Bay Novato Creek	B		x
Interior - Upper Russian River	A		
Interior - Maacama Creek	A		
Interior - Dry Creek (tributaries)	A		
Interior - Mark West Creek	A		
Interior - Miller Creek (Russian)	B		
Interior - Crocker Creek	B		
Interior - Gill Creek	B		

Interior - Sausal Creek	B	
Interior S.F. Bay Codornices Creek	B	x
Interior S.F. Bay Pinole Creek	B	x
Interior S.F. Bay Wildcat Creek	B	x
Interior S.F. Bay Alameda Creek	A	x
Interior S.F. Bay Napa River	A	
Interior S.F. Bay Coyote Creek	A	x
Interior S.F. Bay Petaluma River	A	x
Interior S.F. Bay Green Valley/Suisun Creek	A	x
Interior S.F. Bay Sonoma Creek	A	
Interior S.F. Bay San Lorenzo Creek	B	x
Interior S.F. Bay San Leandro Creek	B	x
Interior S.F. Bay San Pablo Creek	B	x
North Coastal - Austin Creek	A	
North Coastal - Lagunitas Creek	A	
North Coastal - Green Valley Creek	A	
North Coastal - Salmon Creek	A	
North Coastal - Walker Creek	A	
North Coastal - Sheephouse Creek	A	
North Coastal - Redwood Creek (Marin Co.)	A	
North Coastal - Willow Creek	A	
North Coastal - Freezeout Creek	A	
North Coastal - Pine Gulch	A	
North Coastal - Hulbert Creek	A	
North Coastal - Porter Creek	A	
North Coastal - Dutch Bill Creek	A	
North Coastal - Drakes Bay	B	
North Coastal - Americano Creek	B	
Santa Cruz Mountains - San Pedro Creek	B	
Santa Cruz Mountains - Scott Creek	A	
Santa Cruz Mountains - Pescadero Creek	A	
Santa Cruz Mountains - San Lorenzo River	A	
Santa Cruz Mountains - Aptos Creek	A	
Santa Cruz Mountains - Pilarcitos Creek	A	
Santa Cruz Mountains - San Gregorio Creek	A	
Santa Cruz Mountains - Soquel Creek	A	
Santa Cruz Mountains - Waddell Creek	A	
Santa Cruz Mountains - San Vicente Creek	A	
Santa Cruz Mountains - Tunitas Creek	B	
Santa Cruz Mountains - Gazos Creek	A	
Santa Cruz Mountains - Laguna Creek	B	



Northern California winter steelhead	NOAA Priority	Recovery Plan	
		low risk flows	Urban
Central Coastal - Brush Creek	B		
Central Coastal - Elk Creek	B		
Central Coastal - Garcia River	A		

Central Coastal - Gualala River	A		
Central Coastal - Navarro River	A		
Central Coastal - Schooner Gulch	B		
Lower Interior - Bell Springs Creek	B		
Lower Interior - Bucknell Creek	B		
Lower Interior - Chamise Creek	A		
Lower Interior - Outlet Creek	A		
Lower Interior - Soda Creek	B		
Lower Interior - Tomki Creek	A		
Lower Interior - Woodman Creek	A		
North Mountain Interior - Dobbyn Creek	B		
North Mountain Interior - Larabee Creek	A		
North Mountain Interior - Middle Fork Eel River	A		
North Mountain Interior - North Fork Eel River	A		
North Mountain Interior - Upper Mainstem Eel River/ Upper N	A		
North Mountain Interior - Van Duzen River	A		
North-Central Coastal - Albion River	B		
North-Central Coastal - Big River	B		
North-Central Coastal - Caspar Creek	B		
North-Central Coastal - Cottaneva Creek	B		
North-Central Coastal Noyo River	A	x	
North-Central Coastal - Pudding Creek	B		
North-Central Coastal - Ten Mile River	A		
North-Central Coastal - Usal Creek	A		
North-Central Coastal - Wages Creek	A		
Northern Coastal Guthrie Creek	B	x	
Northern Coastal - Maple Creek/Big Lagoon	A		
Northern Coastal - Oil Creek	B		
Northern Coastal Bear River	A	x	
Northern Coastal - Big Creek	B		
Northern Coastal - Big Flat Creek	B		
Northern Coastal - Howe Creek	B		
Northern Coastal - Humboldt Bay	A		
Northern Coastal - Jackass Creek	B		
Northern Coastal - Little River (Humboldt County)	A		
Northern Coastal - Lower Mainstem Eel River	B		
Northern Coastal - Mattole River	A		
Northern Coastal - McNutt Gulch	B		
Northern Coastal - Shipman Creek	B		
Northern Coastal - South Fork Eel River	A		
Northern Coastal - Spanish Creek	B		
Northern Coastal - Telegraph Creek	B		
Northern Coastal/North Mountain Interior - Mad River	A		
Northern Coastal/North Mountain Interior - Redwood Creek (A		

South-Central CA Coast Steelhead	NOAA Priority	Recovery Plan	
		low risk flows	Urban

Interior Coast Range - Pajaro River	A
Interior Coast Range - Salinas River	A
Carmel River Basin - Carmel River	A
Big Sur Coast - San Jose Creek	B
Big Sur Coast - Little Sur River	A
Big Sur Coast - Big Sur River	A
San Luis Obispo Terrace - San Carpoforo Creek	B
San Luis Obispo Terrace - Arroyo de la Cruz	B
San Luis Obispo Terrace - San Simeon Creek	A
San Luis Obispo Terrace - Santa Rosa Creek	A
San Luis Obispo Terrace - San Luis Obispo Creek	A
San Luis Obispo Terrace - Pismo Creek	A
San Luis Obispo Terrace - Arroyo Grande Creek	A



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region

April 8, 2015

Mr. Chuck Bonham
California Department of Fish and Wildlife
1416 9th Street, 12th Floor
Sacramento, California 95814

Dear Mr. Bonham:

NOAA's National Marine Fisheries Service (NMFS) appreciates the many years of collaboration with the State to further salmon and steelhead (salmonid) recovery in California. This letter serves to advance the State and Federal collaboration in accordance with Proposition 1 and provide comments on the draft guidelines outlining the process, procedures, and prioritization criteria to fund watershed protection and restoration including water storage and conservation.

To achieve the Proposition 1 objectives of assisting in recovery of endangered or threatened species and ensuring funds are used for projects that provide fisheries or ecosystem benefits, it is our recommendation all program entities utilize the best available information found in formalized species or watershed plans such as State and Federal recovery plans. In California, there are 10 salmonid species, one green sturgeon southern population segment and one eulachon southern population segment that are federally listed as threatened or endangered under the Federal Endangered Species Act. NMFS is required to prepare recovery plans for these federally listed species and plans are now final for:

- Southern Oregon/Northern California Coast coho salmon;
- Central California Coast coho salmon;
- Sacramento River winter-run Chinook salmon;
- Central Valley spring-run Chinook salmon;
- Central Valley steelhead;
- South-Central California Coast steelhead; and
- Southern California Coast steelhead.

The Coast Multispecies recovery plan (Central California Coast steelhead, Northern California steelhead, and California Coastal Chinook), the green sturgeon plan and the eulachon plan are under development. The Federal recovery plans for California's salmonids were developed in cooperation with California Department of Fish and Wildlife (CDFW) and many others, and reflect the best available information, and bring significant new information into the public domain.



Recovery plans can be used by Proposition 1 project applicants as well as the program administering entities to identify:

- priority watersheds which have a greater influence on long-term salmonid viability;
- the intrinsic potential of stream reaches to support spawning and rearing salmonids which can guide actions to areas more likely to respond to restoration;
- priority recovery actions for estuarine and freshwater habitats that address factors limiting salmonid recovery, including water conservation;
- priorities for green sturgeon recovery; and
- research and monitoring needs and priorities that refine recovery goals and track and assess the effectiveness of recovery activities.

For projects benefiting salmonids, NMFS recommends a geographic and limiting factor focus of funds to those areas of greater importance to salmonid viability and persistence in California. Priority watersheds for California's anadromous salmonids and green sturgeon, and factors limiting their recovery, are identified in the aforementioned recovery plans and summarized in the enclosed tables¹. Decisions to focus funds to specific areas do not imply other areas are less important or not needed for recovery. Rather, decisions to focus are necessary to ensure funds are optimizing benefits to fisheries and ecosystem processes. Should Proposition 1 program funds be tracked to priorities and actions identified in Federal recovery plans, NMFS would be able to more explicitly report to Congress in 5-Year Status Reviews and Biennial Reports to Congress on our collective efforts and successes to recover California's native anadromous fishes.

We have the following additional recommendations on solicitations, review criteria, and program processes:

- Provide information on the targeted annual distribution of the funding program.
- Ensure public transparency and reporting on criteria, scoring, and technical and selection panel processes to include the monitoring and assessment reports of funded projects.

¹ The watersheds ranked priority "A" are highest priority for species recovery and may include key areas supporting monitoring and/or conservation hatchery programs. Watersheds ranked as a priority "B" or "C" are other watersheds that may be needed for recovery but are considered lower in priority, relative to "A" watersheds. The intent is not to exclude watersheds but request that priority "A" watersheds are weighted more heavily if competing with priority "B" or "C" watersheds. Similarly, "B" watersheds should be weighted more than "C" watersheds. Also note the priority watersheds are grouped into Diversity Strata or Diversity Groups in the attached tables. Salmon and steelhead restoration and recovery efforts must be occurring across all groups to make meaningful strides in the recovery of the species'.

- Program guidelines, solicitations, and review criteria should: (1) make specific reference to anadromous fishes and their habitats and the associated state and Federal recovery plans, (2) utilize recovery plan information, and (3) include website links to recovery plans as appropriate to program objectives.
- Encourage grant applicants to develop projects that support actions specified in recovery plans or require salmonid projects align with recovery actions in a state or Federal recovery plan (e.g., The Fisheries Restoration Grant program requires all projects link directly to a state or Federal recovery action).
- Develop a mechanism to track projects that are implementing Federal recovery plan priorities and actions to improve State and national reporting to Congress on progress.
- Invite NMFS as a technical reviewer or member of the grant program selection panel on salmonid and sturgeon related projects, provided technical review participation by NMFS does not exclude NMFS from potential selection panel membership.
- Consider the ability for applicants to apply for both the Watershed Restoration Grant Program and the Fisheries Restoration Grant Program with one application if the proposal benefits fish.
- Clarify that resource conservation districts are eligible for the programs.
- The NOAA Restoration Center's Northern California Office *Restoration Programmatic Biological Opinion for Restoration Projects* provides an estimated cost savings for taxpayers ranging from \$25,000 to \$64,000 per project. Consider using existing permitting efficiencies that are already in place such as the RGP 12 and RGP 78 for Proposition 1-funded projects that fit within those programs. If this is not feasible, work with NMFS and others to streamline permitting to reduce permitting costs and bring more dollars to on-the-ground restoration.
- Provide information in the solicitation notice regarding potential permits required for implementation projects such as agency websites and/or regional contact information. This small detail can help reduce the number of projects that have to delay or are unable to implement funded projects because of failure to meet all the environmental compliance requirements.
- A statewide grant program that aims to produce on the ground projects for environmental benefits will require a high degree of oversight to ensure projects are designed and implemented correctly to provide the targeted benefits. Regional coordinators committed to the grant program will be vital to program success. Consider allocating staff or funding dedicated coordinators to the various regions to improve communication, coordination and implementation of Proposition 1 funds with cooperating entities.

Thank you for the opportunity to comment. We look forward to a higher level of collaboration to ensure the continued protection and restoration of the States anadromous fisheries resources.

If you have questions please direct them to Charlotte Ambrose, California Programs Coordinator, at 916-930-3704.

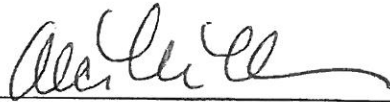
Sincerely,



Patrick J. Rutten
NOAA Restoration Center
Southwest Region Supervisor



Maria Rea
Assistant Regional Administrator
California Central Valley Office



Alecia Van Atta
Acting Assistant Regional Administrator
California Coastal Office

Enclosure

Priorities for Southern Oregon/Northern California Coast coho salmon*Federal Status:* Federally Threatened*Key Limiting Factors:*

- Loss of diversity in habitats, life-histories, genetic vigor, and ecological processes
 - Simplification and loss of estuarine and offchannel or floodplain habitats
 - Flows and water temperatures affecting all life stages
 - Loss of riparian habitat and instream cover affecting juvenile rearing and outmigration
 - Loss of floodplain habitat affecting juvenile rearing and outmigration
 - Predation
 - Degraded water quality from agricultural and urban runoff
 - Fish passage impediments/barriers for immigrating adults
- Lack of abundance and distribution data

Priority Populations or "Watersheds":

Diversity Strata	SONCC Coho Salmon Populations	Priorities
Central Coastal	Smith River	A
	Elk Creek	B
	Wilson Creek	B
	Lower Klamath River	A
	Redwood Creek	A
	Maple Creek/Big Lagoon	B
	Little River	B
	Strawberry Creek	B
	Norton/Widow White Creek	B
	Mad River	B
Interior Klamath River	Middle Klamath River	A
	Upper Klamath River	A
	Salmon River	B
	Scott River	A
	Shasta River	A
Interior Trinity River	Lower Trinity River	A
	Upper Trinity River	A
	SF Trinity River	B
Southern Coastal	Humboldt Bay Tributaries	A
	Lower Eel and Van Duzen	A
	Guthrie	B
	Bear River	B
	Mattole River	B
Interior Eel River	SF Eel River	A
	Mainstem Eel	A
	Middle Fork Eel River	B
	North Fork Eel River	B
	Middle Mainstem Eel River	A
	Upper Mainstem Eel River	B

Priorities for Central California Coast coho salmon

Federal Status: Federally Endangered

Key Limiting Factors:

- Loss of diversity in habitats, life-histories, genetic vigor, and ecological processes
- Simplification and loss of estuarine and offchannel or floodplain habitats
- Flows and water temperatures affecting all life stages
- Loss of riparian habitat and instream cover affecting juvenile rearing and outmigration
- Loss of floodplain habitat affecting juvenile rearing and outmigration
- Predation
- Degraded water quality from agricultural and urban runoff
- Fish passage impediments/barriers for immigrating adults
- Lack of abundance and distribution data

Priority Populations or “Watersheds”:

Diversity Strata	CCC Coho Salmon Populations	Priorities	Notes
Lost Coast - Navarro Point	Usal Creek	B	
Lost Coast - Navarro Point	Cottaneva Creek	B	
Lost Coast - Navarro Point	Juan Creek	B	
Lost Coast - Navarro Point	DeHaven	B	
Lost Coast - Navarro Point	Wages Creek	B	
Lost Coast - Navarro Point	Ten Mile River	A	
Lost Coast - Navarro Point	Pudding Creek	A	Long-Term Monitoring of Coho
Lost Coast - Navarro Point	Noyo River	A	
Lost Coast - Navarro Point	Hare Creek	B	
Lost Coast - Navarro Point	Jug Handle Creek	B	
Lost Coast - Navarro Point	Casper Creek	B	
Lost Coast - Navarro Point	Russian Gulch	B	
Lost Coast - Navarro Point	Big River	A	
Lost Coast - Navarro Point	Little River	B	
Lost Coast - Navarro Point	Albion River	A	
Lost Coast - Navarro Point	Big Salmon Creek	B	
Navarro Point - Gualala Point	Navarro River	A	
Navarro Point - Gualala Point	Greenwood Creek	B	
Navarro Point - Gualala Point	Elk Creek	B	
Navarro Point - Gualala Point	Alder Creek	B	
Navarro Point - Gualala Point	Brush Creek	B	
Navarro Point - Gualala Point	Garcia River	A	
Navarro Point - Gualala Point	Gualala River	A	
Coastal	Russian River	A	Outplanting for Captive Broodstock
Coastal	Salmon Creek	B	

Coastal	Pine Gulch	B	
Coastal	<i>Walker Creek</i>	A	Outplanting for Captive Broodstock
Coastal	Lagunitas Creek	A	Long-Term Monitoring of Coho
Coastal	Redwood Creek	B	
Santa Cruz Mountains	San Gregorio	B	
Santa Cruz Mountains	Pescadero Creek	A	Outplanting for Captive Broodstock
Santa Cruz Mountains	Gazos Creek	B	
Santa Cruz Mountains	Waddell Creek	A	Outplanting for Captive Broodstock
Santa Cruz Mountains	Scott Creek	A	Outplanting for Captive Broodstock
Santa Cruz Mountains	San Vicente Creek	A	Outplanting for Captive Broodstock
Santa Cruz Mountains	Laguna Creek	B	
Santa Cruz Mountains	San Lorenzo River	A	Outplanting for Captive Broodstock
Santa Cruz Mountains	Soquel Creek	B	
Santa Cruz Mountains	Aptos Creek	A	Outplanting for Captive Broodstock

Priorities for Central California Coast steelhead

Federal Status: Federally Threatened

Key Limiting Factors:

- Loss of diversity in habitats, life-histories, genetic vigor, and ecological processes
- Dams blocking access to historical habitat
- Simplification and loss of estuarine and offchannel or floodplain habitats
- Flows and water temperatures affecting all life stages
- Loss of riparian habitat and instream cover affecting juvenile rearing and outmigration
- Loss of floodplain habitat affecting juvenile rearing and outmigration
- Levee maintenance actions that reduce the conservation value of migration and rearing corridors
- Predation
- Juvenile fish injury and mortality at unscreened or poorly screened water diversions
- Degraded water quality from agricultural and urban runoff
- Fish passage impediments/barriers for immigrating adults
- Lack of abundance and distribution data

Priority Populations or “Watersheds”

Diversity Strata	CCC Steelhead Populations	Priorities
Coastal S.F. Bay	San Francisco Bay Estuary	N/A
Coastal S.F. Bay	Guadalupe River	A
Coastal S.F. Bay	San Francisquito Creek	A

Coastal S.F. Bay	Corte Madera Creek	A
Coastal S.F. Bay	Stevens Creek	A
Coastal S.F. Bay	Miller Creek (Marin Co.)	B
Coastal S.F. Bay	San Mateo Creek	B
Coastal S.F. Bay	Novato Creek	B
Interior	Upper Russian River	A
Interior	Maacama Creek	A
Interior	Dry Creek	A
Interior	Mark West Creek	A
Interior	Miller Creek (Russian)	B
Interior	Crocker Creek	B
Interior	Gill Creek	B
Interior	Sausal Creek	B
Interior S.F. Bay	Codornices Creek	B
Interior S.F. Bay	Pinole Creek	B
Interior S.F. Bay	Wildcat Creek	B
Interior S.F. Bay	Alameda Creek	A
Interior S.F. Bay	Napa River	A
Interior S.F. Bay	Coyote Creek	A
Interior S.F. Bay	Petaluma River	A
Interior S.F. Bay	Green Valley/Suisun Creek	A
Interior S.F. Bay	Sonoma Creek	A
Interior S.F. Bay	San Lorenzo Creek	B
Interior S.F. Bay	San Leandro Creek	B
Interior S.F. Bay	San Pablo Creek	B
North Coastal	Austin Creek	A
North Coastal	Lagunitas Creek	A
North Coastal	Green Valley Creek	A
North Coastal	Salmon Creek	A
North Coastal	Walker Creek	A
North Coastal	Sheephouse Creek	A
North Coastal	Redwood Creek (Marin Co.)	A
North Coastal	Willow Creek	A
North Coastal	Freezeout Creek	A
North Coastal	Pine Gulch	A
North Coastal	Hulbert Creek	A
North Coastal	Porter Creek	A
North Coastal	Dutch Bill Creek	A
North Coastal	Drakes Bay	B
North Coastal	Americano Creek	B
Santa Cruz Mountains	San Pedro Creek	B
Santa Cruz Mountains	Scott Creek	A

Santa Cruz Mountains	Pescadero Creek	A
Santa Cruz Mountains	San Lorenzo River	A
Santa Cruz Mountains	Aptos Creek	A
Santa Cruz Mountains	Pilarcitos Creek	A
Santa Cruz Mountains	San Gregorio Creek	A
Santa Cruz Mountains	Soquel Creek	A
Santa Cruz Mountains	Waddell Creek	A
Santa Cruz Mountains	San Vicente Creek	A
Santa Cruz Mountains	Tunitas Creek	B
Santa Cruz Mountains	Gazos Creek	A
Santa Cruz Mountains	Laguna Creek	B

Priorities for Northern California steelhead

Federal Status: Federally Threatened

Key Limiting Factors:

- Loss of diversity in habitats, life-histories, genetic vigor and ecological processes
- Simplification and loss of estuarine and offchannel or floodplain habitats
- Flows and water temperatures affecting all life stages
- Loss of riparian habitat and instream cover affecting juvenile rearing and outmigration
- Loss of floodplain habitat affecting juvenile rearing and outmigration
- Predation
- Degraded water quality from agricultural and urban runoff
- Fish passage impediments/barriers for immigrating adults
- Lack of abundance and distribution data

Priority Populations or “Watersheds”:

Diversity Strata	NC winter steelhead Populations	Priorities
Central Coastal	Brush Creek	B
Central Coastal	Elk Creek	B
Central Coastal	Garcia River	A
Central Coastal	Gualala River	A
Central Coastal	Navarro River	A
Central Coastal	Schooner Gulch	B

Lower Interior	Bell Springs Creek	B
Lower Interior	Bucknell Creek	B
Lower Interior	Chamise Creek	A
Lower Interior	Outlet Creek	A
Lower Interior	Soda Creek	B
Lower Interior	Tomki Creek	A
Lower Interior	Woodman Creek	A
North Mountain Interior	Dobbyn Creek	B
North Mountain Interior	Larabee Creek	A
North Mountain Interior	Middle Fork Eel River	A
North Mountain Interior	North Fork Eel River	A
North Mountain Interior	Upper Mainstem Eel River/ Upper Middle Mainstem Eel River (Summer)	A
North Mountain Interior	Van Duzen River	A
North-Central Coastal	Albion River	B
North-Central Coastal	Big River	B
North-Central Coastal	Caspar Creek	B
North-Central Coastal	Cottaneva Creek	B
North-Central Coastal	Noyo River	A
North-Central Coastal	Pudding Creek	B
North-Central Coastal	Ten Mile River	A
North-Central Coastal	Usal Creek	A
North-Central Coastal	Wages Creek	A
Northern Coastal	Guthrie Creek	B
Northern Coastal	Maple Creek/Big Lagoon	A
Northern Coastal	Oil Creek	B
Northern Coastal	Bear River	A
Northern Coastal	Big Creek	B
Northern Coastal	Big Flat Creek	B
Northern Coastal	Howe Creek	B
Northern Coastal	Humboldt Bay	A
Northern Coastal	Jackass Creek	B
Northern Coastal	Little River (Humboldt County)	A
Northern Coastal	Lower Mainstem Eel River	B
Northern Coastal	Mattole River	A
Northern Coastal	McNutt Gulch	B
Northern Coastal	Shipman Creek	B
Northern Coastal	South Fork Eel River	A
Northern Coastal	Spanish Creek	B
Northern Coastal	Telegraph Creek	B
Northern Coastal/North Mountain Interior	Mad River	A
Northern Coastal/North Mountain Interior	Redwood Creek (Humboldt Co)	A

Priorities for California Coastal Chinook salmon

Federal Status: Federally Threatened

Key Limiting Factors:

- Simplification and loss of estuarine and offchannel or floodplain habitats
- Loss of diversity in habitats, life-histories, genetic vigor and ecological processes
- Flows and water temperatures affecting all life stages
- Loss of riparian habitat and instream cover affecting juvenile rearing and outmigration
- Loss of floodplain habitat affecting juvenile rearing and outmigration
- Predation
- Degraded water quality from agricultural and urban runoff
- Fish passage impediments/barriers for immigrating adults
- Lack of abundance and distribution data

Priority Populations or “Watersheds”:

Diversity Strata	CC Chinook salmon Populations	Priorities
Central Coastal	Gualala River	B
Central Coastal	Navarro River	B
Central Coastal	Garcia River	A
Central Coastal	Russian River	A
North Coastal	Bear River	A
North Coastal	Humboldt Bay	A
North Coastal	Little River (Humboldt County)	A
North Coastal	Lower Eel River	A
North Coastal	Mad River	A
North Coastal	Mattole River	A
North Coastal	Redwood Creek (Humboldt Co)	A
North Coastal	South Fork Eel River	A
North Mountain Interior	Larabee Creek	A
North Mountain Interior	Upper Eel River	A
North Mountain Interior	Van Duzen River	A
North-Central Coastal	Albion River	B
North-Central Coastal	Big River	A
North-Central Coastal	Noyo River	A
North-Central Coastal	Ten Mile River	B

Priorities for Sacramento River winter-run Chinook salmon

Federal Status: Federally Endangered

Key Limiting Factors:

- Loss of diversity in habitats, life-histories, genetic vigor, and ecological processes
- Keswick and Shasta Dams blocking access to historical habitat
- Flows and water temperatures below Keswick and Shasta Dams affecting all life stages
- Loss of riparian habitat and instream cover affecting juvenile rearing and outmigration

- Loss of floodplain habitat affecting juvenile rearing and outmigration
- Levee maintenance actions that reduce the conservation value of migration and rearing corridors
- Predation
- Juvenile fish injury and mortality at unscreened or poorly screened water diversions
- Degraded water quality from agricultural and urban runoff
- Unnatural flow regimes through the Delta pulling juvenile salmonids towards the south Delta pumps
- Fish passage impediments/barriers for immigrating adults in the Yolo bypass, Colusa Basin Drain, and the Sacramento Deepwater Ship Channel

Priority Populations or “Watersheds”:

Diversity Group	Sacramento River Winter-run Chinook Salmon Populations	Priorities
Basalt and Porous Lava	Sacramento River (below Shasta Dam)	A
	Little Sacramento River (above Shasta Dam)	Candidate Reintroduction Area
	Battle Creek	Primary Reintroduction Area
	McCloud River	Primary Reintroduction Area

Priorities for Central Valley spring-run Chinook salmon

Federal Status: Federally Threatened

Key Limiting Factors:

- Loss of diversity in habitats, life-histories, genetic vigor, and ecological processes
- Dams blocking access to historical habitat
- Unnatural flow patterns below dams
- Low flows and warm water temperatures
- Small passage impediments in Antelope, Mill, Deer, and Big Chico, and in the Feather and Yuba Rivers
- Loss of riparian habitat and instream cover affecting juvenile rearing and outmigration
- Loss of floodplain habitat affecting juvenile rearing and outmigration
- Levee maintenance actions that reduce the conservation value of migration and rearing corridors
- Predation
- Juvenile fish injury and mortality at unscreened or poorly screened water diversions
- Degraded water quality from agricultural and urban runoff
- Unnatural flow regimes through the Delta pulling juvenile salmonids towards the south Delta pumps
- Fish passage impediments/barriers for immigrating adults in the Yolo bypass, Colusa Basin Drain, and the Sacramento Deepwater Ship Channel

Priority Populations or “Watersheds”:

Diversity Group	Central Valley Spring-run Chinook Salmon Populations	Priorities
Basalt and Porous Lava	Sacramento River (below Shasta Dam)	B
	Little Sacramento River (above Shasta Dam)	Candidate Reintroduction Area
	Battle Creek	A
	McCloud River	Primary Reintroduction Area
Northwestern California	Stony Creek	C
	Thomes Creek	C
	Cottonwood/Beegum	B
	Clear Creek	A
Northern Sierra Nevada	Mokelumne (below Comanche)	Candidate Reintroduction Area
	Mokelumne (above Pardee)	Candidate Reintroduction Area
	American River (above Folsom)	Candidate Reintroduction Area
	American River (below Nimbus)	Non-Candidate Reintroduction Area
	Feather River (below Oroville)	B
	West Branch Feather (above Oroville)	Non-Candidate Reintroduction Area
	North Fork Feather (above Oroville)	Candidate
	Middle Fork Feather (above Oroville)	Non-Candidate Reintroduction Area
	South Fork Feather (above Oroville)	Non-Candidate Reintroduction Area
	Yuba River (below Englebright)	B
	North Yuba River (above Englebright)	Primary Reintroduction Area
	Middle Yuba River (above Englebright)	Primary Reintroduction Area
	South Yuba River (above Englebright)	Candidate Reintroduction Area
	Butte Creek	A
	Big Chico	B
	Deer Creek	A
Mill Creek	A	
Antelope Creek	B	
Southern Sierra Nevada	Stanislaus River (below Goodwin)	Candidate Reintroduction Area
	Upper Stanislaus River (above New Melones)	Candidate Reintroduction Area
	Tuolumne River (below La Grange)	Candidate Reintroduction Area
	Upper Tuolumne River above La Grange and Don Pedro)	Candidate Reintroduction Area
	Merced River (below Crocker Huffman)	Candidate Reintroduction Area
	Upper Merced River above New Exchequer)	Candidate Reintroduction Area

Diversity Group	Central Valley Spring-run Chinook Salmon Populations	Priorities
	San Joaquin River (below Friant)	Primary Reintroduction Area
	San Joaquin above Friant	Non-Candidate Reintroduction Area

Priorities for Central Valley steelhead

Federal Status: Federally Threatened

Key Limiting Factors:

- Loss of diversity in habitats, life-histories, genetic vigor, and ecological processes
- Dams blocking access to historical habitat
- Unnatural flow patterns below dams
- Low flows and warm water temperatures
- Small passage impediments in Antelope, Mill, Deer, and Big Chico, and in the Feather, Yuba, Mokelumne, Calaveras, and San Joaquin Rivers
- Loss of riparian habitat and instream cover affecting juvenile rearing and outmigration
- Loss of floodplain habitat affecting juvenile rearing and outmigration
- Levee maintenance actions that reduce the conservation value of migration and rearing corridors
- Predation
- Juvenile fish injury and mortality at unscreened or poorly screened water diversions
- Degraded water quality from agricultural and urban runoff
- Unnatural flow regimes through the Delta pulling juvenile salmonids towards the south Delta pumps
- Fish passage impediments/barriers for immigrating adults in the Yolo bypass, Colusa Basin Drain, and the Sacramento Deepwater Ship Channel
- Lack of abundance and distribution data

Priority Populations or “Watersheds”:

Diversity Group	Central Valley Steelhead Populations	Priorities
Basalt and Porous Lava	Sacramento River (below Shasta Dam)	B
	Little Sacramento River (above Shasta Dam)	Candidate Reintroduction Area
	Battle Creek	A
	Cow Creek	B
	McCloud River	Primary Reintroduction Area
Northwestern California	Putah Creek	B
	Stony Creek	C
	Thomes Creek	B
	Cottonwood/Beegum	B
	Clear Creek	A
Northern Sierra Nevada	Cosumnes River	C
	Mokelumne River (below Comanche)	B

Diversity Group	Central Valley Steelhead Populations	Priorities
	Mokelumne River (above Pardee)	Candidate Reintroduction Area
	American River (below Nimbus)	B
	Upper American (above Folsom)	Candidate Reintroduction Area
	Auburn Ravine	B
	Dry Creek	C
	Feather River (below Oroville)	B
	West Branch Feather (above Oroville)	Non-Candidate Reintroduction Area
	North Fork Feather (above Oroville)	Candidate Reintroduction Area
	Middle Fork Feather (above Oroville)	Non-Candidate Reintroduction Area
	South Fork Feather (above Oroville)	Non-Candidate Reintroduction Area
	Bear River	C
	Yuba River (below Englebright)	B
	North, Middle, South Yuba Rivers (above Englebright)	Primary Reintroduction Area
	Butte Creek	B
	Big Chico	B
	Deer Creek	A
	Mill Creek	A
Antelope Creek	A	
Southern Sierra Nevada	Calaveras River (below New Hogan)	A
	Upper Calaveras River (above New Hogan)	Non-Candidate Reintroduction Area
	Stanislaus River (below Goodwin)	B
	Upper Stanislaus River (above New Melones)	Candidate Reintroduction Area
	Tuolumne River (below La Grange)	B
	Upper Tuolumne River (abv La Grange and Don Pedro)	Candidate Reintroduction Area
	Merced River (below Crocker Huffman)	B
	Upper Merced River (above New Exchequer)	Candidate Reintroduction Area
	San Joaquin River (below Friant)	Candidate Reintroduction Area
	Upper San Joaquin (above Friant)	Candidate Reintroduction Area

Priorities for southern DPS green sturgeon

Federal Status: Federally Threatened

Key Limiting Factors:

- Loss of historical spawning and rearing habitat on the Sacramento, Feather, and Yuba rivers

- Unnatural seasonal flow and water temperature patterns on the Sacramento, Feather, and Yuba rivers
- Restricted passage caused by the Sunset Pumps diversion structure on the Feather River
- Juvenile fish injury and mortality at unscreened or poorly screened water diversions
- Degraded water quality from agricultural and urban runoff
- Unnatural flow regimes through the Delta pulling juvenile salmonids towards the south Delta pumps
- Fish passage impediments/barriers for immigrating adults in the Yolo bypass, Colusa Basin Drain, and the Sacramento Deepwater Ship Channel
- Limited understanding of the species’ biological requirements

Priority Populations or “Watersheds”:

Diversity Group	sDPS Green Sturgeon Watersheds	Priorities
Not applicable for green sturgeon	Sacramento River (below Shasta/Keswick Dams)	A
	Feather River (below Oroville Dam)	A
	Yuba River (below Englebright Dam)	A

Priorities for South-Central California Coast steelhead

Federal Status: Federally Threatened

Key Limiting Factors: Dams blocking access to historical habitat

- Loss of diversity in habitats, life-histories, genetic vigor, and ecological processes
- Simplification and loss of estuarine and offchannel or floodplain habitats
- Flows and water temperatures affecting all life stages
- Loss of riparian habitat and instream cover affecting juvenile rearing and outmigration
- Loss of floodplain habitat affecting juvenile rearing and outmigration
- Levee maintenance actions that reduce the conservation value of migration and rearing corridors
- Predation
- Juvenile fish injury and mortality at unscreened or poorly screened water diversions
- Degraded water quality from agricultural and urban runoff
- Fish passage impediments/barriers for immigrating adults
- Lack of abundance and distribution data

Priority Populations or “Watersheds”:

Diversity Group	So.-Cent. Steelhead Populations	Priorities
Interior Coast Range	Pajaro River	A
Interior Coast Range	Salinas River	A
Carmel River Basin	Carmel River	A
Big Sur Coast	San Jose Creek	B
Big Sur Coast	Little Sur River	A
Big Sur Coast	Big Sur River	A

San Luis Obispo Terrace	San Carpofero Creek	B
San Luis Obispo Terrace	Arroyo de la Cruz	B
San Luis Obispo Terrace	San Simeon Creek	A
San Luis Obispo Terrace	Santa Rosa Creek	A
San Luis Obispo Terrace	San Luis Obispo Creek	A
San Luis Obispo Terrace	Pismo Creek	A
San Luis Obispo Terrace	Arroyo Grande Creek	A

Priorities for Southern California steelhead

Federal Status: Federally Endangered

Key Limiting Factors:

- Loss of diversity in habitats, life-histories, genetic vigor, and ecological processes
- Simplification and loss of estuarine and offchannel or floodplain habitats
- Flows and water temperatures affecting all life stages
- Loss of riparian habitat and instream cover affecting juvenile rearing and outmigration
- Loss of floodplain habitat affecting juvenile rearing and outmigration
- Levee maintenance actions that reduce the conservation value of migration and rearing corridors
- Predation
- Juvenile fish injury and mortality at unscreened or poorly screened water diversions
- Degraded water quality from agricultural and urban runoff
- Fish passage impediments/barriers for immigrating adults
- Lack of abundance and distribution data

Priority Populations or “Watersheds”:

Diversity Strata	So. Calif. Steelhead Populations	Priorities
Monte Arido Highlands	Santa Maria River	B
Monte Arido Highlands	Santa Ynez River	A
Monte Arido Highlands	Ventura River	A
Monte Arido Highlands	Santa Clara river	
Conception Coast	Goleta Slough Complex	A
Conception Coast	Mission Creek	A
Conception Coast	Carpinteria Creek	A
Conception Coast	Rincon Creek	B
Santa Monica Mts.	Arroyo Sequit	B
Santa Monica Mts.	Malibu Creek	A
Santa Monica Mts.	Topanga Creek	A
Mojave Rim	San Gabriel River	A
Mojave Rim	Santa Ana River	A
Santa Catalina Gulf	San Juan Creek	A
Santa Catalina Gulf	San Mataeo Creek	A
Santa Catalina Gulf	Santa Margarita River	A
Santa Catalina Gulf	San Luis Rey River	A
Santa Catalina Gulf	San Dieguito	B



United States Department of the Interior

FISH AND WILDLIFE SERVICE
911 NE 11th Avenue
Portland, Oregon 97232-4181



In Reply Refer to:
ABA-EN-WR

December 16, 2015

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814



RE: Comment Letter - Emergency Draft Regulation for Measuring and Reporting the Diversion of Water

Dear Ms. Townsend:

Thank you for the opportunity to comment on the draft Proposed Emergency Regulations for Measuring and Reporting, dated December 7, 2015. The U.S. Fish and Wildlife Service (Service) recognizes and fully supports California's need for improved water measurement and diversion information. However, we are concerned that several provisions are either unnecessary or burdensome for the agency. The recommended changes below will make it more feasible for the Service to comply with the proposed regulations.

In regards to §931(g) and §934 (a)(1), the Service finds the definition of "Qualified Individual" in Chapter 2.8, §931 (g) of the Proposed Emergency Regulations to be too restrictive and burdensome. The Service's Water Resources Branch (Branch) of the Division of Engineering, located in the Regional Office in Portland, Oregon, is responsible for water measurement and reporting for national wildlife refuges and the national fish hatcheries in the states of California, Nevada, Oregon, Washington, Idaho, and Pacific Islands. The Branch has a staff of eight hydrologists under the leadership of a Ph.D. supervisory hydrologist. All of these professionals are highly skilled and trained in the area of water monitoring and water measurement methods and are employed in that capacity. Four of the eight Branch employees were formerly employed by the U.S. Geological Survey (USGS) as hydrologists or hydrologic technicians. A fifth employee in the Branch is an Oregon-registered professional engineer and licensed surveyor and was previously employed as the manager of the Hydrographics/Measurement and Reporting Section of the Oregon Water Resources Department.

In our work, we routinely use water measurement equipment and install water measurement devices to record water velocities, water elevations, and water volumes, and compute stream discharge, reservoir and wetland storage, and groundwater pumping volumes. We regularly evaluate and establish monitoring sites and design monitoring networks as part of our work at

refuges and hatcheries. It is the practice of the branch to follow USGS standards and protocols for all of our water monitoring. The monitoring data that we collect are used to meet state water monitoring and reporting requirements for water rights as well as to address resource management and information needs.

The staff of the Branch are very capable of doing what is required under the proposed regulations and are employed in that capacity. Our professional hydrologists are just as familiar and competent with water monitoring devices and methods as a California-registered professional engineer. Furthermore, if we need engineering consultation, we can seek the advice of an Oregon-registered professional engineer employed within the Branch or other registered professional engineers within the Services' Division of Engineering. Therefore, the Service recommends adding the following definition of "qualified individual" to Chapter 2.8, §931 (g):

(3) For any federally managed diversion, a hydrologist or professional engineer experienced and trained in water measurement, who is employed by a federal agency in that capacity.

In addition, the Service recommends that federal water resources measurement experts be allowed to prepare requests for Approval of Measurement Method for federal projects in Chapter 2.8, §934 (a)(1):

(a)(1) Form and Content. A Request for Approval of Measurement Method shall be prepared by a California-registered Professional Engineer, or in the case of a federal project, a hydrologist or professional engineer experienced and trained in water measurement who is employed by a federal agency in that capacity. The request . . .

In regards to §932(c), the deadlines for the installation and certification of measuring devices or methods based on diversion rate are burdensome and unrealistic for agencies that oversee a large number of water rights. The Service currently is responsible for reporting water diversions for 32 appropriative water rights and 17 riparian and pre-1914 water rights at national wildlife refuges and national fish hatcheries within California. Many of these diversions are greater than 1000 acre-feet annually and, as such, would fall under the proposed July 1, 2016 deadline for installation and certification of measuring devices or methods. The Branch is continually working with refuge and hatchery staff to improve reporting accuracy, but 6 months' time is insufficient for us to bring all of these facilities into compliance with the new regulations. The Service will likely need at least two years to meet this goal.

In regards to §933(b)(B), the Service also fully supports having real-time data available on a public website for diversions greater than 10,000 acre-feet per year. However, the Service questions the need for this in the case of non-consumptive diversions, where the water is diverted and returned to the river or stream immediately. The Service has large volume (> 10,000 acre-feet annually), non-consumptive diversions at Coleman NFH. We see the value in reporting large volume diversions but we do not see the need for real-time data in the case of non-consumptive rights. The Service recommends an exemption process for real-time reporting for non-consumptive rights where water is returned to the source within a reasonable distance of the diversion.

In regards to §933(b)(d), it is unclear what is meant by “non-laboratory certification.” The Service recommends that an example be provided. For example, in practice, the accuracy of measurements are defined by a combination of accuracy of water elevation measurement (which is subject to both laboratory and field error), error rate of state-discharge rating curves, and accuracy of discharge measurements used to establish such curves, among other factors. Therefore, the Service recommends including language that explains what is meant by “non-laboratory certification.”

Sincerely,

A handwritten signature in black ink, appearing to read 'Tim Mayer', with a stylized flourish at the end.

Tim Mayer, Ph.D.
Supervisory Hydrologist
Water Resources Branch,
Division of Engineering
U.S Fish and Wildlife Service



Forest
Service

Pacific Southwest Region

Regional Office, R5
1323 Club Drive
Vallejo, CA 94592
(707) 562-8737
TDD: (707) 562-9240

File Code: 2540
Date: DEC 17 2015

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814



Dear Ms. Townsend:

The US Forest Service, Pacific Southwest Region, would like to take this opportunity to submit formal comments to the State Water Resources Control Board (SWRCB) in regards to the Draft Emergency Regulations. The Forest Service is supportive of the SWRCB's effort in drafting and implementing regulations for the monitoring of water right diversions. Much of the State's water resources originate on National Forest System Lands and we are committed to ensuring that water resources are conserved and used in an efficient manner and especially during times of drought.

In order for the Forest Service to comply with the State's proposed draft emergency regulations we request that the SWRCB consider modifying the time allowed to comply with these regulations. Upon initial investigation of the SWRCB water right data base our water rights total more than 2,900. Given the location of the National Forests, their size, topography, remote locations, the total number of water rights that we hold and the limited resources available to the Forest Service (including manpower and funding), we will be uniquely challenged to fully comply in the time frame currently proposed in the draft emergency regulations. Other federal agencies that hold water rights in the state of California may also be challenged in meeting the proposed compliance time frames as well. Specifically, we request that Section 932 Applicability, and Section 936 Request for Additional Time, include reasonable flexibility for Forest Service compliance.

The Forest Service looks forward to working with the SWRCB in implementing emergency regulations that allow us to come into full compliance in a reasonable time frame. If you have any questions please feel free to call Diana Craig, Deputy Director of Ecosystem management at 707-562-8975.

Sincerely,


for RANDY MOORE
Regional Forester Pacific Southwest Region

cc: Deb Whitman, Diana Craig, Gabriel Venegas



WQ Consultants

December 14, 2015

Board of Directors
State Water Resources Control Board
1001 I Street
Sacramento, California 95814



Re: Proposed Regulations for SB 88

Directors

The Division of Water Rights (especially Kathy Mrowka) should be complimented on its proposed draft regulations for SB 88. Although the measuring and reporting of diversion amounts is an important step in effective water management, there are other metrics that should become a mandatory part of the Division of Water Rights management tools.

In addition to managing diversions, SWRCB is also charged with protecting the fishery resources of the State, especially anadromous salmonids. This fishery concern is reaffirmed in both the Division of Water Rights Emergency Action for the four tributaries to the Russian River and again in the Policy for Maintaining Instream Flows in Northern California Coastal Streams.

Clearly, stream stage is important but so is stream temperature. The State should establish minimum threshold stream stage and maximum water temperature levels to conserve habitat for endangered cold freshwater fish. Diversion withdrawals should not be permitted when stream conditions do not meet these defined thresholds. Additionally, as SWRCB is aware, low flows and high water temperatures magnify the adverse effects of important pollutants such as nutrients and harmful algal blooms.

Diversions should not be operated simultaneously by all landowners in a given reach, but rather in a timed sequence among adjoining landowners. This prudent water management system is currently being tested by SWRCB in the Russian River Watershed under your Frost Control Regulations. However, the approach being tested is only for the period of March 15 to May 15 of each year and solely for the Russian River. A sequential diversion policy should be in place for all streams during the California dry season.

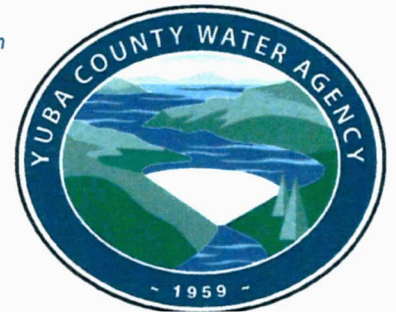
WQ Consultants

We recommend that the reporting by diverters should be on a quarterly basis, not annually. More frequent reporting would be of benefit in adapting to rapidly changing stream flow conditions. It might also be helpful for your forecasting model if the stream flow of the water source from which the water is being diverted was measured just prior to the diversion.

Respectfully submitted

Robert Pincus

WQ Consultants



December 16, 2015

By U.S. Mail and E-mail
(commentletters@waterboards.ca.gov)

Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

(12/17/15) Public Workshop
Emergency Reg for Measuring & Reporting Diversions
Deadline: 12/17/15 by 12:00 noon



Re: Comments on Senate Bill 88 Draft Emergency Regulations

Dear Board Members:

This letter presents Yuba County Water Agency's (YCWA) comments on the State Water Resources Control Board's (SWRCB) draft emergency regulations to implement Senate Bill 88 (SB 88).

YCWA strongly supports complete, accurate reporting for water diversions. We appreciate that the draft regulations would promote complete and accurate reporting, and the stakeholder outreach efforts conducted by SWRCB staff.

Sections 925 and 929 of the draft regulations concern annual reporting by permittees and licenses. These sections would provide that, for water diverted in 2016 and after, the annual water use reports for permits and licenses must be filed by March 31. (See §§ 925, subd. (b), 929, subd. (b).) For the annual use reports for statements of diversion, the draft regulations would set a deadline of June 30.

During the stakeholder workshop on November 9, 2015, Katherine Mrowka of the Division of Water Rights stated that the reason SWRCB staff was recommending an earlier reporting deadline for permittees and licensees is that, because SB 88 will require many water right holders to submit annual reports for the first time, SWRCB staff believes the SWRCB's computer network would be overloaded if the deadline for all reports was June 30. Therefore, the proposed earlier deadline for permittees and licensees would stagger the reporting deadlines and reduce the load on the SWRCB's computer network.

It would be very difficult for holders of water rights for complex water projects like YCWA's to submit annual diversion numbers by the proposed March 31 deadline. Although the draft regulations provide that permittees and licensees could use provisional data to prepare their reports by March 31, the draft regulations would also require permittees and licensees to submit amended reports based on final data by June 30. (See §§ 925, subd. (b), 929, subd. (b).) This would mean that YCWA and other water right holders must incur the time and expense of reporting twice.

Jeanine Townsend, Clerk of the Board
December 16, 2015
Page 2

YCWA requests that the SWRCB revise subdivision (b) of Sections 925 and 929 to provide that annual reports by permittees and licensees shall be filed "within five months of the close of the twelve month reporting period ..." rather than within three months.

This revised recommendation would recognize SWRCB staff's belief that staggered reporting deadlines for permits and licenses and statements of diversion will be needed once SB 88 takes effect. It also would reduce the risk that, for holders of water rights for complex projects like YCWA's, the proposed March 31 reporting deadline would not be achievable.

Thank you for the opportunity to comment on SWRCB staff's recommendations. Please contact me or Alan Lilly, Bartkiewicz, Kronick & Shanahan, at (916) 446-4254 should you have questions.

Very truly yours,



Curt Aikens
General Manager

cc: Alan Lilly (by email)

7021\Water Rights\L121415ajr

A photograph of a concrete weir structure in a stream. A measuring staff is placed vertically against the weir to measure water level. A metal box is mounted on top of the weir. The background shows dry grass and some green vegetation.

SB88 AND DRAFT EMERGENCY REGULATION FOR MEASURING AND REPORTING



KATHY MROWKA
DIVISION OF WATER RIGHTS
STATE WATER RESOURCES CONTROL BOARD
DECEMBER 17, 2015

Measurement Requirements

- For permit and license holders for diversions (including combined diversions) greater than 10 acre-feet, unless there are more stringent requirements in the permit or license.
- For Statements of Water Diversion and Use for diversions (including combined diversions) greater than 10 acre-feet. Can no longer claim “not locally cost effective” as a basis for not measuring diversion.

The Current Problem

- Current requirements do not capture timely, accurate data on water diversion and use which is needed in order to evaluate water supply conditions in each watershed.
 - Need to determine how far water supplies can be expected to stretch.
 - Need to determine whether there is water available for diversions.
 - Need to support the priority system.

The Current Problem

- Need current and accurate information on how much water is being diverted.
- Rainfall and snow accumulation patterns vary widely across the State. Water supply may be adequate in one region while a critical water shortage can occur in another region.

What's New

- The Governor signed into law SB 88 which improves and extends measurement regimes to water diversions of 10 acre-feet or more per year.
- The law requires that water diverters begin measuring as soon as January 1, 2016, although the effective date is extended and phased by the proposed regulation.

Benefits

- Increase understanding of water use through more accurate measurement
- Improve water rights administration and transparency of records
- Provide more accurate data on available water supplies

Benefits, Continued

- Assure compliance with the quantity and season limitations of existing water rights
- Protect senior rights in accordance with priorities
- Provide for efficient management and use of water during times of shortage
- Improve forecasting of water demand

Primary Components of the New Law

- Reporting
- Measurement

4. AMOUNT OF WATER DIVERTED AND USED

Note: Please report only the amounts diverted and used under this supplemental statement only. Do not report water diverted under other water rights, groundwater, or water supplied or purchased from others.

4a. Choose the unit:
 Gallons Acre-feet (AF) 2

4b. Check this box if the amount of water used is the same as the amount directly diverted. Do not check this box if your use of water is non-consumptive or if you have no use of water. If no use, enter 0 (zero) 2

4c. Enter numerals only (no commas or letters). If no water was diverted as used, enter 0 (zero).

	Amount directly diverted	Amount diverted or collected to storage	Amount used 2
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
Total	0	0	0

4d. If the total water diverted or used above is 0, please provide an explanation. Pre-1914 claim holders may lose their rights for



Early Input for Developing Regulation

- October 6 – Initial stakeholder meeting
- October 8 – Delta interest stakeholder meeting
- October 16 – Technical workshop
- November – Public outreach meetings in Los Angeles, Redding, Stockton, Sacramento, and Santa Rosa.

Reporting Requirements

- Annual water use reports required for all water right holders.
- During times of water shortage in a watershed or sub-watershed, monthly or more frequent reporting may be required.

Measurement Requirements

Type of Diversion	Installation Deadline	Required Accuracy	Required Monitoring	Installation And Certification
Direct Diversion \geq 1000 afa	July 1, 2016	10%	Hourly	Engineer/Contractor/ Professional
Direct Diversion \geq 100 afa / Storage \geq 200 af	January 1, 2017	10%	Daily	Engineer/Contractor/ Professional
Direct Diversion $>$ 10 afa / Storage \geq 50 af	January 1, 2018	15%	Weekly	Individual experienced with measurement and monitoring
Storage $>$ 10 af	January 1, 2018	15%	Monthly	Individual experienced with measurement and monitoring

Diversions by Category

WATER RIGHTS IN CALIFORNIA		
CATEGORY (ACRE-FEET PER YEAR)	NUMBER OF PERMITS, LICENSES, AND STATEMENTS	MEASUREMENT REQUIREMENT
≥ 100,000	296	Telemeter Measure Hourly
≥ 10,000 and < 100,000	520	Telemeter Measure Hourly
≥ 1000 and < 10,000	1,598	Measure Hourly
≥ 100 and < 1000	4,162	Measure Daily
> 10 and < 100	4,987	Measure Weekly
Reservoirs ≥ 50	Included in the 4,987	Measure Weekly
Reservoirs > 10 and < 50	Included in the 4,987	Measure Monthly
≤ 10	16,584	Not in new regulation

Measurement Method

- A method capable of measuring direct diversion and storage, at accuracy standards comparable to those of individual measuring devices.
- Multiple water right holders on a single surface supply can propose a collaborative measurement approach.
- A single water right holder with multiple points of diversion can propose a measurement method.

Alternative Compliance

- A water right holder may request an alternative compliance approach when either a device or method is not feasible, would be unreasonably expensive, would unreasonably affect public trust resources, or would result in the waste or unreasonable use of water.
- A water user requesting an alternative approach should submit a reasonable plan for attaining compliance.

Existing Measurement Programs

- Water Board staff is reviewing state and federal agency water measurement programs to determine which agencies' measurement standards are comparable to the new regulation.
- Compliance with comparable measurement programs will be “grandfathered” as meeting the new regulatory standard.

Diversion Size

- The regulation grants authority to the Executive Director to identify areas in the State where measurement is not required at the > 10 acre-feet size, but at a larger size.
- The regulation describes the factors to be considered.

Device Certification

- Initial certification of compliance is due with the first water use report filed after the device has been installed and every five years thereafter.
- The regulation allows qualified individuals to install and maintain water measurement devices that have been lab certified.

Special Requirements for Largest Diverters

- Real-time telemetered diversion requirements:
 - Required by January 1, 2020 for a water right holder who:
 - diverts more than 10,000 acre-feet annually; or
 - diverts more than 50 percent of the monthly median flow of the watershed (Hydrologic Unit Code 10 or 12) where the diversion is located.
 - Shall provide real-time telemetered diversion data via a public website that displays the data on at least a daily basis, that is updated weekly, at a minimum.

Input is Requested on the Following Topics:

- Who should be allowed to certify the adequacy of the alternatives to the measurement and monitoring requirements?
- What specific factors should the Executive Director consider when considering whether to raise the diversion threshold for measurement?
- Should recertification of a measurement device be required every five years?
- Should real-time telemetered monitoring be required? If so, under what circumstances?

Next Steps

- The draft regulation will be refined based on comments received.
- The State Water Board is currently scheduled to consider adoption of the Emergency Regulation at its January 19, 2016 Board Meeting.

Additional Information

- Emergency regulation website
 - http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/
- Phone Number: **(916) 341-5300**
- Email Address: **dwr-measurement@waterboards.ca.gov**

SWRCB Speaker List Form - December 17, 2015 Board Meeting (Responses) - Form Responses 1

	Speaker 17 Order	Already spoken	Speaker	Affiliation	Email	Presentation	In support of proposed action	Requested Time	Speak only if necessary	Link to comment letter, if available
10- Drought	1	Yes	Thaddeus Bettner	Glenn-Colusa Irrigation District	tbettner@gcid.net			0:03:00		
11- Measuring & Reporting	1	Yes	Danny Merkley	California Farm Bureau Federation	dmerkley@cfbf.com					
11- Measuring & Reporting	2	Yes	W Spence	General Public		O		0:05:00		
11- Measuring & Reporting	3	Yes	Dante John Nomellini	Central Delta Water Agency						
11- Measuring & Reporting	4	Yes	John Herrick	South Delta Water Agency	jherrlaw@aol.com					
11- Measuring & Reporting	5	Yes	Andrew Ramos	Yuba County Water Agency / Sonoma County Water Agency				0:05:00		
11- Measuring & Reporting	6	Yes	Osha Meserve	Local Agencies of the North Delta	osha@semlawyers.com					
11- Measuring & Reporting	7	Yes	Jeffrey Volberg	California Waterfowl Assn.	jvolberg@calwaterfowl.org			0:02:00		
11- Measuring & Reporting	8	Yes	Peter Kiel	Ellison, Schneider & Harris	pjk@eslawfirm.com			0:05:00		
11- Measuring & Reporting	9	Yes	Kirk Wilbur	California Cattlemens Assn.	kirk@calcattlemen.org					
11- Measuring & Reporting	10	Yes	Andrew Steveson	Hydro Sierra Energy LLC	astevenson@hydrosierra.com			0:05:00		
11- Measuring & Reporting	11	Yes	Gail Delihant	Western Growers Assn.	gdelihant@wga.com					
11- Measuring & Reporting	12	Yes	Will Pier	Board of Salmonid Restoration Federation	willspier@gmail.com			0:03:00		
11- Measuring & Reporting	13	Yes	Jim Fousckis	General Public	jtfousckis@gmail.com			0:03:00		
11- Measuring & Reporting	14	Yes	Eric Tillemans	Los Angeles Department of Water and Power	eric.tillemans@ladwp.com			0:03:00		
11- Measuring & Reporting	15	Yes	Arnold Sargent	Country Sunshine Cattle LLC	trinitywolf@aol.com	O				
11- Measuring & Reporting	16	Yes	Steven Chappell	Suisun Resource Conservation District	schappell@suisunrco.org	O		0:03:00		
11- Measuring & Reporting	17	Yes	Stefanie Morris	State Water Contractors	smorris@swc.org	S		0:03:00		
11- Measuring & Reporting	18	Yes	Tom Connick	General Public	tdhc@sonic.net	O				
11- Measuring & Reporting	19	Yes	Gary Kienlen	MBK Engineers	kienlen@mbkengineers.com					
11- Measuring & Reporting	20	Yes	Steve Mello	Mello Farms Inc	deltabkm@citlink.net					
11- Measuring & Reporting	21	Yes	Bill Gaines	Suisun Resource Conservation District	bill@gainesandassociates.net			0:03:00		
11- Measuring & Reporting	22	Yes	Joe Ray	PG & E	jrr9@pge.com					
11- Measuring & Reporting	23	Yes	Todd Manley	Northern California Water Assn.	tmanley@norcalwater.org					

PROPOSED EMERGENCY REGULATION FOR MEASURING AND REPORTING

~~DECEMBER 7, 2015 AGENCY DRAFT FOR PUBLIC COMMENT~~

JANUARY 8, 2016

California Code of Regulations

Title 23. Waters

Division 3. State Water Resources Control Board and Regional Water Quality Control Boards

CH 2.7 WATER DIVERSION AND USE REPORTS

§ 907. **Definitions.** The following definitions apply to the terms as they are used in this chapter.

(a) “Board” ~~when used in this chapter~~ means the State Water Resources Control Board.

(b) “Board’s website” means www.waterboards.ca.gov.

(c) “Diverter” means:

(1) Any person authorized to divert water under a permit or license; or

~~(2) Any person required under Water Code, Division 2, Part 5.1 to file a Statement of Water Diversions and Use; or~~

(3) Any person authorized to divert under a registration or certificate; or

(4) To the extent authorized by federal law, the federal government for rights claimed under permits, licenses, registrations, certificates, statements of water diversion and use, and non-reserved and reserved rights on file with the board.

(d) “Reports” ~~when used in this chapter~~ refers to the following documents:

~~(1) Supplemental Statement of Water Diversion and Use Forms. Pursuant to Water Code section 5104, supplemental statements of water diversion and use shall be filed at three year intervals, prior to July 1 of the year succeeding the end of each three year interval.~~

~~(2) Reports of Permittee and Licensee. Pursuant to sections 847 925 and 929 of this title, prior to issuance of license, annual progress reports shall be filed promptly by the permittee upon forms provided by the board. After issuance of a license, reports shall be made when requested by the board upon forms provided by the board.~~

(3) Reports of Registration and Certificate Holders pursuant to section 924 of this title.

~~(4) Notices of Extraction and Diversion of Water. Pursuant to Part 5 of Division 2 of the Water Code, Each person in the counties of Riverside, San Bernardino, Los Angeles and Ventura who, after 1959, extracts ground water in excess of 25 acre-feet in any year shall file with the board, within six months of the succeeding calendar year, a “Notice of Extraction and Diversion of Water” on a form provided by the board.~~

Note: Proposed additions to the California Code of Regulations are shown in underline. Proposed deletions are shown in strikethrough

PROPOSED EMERGENCY REGULATION FOR MEASURING AND REPORTING
~~**DECEMBER 7, 2015 AGENCY DRAFT FOR PUBLIC COMMENT**~~
JANUARY 8, 2016

~~(455)~~ Forms indicating a change of name, address or ownership.

(ee) “Twelve month reporting period” ~~when used in this chapter~~ means a calendar year beginning January 1 and ending the succeeding December 31.

~~(ede)~~ “Website” when used in this chapter means www.waterboards.ca.gov.

Authority: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Sections 1003.5, 1395, 1396, 1397, 4999, 5001, 5105 and 12261, Water Code.

§ 908. Compliance.

Failure to meet the requirements of this chapter is a violation subject to civil liability of up to \$500 per day pursuant to Water Code section 1846.

Authority: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Sections 348, subdivision (a), and 1846, Water Code.

§ 910. Purpose.

The regulations contained in this chapter are adopted for the purpose of implementing and carrying out provisions of Chapter 2.7 of Division 1 of the Water Code and Parts 2, 5 and 5.1 of Division 2 of the Water Code. The regulations identify requirements for the mandatory electronic filing of reports on the board's ~~internet~~ website. Reports subject to mandatory electronic filing include: supplemental statements of water diversion and use, Water Right Progress Reports by Permittees, Reports of Licensees, Reports of Registration and Certificate Holders, Notices of Groundwater Extraction and Diversion, and reports filed by watermasters pursuant to Water Code section 5101, subdivisions (d) and (e).

Authority: Sections ~~348(a) and 1058,~~ 1058, 1840, and 1841 Water Code.

Reference: Sections 348(a), 5101, 5103 and 5104, Water Code.

§ 911. Construction.

(a) To the extent authorized by federal law, this chapter applies to the federal government and any reports filed by the federal government for rights claimed under permits, licenses, registrations, statements of water diversion and use, stockpond certificates, and non-reserved and reserved rights on file with the board.

**Note: Proposed additions to the California Code of Regulations are shown in underline.
Proposed deletions are shown in strikethrough**

PROPOSED EMERGENCY REGULATION FOR MEASURING AND REPORTING

~~DECEMBER 7, 2015 AGENCY DRAFT FOR PUBLIC COMMENT~~

JANUARY 8, 2016

(b) Nothing in this chapter shall be construed to limit or modify the board's authority to obtain information under any other lawful authority.

Authority cited: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Sections 348, subdivision (a), 1846, 5101, 5103, and 5104, Water Code.

§ 912. No Conflicts with Other Reporting Requirements.

(a) Any person with a water right identified in or subject to a statute, order, policy, regulation, decision, judgment or probationary designation of the board, a Regional Water Quality Control Board, or a court is responsible for meeting the terms and conditions of the statute, order, policy, regulation, decision or judgment and the requirements of this chapter. If there is any conflict or inconsistency between the water use reporting requirements subject to the statute, order, policy, regulation, decision, judgment or probationary designation and the requirements of this chapter, the more stringent requirement or requirements shall control in each instance.

(b) A permit, license, or registration holder is responsible for meeting the conditions of the permit, license, or registration and the requirements of this chapter. If there is any conflict or inconsistency between the permit, license, or registration condition for water use reporting and the requirements of this chapter, the more stringent requirement or requirements shall control in each instance.

Authority: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Sections 348, subdivision (a), and 1846, Water Code.

§ 915. Changes in Name, Address or Ownership.

Pursuant to sections 691, 830, 831, and 1074 of this title, changes in name, address or ownership shall be immediately reported to the board electronically using a change of name, address or ownership form or the supplemental statement of change form available on the board's website.

Authority cited: Sections 348, subdivision (a), 1058, 1840, and ~~1058~~1841~~1058~~, Water Code.

Reference: Section 348, subdivision (a), Water Code.

§§ 916. Request for Additional Time

A diverter may submit a request for additional time to comply with the provisions of this chapter on a form available on the board's website. The Deputy Director for the Division of Water Rights may grant such requests upon a showing of good cause.

Authority cited: Sections 348, subdivision (a) , 1058, 1840, and 1841, Water Code.

Note: Proposed additions to the California Code of Regulations are shown in underline. Proposed deletions are shown in strikethrough

PROPOSED EMERGENCY REGULATION FOR MEASURING AND REPORTING

~~DECEMBER 7, 2015 AGENCY DRAFT FOR PUBLIC COMMENT~~

JANUARY 8, 2016

Reference: Section 348, subdivision (a), Water Code.

§ 917. Reporting – Insufficient Flows to Support All Diversions.

(a) When flows or projected available supplies in a watershed or subwatershed are sufficient to support some but not all projected diversion demand, the Deputy Director for the Division of Water Rights may require water diverters located within the watershed or subwatershed to electronically submit monthly or more frequent reports of water diversion.

(ab) Reports of water diversion shall be submitted in accordance with a schedule approved by the Deputy Director for the Division of Water Rights. The schedule may require monthly, daily, or more frequent reporting. In determining the frequency of reporting, the Deputy Director for the Division of Water Rights shall not exceed the frequency of recording required under section 933, subdivision (b)(1), of this title.

(bc) Water right diversion demand projections made under this section may be based on reported diversion and use data, including but not limited to data submitted with Progress Reports by Permittees, Reports of Licensees, Reports of Registration and Certificate Holders, Supplemental Statements of Water Diversion and Use, and reports filed by watermasters pursuant to Water Code section 5101, subdivisions (d) and (e).

(ed) Water availability projections made under this section may be based on:

~~(1) Projected full natural flow data supplied by~~ (1) Projections from the Department of Water Resources or its successor;

(2) Projections from the National Weather Service, California Nevada River Forecast Center, and similar sources;

(3) Stream gage data; and

(4) Other data the Deputy Director for the Division of Water Rights determines is appropriate, given data availability, data reliability, and staff resources.

~~(d)~~ (e) The failure to electronically submit diversion reports requested in accordance with the applicable schedule approved by the Deputy Director for the Division of Water Rights, even when no diversions are made, is a violation subject to civil liability of up to \$500 per day pursuant to Water Code section 1846.

Authority: Sections 348, subdivision (a), 1058, 1840, and 1841, Water Code.

Reference: Sections 348, subdivision (a), 1846, 5101, 5103, and 5104, Water Code.

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§ 920. Supplemental Statements of Water Diversion and Use.

(a) Supplemental statements of water diversion and use shall be filed on forms available at the board's website. A supplemental statement shall be filed annually within six months of the close of the twelve month reporting period~~triennially~~, or promptly if there is a change in the name or address of the person diverting water, or more frequently as directed under section 917. Notice to the board of changes in name, address or ownership must also be reported electronically on the ~~change of name, address or ownership~~supplemental statement of change form on the board's website. Filing the ~~change of name, address or ownership~~supplemental statement of change form does not eliminate the requirement to file a supplemental statement of water diversion and use.

(b) After the board has received an initial statement of water diversion and use as required by Water Code section 5101, the board will provide a user name and password to the person required to file supplemental statements of water diversion and use. The electronic supplemental statement form will be pre-populated with current ownership information made available to the board. Failure to receive a notice providing a user name and password does not exempt the filer from the requirement to file a supplemental statement of ~~change~~water diversion and use. Persons required to file a supplemental statement should notify the board prior to the ~~annual~~triennial reporting date to request a user name and password if the board has not already provided such information.

(c) The completed supplemental statement form shall include the following information:

- (1) ~~Changes to~~The name(s), address,~~(es), or~~and other ownership information ~~on for the diverter~~ record with the board;
- (2) The type of water right being claimed for the water diverted under the statement;
- (3) The maximum rate of diversion achieved at any time during each month ~~of the year~~, if available;
- (4) The amount of water directly diverted and collected to storage in each month and the total annual amount diverted. Each month must contain an entry. If no diversion occurred, a "0" should be entered;
- (5) A description of the diversion works, including type of diversion and capacity of direct diversion and/or storage facility.
- (6) Information on the device or method used to calculate the amount of water diverted.
- ~~(5) On or after January 1, 2012, the~~(6)7) The amount of water beneficially used in each month and the total annual amount beneficially used. Each month must contain an entry. If no beneficial use occurred in a given month, a "0" should be entered;
- ~~(6)7) The~~(6)8) The purpose(s) for which the water was diverted and used~~;~~. Use information to be provided includes:

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- ~~(78)~~(A) irrigation, including crop type and acreage;
- (B) frost protection, including acres covered;
- (C) heat control, including acres covered;
- (D) industrial, including type of activity;
- (E) stock watering, including number and type of animals;
- (F) municipal, including approximate population served, and seven digit public water system number or other identifier;
- (G) domestic, including number of persons served, lawn or garden area, and seven digit public water system number or other identifier, if applicable;
- (H) power generation, including installed capacity in kilowatts, megawatts or horsepower;
- (I) recreational, including boating, fishing or other water sports;
- (J) any additional uses not named above, including environmental use.
- (9) Any changes in the other information contained in the preceding statement;
- ~~(10)~~ Report of water transfers during the twelve month reporting period including transfer dates and approving agency;
- (11) Report of transferred contract water including contract agency, contract number, source, amount of contract water in acre-feet and projected water use in the upcoming year.

(d) Water diversion measurement, either direct diversion or diversion to storage including the type of device(s) used, additional technology used, who installed the device(s) and any alternative method(s) used in measuring the water diversion.

~~(d)~~(e) If a substitute or alternative water supply, such as groundwater, contract water, or recycled water, is being used in lieu of surface water to be reported under a statement, the report should indicate the source and amount of substitute or alternative water used and the amount of surface water offset, on a monthly basis.

~~(e)~~(f) If the use of an alternative supply of water or any water conservation efforts have resulted in a cessation or reduction in use, the report should include a description of the conservation efforts employed and indicate the extent and monthly amount of the reduction in water use due to these water conservation efforts.

Authority: Sections 348, subdivision (a), 1058, 1840, and ~~1058~~1841, Water Code.

Reference: Sections 348, subdivision (a), 1010, 1011, 1011.5, 5100, 5101, 5103 and 5104, Water Code.

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§ 921. Watermaster Reports Filed with the Board.

- (a) Watermasters that elect to file annual reports with the board shall file the reports in an electronic format acceptable to the board.
- (b) Reports filed with the board by a watermaster pursuant to Water Code section 5101(d) shall include the following information:
- (1) Identity of the person(s) diverting water
 - (2) Description of the general purposes of use
 - (3) Description of the place of use
 - (4) The type of use
 - (5) The quantity of water diverted from each source.
- (c) Reports filed with the board by a watermaster pursuant to Water Code section 5101(e) shall include the following information:
- (1) Identity of the person(s) diverting water
 - (2) Description of the place of use
 - (3) The quantity of water diverted from each source.
- (d) Reports filed with the board by a watermaster pursuant to Water Code section 5001 shall include the following information:
- (1) Identity of the persons who have extracted or diverted water
 - (2) Description of the general place of use
 - (3) Quantity of water extracted or diverted from each source.
- (e) Additional reporting criteria may be included if such criteria are included pursuant to an agreement between the board and the watermaster. Additional requirements may include: the diverter's mailing address, ~~assessors~~assessor parcel number(s), tract number, monthly diversion amounts, and total diversion amounts.

Authority: Sections 348, subdivision (a) ~~and~~, 1058, 1840, 1841, and 5103+058, Water Code.

Reference: Sections 348, subdivision (a), 5001, 5101(d) and 5101(e), Water Code.

§ 922. Diverters in a Watermaster Service Area.

(a) Pursuant to section 5101 of the Water Code, any person who diverts water in a watermaster service area that is not included in reports filed by the watermaster with the board or a court shall report such diversions by filing a Supplemental Statement of Water Diversion and Use pursuant to section 920 of this chapter.

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(b) Any person who diverts pursuant to a permit, license, registration, or certificate in a watermaster service area shall file reports pursuant to sections 924, 925 and 929 of this chapter, as applicable, even if the diversion is reported by the watermaster.

Authority: Sections 348, subdivision (a), 1058, 1840, 1841, and 5103-1058, Water Code.

Reference: Sections 348, subdivision (a) 5101(d) and 5101(e), Water Code.

§ 924. Water Use Reports of Registration and Certificate Holders.

(a) Reports of registration and certificate holders shall be filed annually within three months of the close of the twelve month reporting period. Provisional streamflow data may be used in preparing the water use report if final streamflow data ~~is~~are not available by the reporting deadline. If provisional streamflow data ~~is~~are used in the water use report, an amended report based on final streamflow data ~~should~~shall be filed within ~~six months~~one month of the ~~close of date the~~of the twelve month reporting period. ~~Any final streamflow data is available. The board may rely upon any report not timely amended shall be deemed final, including a report based on provisional data, until and unless a revised report is filed.~~ The report shall be filed electronically on a form available at the board's website. Compliance with the requirement to file a water use report is a condition of every registration or certificate. A failure to file a report under this section is a violation of registration and certificate terms, as applicable.

(b) The annual reports shall include the following information:

(1) A statement of compliance or of ~~noncompliance~~non-compliance with the terms and conditions of the registration or certificate;

~~(2)~~(2) The purpose(s) for which water is diverted and used.

(3) The quantity of water diverted from each point of diversion by month (or shorter timeframe if otherwise required); and

~~(3) The~~(4) For direct diversion, the maximum rate of diversion from each point of diversion achieved at any time during each month ~~of the year, if available.~~

(c) The first reports of registration and certificate holders shall be filed for the diversion and use of water made during calendar year 2016. The report for 2016 shall be filed prior to April 1, 2017.

Authority: Sections 348, subdivision (a), 1058, 1228.6, 1840, and 1841, Water Code.

Reference: Sections 348, subdivision (a), 1226.1, 1226.2, 1228.2, 1228.3, and 1846, Water Code.

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§ 925. Progress Reports by Permittee.

(a) As specified in section 847 of this title, water right permit holders are required to file annual progress reports. Section 846 of this title provides that permittees may also be required to submit a written statement of the quantities of water beneficially used. Annual reports required under this section are in addition to any specific reporting requirements in a water right permit.

(b) Annual progress reports by ~~permittee~~permittees shall be filed within three months of the close of the twelve month reporting period ~~no later than July of the next year succeeding the year of diversion~~ on forms available at the board's website. Provisional data and information may be used in the progress report if final data ~~is~~are not available by the reporting deadline. If provisional streamflow data are used in ~~preparing the progress~~water use report, an amended report based on final streamflow data shall be filed within six months~~one month~~ of the ~~close of date~~ the twelve month reporting period. ~~Any reports not timely amended shall be deemed~~final streamflow data is available. The board may rely upon any report, including a report based on provisional data, until and unless a revised report is filed. A failure to file a progress report is a violation of permit terms.

(c) The annual reports shall include the following information:

(1) A statement affirming compliance or non-compliance with permit terms and conditions;

(2) The construction status of the permitted project and status of current water use;

(3) The purpose(s) for which water is diverted and used. Use information to be provided includes:

(A) irrigation, including crop type and acreage;

(B) frost protection, including acres covered;

(C) heat control, including acres covered;

(D) industrial, including type of activity;

(E) stock watering, including number and type of animals;

(F) municipal, including approximate population served, and seven digit public water system number or other identifier;

(G) domestic, including number of persons served, lawn or garden area, etc., and seven digit public water system number or other identifier, if applicable;

(H) power generation, including installed capacity in kilowatts, megawatts or horsepower;

(I) recreational, including boating, fishing or other water sports;

(J) additional uses not named above, including environmental use:-

~~(4)~~(4) Information on the device or method used to calculate the amount of water diverted.

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(5) The amount of water taken from each point of diversion in each month (or shorter timeframe period if otherwise required) from the source, including amount directly diverted, ~~and the~~ amount collected to storage, ~~and the total annual amount~~ of water diverted during the twelve month reporting period. Each month must contain an entry. If no diversion occurred in a given month, a "0" should be entered;

~~(5)~~ (6) The maximum rate of diversion achieved from each point of diversion at any time during each month (or shorter timeframe period if otherwise required). ~~of the year, if available;~~

~~(6)~~ (7) For permits that authorize collection of water to storage, the annual report shall also include the measurement data required to be collected in section 933 of this chapter.

~~(d)~~ (d) If a substitute or alternative water supply, such as groundwater, contract water, or recycled water, is being used in lieu of surface water that is required to be reported under this ~~section report~~, the report should indicate the source and amount of substitute or alternative water used and the amount of surface water offset on a monthly basis.

~~(e)~~ (e) If ~~the use of an alternative supply of water or any water conservation efforts~~ have resulted in a cessation or reduction in use, the report should include a description of the conservation efforts employed and indicate the extent and monthly amount of the reduction in water use due to these water conservation efforts.

Authority: Sections 348, subdivision (a), 1058, 1840, and ~~1841~~1058, Water Code.

Reference: Sections 348, subdivision (a), 1010, 1011, ~~and 1011.5,~~ and 1846, Water Code.

§ 929. Reports of Licensee.

(a) As specified in section 847 of this title, water rights license holders are required to file reports when requested by the board. Annual reports required under this section are in addition to any specific reporting requirements in a water right license.

(b) Reports of licensee shall be filed annually within three months of the close of the twelve month reporting period ~~and not later than July of the next year succeeding the year of diversion~~ on forms available at the board's website. Provisional data and information may be used in the report of licensee if final data isare not available by the reporting deadline. If provisional streamflow data isare used in preparing the water use report of licensee, an amended report based on final streamflow data shall be filed within six monthsone month of the close of date the twelve month reporting period. Any reports not timely amended shall be deemed final streamflow data is available. The board may rely

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upon any report, including a report based on provisional data, until and unless a revised report is filed. A failure to file a licensee report is a violation of license terms.

(c) The annual reports shall include the following information:

(1) A statement affirming compliance or non-compliance with license terms and conditions;

(2) The amount of water diverted;

(3) The purpose(s) for which water is diverted and used. Use information to be provided includes:

(A) irrigation, including crop type and acreage;

(B) frost protection, including acres covered;

(C) heat control, including acres covered;

(D) industrial, including type of activity;

(E) stock watering, including number and type(s) of animals;

(F) municipal, including approximate population served, and seven digit public water system number or other identifier;

(G) domestic, including number of persons served, lawn or garden area, etc., and seven digit public water system number or other identifier, if applicable;

(H) power generation, including installed capacity in kilowatts, megawatts or horsepower;

(I) recreational, including boating, fishing or other water sports;

(J) additional uses not named above, including environmental use;

~~(4)~~ (4) Information on the device or method used to calculate the amount of water diverted.

~~(5)~~ (5) The amount of water taken from the source from each point of diversion in each month (or shorter ~~timeframeperiod~~ if otherwise required), including direct diversion amount, and amount collected to storage, and the total annual amount of water diverted, during the twelve month reporting period. Each month must contain an entry. If no diversion occurred in a given month, a "0" should be entered.

~~(5)~~ (6) The maximum rate of diversion achieved from each point of diversion at any time during each month (or shorter ~~timeframeperiod~~ if otherwise required) of the year, if available;

~~(6)~~ (7) For licenses that authorize collection of water to storage, the annual report shall also include the measurement data required to be collected ~~in~~ pursuant to section 933 of this chapter.

(d) If a substitute or alternative water supply, such as groundwater, contract water, or recycled water, is being used in lieu of surface water that is required to be reported under this report, the report should indicate the source and amount of substitute or alternative water used and the amount of surface water offset on a monthly basis.

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(e) If ~~the use of an alternative supply of water or any~~ water conservation efforts have resulted in a cessation or reduction in use of surface water, the report should include a description of the conservation efforts employed and indicate the extent and monthly amount of the reduction in water use due to these water conservation efforts.

Authority: Sections 348, subdivision (a), 1011, 1058, 1840, and 1841~~1058~~, Water Code.

Reference: Sections 348, subdivision (a), 1010, 1011, ~~and~~ 1011.5, and 1846, Water Code.

§ 930. Notices of Extraction and Diversion.

(a) Annual notices of groundwater extraction and diversion required pursuant to Part 5 of Division 2 of the Water Code shall be submitted to the board electronically, within six months after the close of the succeeding calendar year, on the forms available at the board's website. A failure to file an annual notice of groundwater extraction and diversion is considered non-use of water.

(b) The report shall include the following information:

- (1) Type of diversion;
- (2) Amount of groundwater extracted during the calendar year;
- (3) Amount of surface water diverted and used, if applicable;
- (4) Method of measurement;
- (5) Supplemental information, if applicable.

(c) Electronic reporting of groundwater extraction and diversion does not apply to those persons reporting to local oversight agencies pursuant to section 5009 of the Water Code.

(d) As specified in Section 1070 of this title, a filing fee is required. The fee must be submitted separately from the electronic report. Filing is not complete until the board receives the filing fee.

(e) If the use of an alternative supply of water or any water conservation efforts have resulted in a cessation or reduction in use, the report should indicate the extent and amount of the reduction in water use due to water conservation efforts.

Authority: Sections 348, subdivision (a), 1058, and 1529, Water Code.

Reference: Sections 1005.1, 1005.2, 1005.3, 1005.4, 1011, 1011.5, 1530, 4999, 5000, 5001, 5002, 5003, and 5004, Water Code.

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CH 2.8 MEASURING AND MONITORING

§931 Definitions—~~the~~. The following definitions apply to the terms as they are used in this Chapter.

(a) “Accuracy” means the measured volume relative to the actual volume, expressed as a percent, and determined at the same frequency as is specified for monitoring in section 933, subdivision (b) of this title. The percent shall be calculated as $100 \times (\text{measured value} - \text{actual value}) / \text{actual value}$.

(1) “Measured value” is the value indicated by the device or measurement method or determined through calculations, such as flow rate combined with duration of flow.

(2) “Actual value” is the value as determined through laboratory, design, or field testing protocols.

(b) “Board” means the State Water Resource Control Board

~~e~~

(c) “Delta” means the Delta as defined in section 12220 of the Water Code and the Suisun Marsh as defined in section 29101 of the Public Resources Code.

(d) “Deputy director” means the Deputy Director for the Division of Water Rights. ~~Within the Delta, as defined in section 12220 of the Water Code, the term “deputy director” means either the Deputy Director for the~~

(e) “Diverter” means:

(1) Any person authorized to divert water under a permit or license; or

(2) Any person required under Water Code, Division 2, Part 5.1 to file a Statement of Water ~~Rights~~ Diversions and Use; or

(3) Any person authorized to divert under a registration; or

(4) To the extent authorized by federal law, the ~~Delta Watermaster~~ federal government for rights claimed under permits, licenses, registrations, statements of water diversion and use, and non-reserved and reserved rights on file with the board.

~~d~~

(f) “Diverter with multiple claimed rights” means a diverter who diverts water under more than one of the following: permits, licenses, registrations, stockpond certificates, or statements of water diversion and use.

(g) “Executive director” means² the Executive Director of the board.

~~e~~

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(h) “Measurement method” means a method capable of ~~measuring~~accounting for the rate of direct diversion, rate of collection to storage, and rate of withdrawal or release from storage where the method is likely to achieve accuracy standards comparable to those of individual measuring devices as described in section 933 subdivision (d) of this chapter.

~~(f)~~

(i) “Measuring device” means a device by which a ~~water right holder~~diverter determines and records the numeric value of flow rate, velocity or volume of the water passing a designated and calibrated observation point during a specific time period. A measuring device may be a manufactured device, an on-site built device, or an in-house built device.

~~(g)~~

(j) “Place of use” means the legal location where water is used under the water right or claimed water right, subject to the following clarifications:

(1) For livestock stockpond registrations, as defined in section 1228.1, subdivision (b)(3) of the Water Code, the place of use is the stockpond.

(2) For recreational ponds, the place of use is the pond.

(3) For other ponds or reservoirs, the deputy director may designate the pond or reservoir as the place of use for the purposes of compliance with this chapter.

(4) For instream flow beneficial uses and wetland preservation and enhancement dedications, the place of use is the designated reach of the stream or the wetland area where the water is applied to beneficial use.

(k) “Point of diversion” means the legal location where water is diverted from its source.

(l) “Qualified individual” means:

(1) For diversions greater than or equal to 100 acre-feet per year:

(A) A California-registered Professional Engineer; or

(B) A California-licensed contractor authorized by the State License Board for C-57 well drilling or C-61 Limited Specialty/D-21 Machinery and Pumps; or

~~(B) a California-registered Professional Engineer.~~

~~(C) a professional subject to oversight by~~(C) A person under the supervision of a California-registered Professional Engineer and employed to install, operate, and maintain water measurement and reporting devices or methods; or

(D) In the case of a right or a claimed right to divert by an agency of the federal government, a hydrologist or professional engineer experienced and trained in water measurement who is employed by the federal agency in that capacity.

(2) For diversions less than 100 acre-feet per year, a person trained and experienced in water measurement and reporting. This may include the ~~water right holder~~diverter or the ~~water right holder’s~~diverter’s agent.

~~(h)~~

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(m) “Threatened, endangered, or fully protected fish” means a population of fish that belong to a species listed as threatened or endangered pursuant to the Endangered Species Act, (16 U.S.C. §§ 1531-1544), or the California Endangered Species Act, (Fish & Game Code, §§ 2050-2097) or fully protected pursuant to Fish & Game Code, § 5515.

(n) “Twelve month reporting period” has the same meaning as in section 907, subdivision (ee) of this title.

~~(i)~~

(o) “Type of measuring device” means a class of measuring devices manufactured or built to perform similar functions. For example, inline flow meters, submerged orifice gates, and rectangular, v-notch, and broad crested weirs are types of measuring devices.

Authority: Sections 1058, 1840, and 1841, Water Code.

~~(j) “Water right holder” means:~~

~~_____ (1) Any person authorized to divert water under a permit or license; or~~

~~_____ (2) Any person required under Water Code Part 5.1 to file a Statement of Water~~

~~Diversions and Use; or~~

~~_____ (3) Any person authorized to divert under a registration; or~~

~~_____ (4) To the extent authorized by federal law, this chapter applies to the federal government and any reports filed by the federal government for rights claimed under permits, licenses, registrations, statements of water diversion and use, stockpond certificates, and non-reserved and reserved rights on file with the board.~~

~~Authority: Sections 1058, 1840, and 1841, Water Code.~~

Reference: Sections 13 and 5103, Water Code.

§931.5 Authority of the Delta Watermaster.

The Delta Watermaster may exercise all powers assigned to the deputy director under this chapter for any point of diversion located within the Delta. The deputy director may exercise these powers within the Delta during a vacancy in the position of Delta Watermaster or as authorized by the Delta Watermaster.

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 85230, Water Code.

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§932 Applicability.

(a) Except as provided in subdivision (d), the following ~~water right holders~~diverters shall install and maintain a measuring device or employ a measurement method capable of measuring the rate of diversion, rate of collection to storage, the rate of withdrawal or release from storage, and the total volume of water diverted or collected to storage:

~~_____~~(1) Any person authorized to divert greater than 10 acre-feet of water per year under a permit or license.

~~_____~~(2) Any person who has previously diverted or intends to divert greater than 10 acre-feet of water per year and is required under Water Code Part 5.1 to file a Statement of Water Diversions and Use.

~~_____~~(3) Any person authorized to divert greater than 10 acre-feet of water per year or to have a storage facility with a capacity greater than 10 acre-feet under a registration.

~~(b) Determination of Diversion Threshold for Requiring Measurement—the determination of whether a diversion meets the threshold for required measurement (stated in subsection (a) of this section or as adopted in accordance with subsection (d) of this section) shall be made by the deputy director. When making such a determination, the deputy director shall consider:~~

~~(1) Multiple points of diversion for a water right used by the same person or serving the same place and purpose of use.~~

~~(2) Multiple water rights with shared point or points of diversion.~~

(b) A diverter with multiple claimed rights shall install and maintain a measuring device or employ a measurement method for all water rights serving the same place of use if the sum of the diverter's multiple claimed rights serving the place of use exceeds 10 acre-feet per year, or exceeds such other measurement threshold as the deputy director may establish under subdivision (d) of this section. Measurement methods employed by a diverter with multiple claimed rights shall be capable of measuring the rate of diversion, rate of collection to storage, the rate of withdrawal or release from storage, and the total volume of water diverted or collected to storage.

(c) Effective Dates.

(1) The deadlines for the installation and certification of measuring devices or ~~the adoption of a measurement~~ method shall be:

~~(1A)~~ On or before July 1, 2016, for a ~~water right holder~~diverter with a right or a claimed right to divert 1000 acre-feet of water per year or more.

~~(2B)~~ On or before January 1, 2017, for a ~~water right holder~~diverter with a right or a claimed right to divert 100 acre-feet of water per year or more.

~~(3C)~~ On or before January 1, 2018, for a ~~water right holder~~diverter with a right or a claimed right to divert greater than 10 acre-feet of water per year.

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(2) For a diverter with multiple claimed rights, the deadlines for the installation and certification of measuring devices or methods shall be as follows for each point of diversion or place of use shared by multiple claimed rights:

(A) On or before July 1, 2016, where the sum of all the multiple claimed rights to divert from the same point of diversion or to serve the same place of use is 1000 acre-feet of water per year or more.

(B) On or before January 1, 2017, where the sum of all the multiple claimed rights to divert from the same point of diversion or to serve the same place of use is 100 acre-feet of water per year or more.

(C) On or before January 1, 2018, where the sum of all the multiple claimed rights to divert from the same point of diversion or to serve the same place of use is greater than 10 acre-feet of water per year.

(D) In the event of any conflict between deadlines for a diverter with multiple claimed rights, the more stringent requirement shall control.

(d) Increasing the Measurement Threshold.

(1) Beginning January 1, 2017, ~~the executive~~ the deputy director may issue orders to increase the 10 acre-feet reporting threshold of subdivision (a) in a watershed or subwatershed incrementally to or above 25 acre-feet. The ~~executive~~ deputy director may authorize an increased reporting threshold after:

(A) Considering the total monthly quantities of water diverted in relation to the monthly quantity of water available within the watershed or subwatershed; the requirements of any policy, decision or order of the board or a court; and the need for diversion and bypass information to evaluate impacts ~~to public trust resources~~ from the diversions of water to public trust resources. The deputy director may require submission of documentation on the nature and scope of diversions in the watershed prior to acting on any request; and

(B) Reviewing any relevant information submitted by affected ~~water right holders~~ diverters, federal, state, local, or tribal governments, or other interested parties regarding a proposed increase in reporting threshold; and

(C) Determining the benefits of the additional reporting information at a specific reporting threshold are substantially outweighed by the cost of installing measuring devices or employing methods for measurement.

~~(D) The executive~~ (D) Determining that there are no documented fishery concerns.

(2) The deputy director shall not increase the measurement threshold in a watershed or subwatershed above those established in any other regulation, policy, decision, order or other legal requirement adopted by the board, a Regional Water Quality Control Board, or a court, unless the change is authorized by previous requirements.

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~~(2)(3)~~ The ~~executive~~deputy director may review each proposal to increase the reporting threshold on a case-by-case basis.

(34) The ~~executive~~deputy director may authorize an increased reporting threshold for a period not to exceed five years. If changing conditions warrant, the ~~executive~~deputy director may modify or cancel any such authorization.

(45) The ~~executive~~deputy director shall maintain a list of reporting thresholds for watersheds or subwatersheds greater than 10 acre-feet.

(56) A decision or order issued under this section by the ~~executive~~deputy director is subject to reconsideration under article 2 (commencing with section 1122) of chapter 4 of part 1 of division 2 of the Water Code.

(e) Other Measurement and Monitoring Requirements.

(1) Any person with a water right identified in or subject to a statute, order, policy, regulation, decision, judgment or probationary designation of the board, a Regional Water Quality Control Board, or a court is responsible for meeting the terms and conditions of the statute, order, policy, regulation, decision or judgment and the requirements of this Chapter. If there is any conflict or inconsistency between the measurement and monitoring requirements subject to the statute, order, policy, regulation, decision, judgment or probationary designation and the requirements of this Chapter, the more stringent requirement or requirements shall control in each instance.

(2) A permit, license, or registration holder is responsible for meeting the conditions of the permit, license, or registration and the requirements of this Chapter. If there is any conflict or inconsistency between the permit, license, or registration condition for measurement and monitoring and the requirements of this Chapter, the more stringent requirement or requirements shall control in each instance.

(f) Failure to maintain a measuring device, employ a measurement method, or implement an alternative compliance plan in accordance with the requirements of this chapter is a violation subject to civil liability of up to \$500 per day pursuant to Water Code section 1846.

Authority: Sections 1058, 1840, and 1841, Water Code.

~~Authority: Sections 1058, 1840, and 1841, Water Code.~~

Reference: Sections 13, 1122, 1123, 1846, and 5103, Water Code.

§933 Measuring Device Requirements.

(a) Measurement Options. A ~~water right holder~~diverter may choose any measuring device, or combination of devices, that ~~meets~~meet the requirements of this section.

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(b) Data

(1) Data Recording. The measuring device shall be capable of recording the date, time, and at least one of the following: total volume of water diverted, flow rate, water velocity, or water elevation. The data shall be recorded in a format retrievable and viewable using Microsoft ~~Xeel~~Excel, Microsoft Access, or other software program authorized by the ~~Deputy Director~~deputy director. The measuring device shall be capable of recording the required information as follows:

(A) For direct diversion:

~~(i-)~~ On an hourly or more frequent basis for a ~~water right holder~~diverter with a right or a claimed right to divert 1000 acre-feet of water per year or more.

~~(ii-)~~ On a daily or more frequent basis for a ~~water right holder~~diverter with a right or a claimed right to divert 100 acre-feet of water per year or more.

~~(iii-)~~ On a weekly or more frequent basis for a ~~water right holder~~diverter with a right or a claimed right to divert more than 10 acre-feet of water per year.

~~(B)~~ For direct diversion by a diverter with multiple claimed rights:

(i) On an hourly or more frequent basis, where the sum of the diversions made under the claimed rights from the same point of diversion or to serve the same place of use is 1000 acre-feet of water per year or more.

(ii) On a daily or more frequent basis, where the sum of the diversions made under the claimed rights from the same point of diversion or to serve the same place of use is 100 acre-feet of water per year or more.

(iii) On a weekly or more frequent basis, where the sum of the diversions made under the claimed rights from the same point of diversion or to serve the same place of use is greater than 10 acre-feet of water per year.

(iv) In the event of any conflict between recording requirements for a diverter with multiple claimed rights from the same point of diversion or to serve the same place of use, the more stringent requirement shall control.

(C) For storage in a reservoir or pond:

~~i.~~ (i) On an hourly or more frequent basis for a reservoir or pond with a storage capacity of 1000 acre-feet or more.

(ii) On a daily or more frequent basis for a reservoir or pond with a storage capacity of 200 acre-feet or more.

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~~ii.(iii)~~ On a weekly or more frequent basis for a reservoir or pond with a storage capacity of 50 acre-feet or more ~~but~~ and less than 200 acre-feet.

~~iii.(iv)~~ On a monthly or more frequent basis for a reservoir or pond with a storage capacity of greater than 10 acre-feet and less than 50 acre-feet.

(v) In the event of any conflict between recording requirements for a diverter with multiple claimed rights to divert to storage in a reservoir or pond, the more stringent requirement shall control.

(2) Data Submittal.

(A) Each ~~water right holder~~diverter to which a measurement requirement applies shall submit the data from each measuring device to the board as required by chapter 2.7 of division 3 of this title, and within 30 days of any request or order by the board.

~~(B) By January 1, 2020, a water right holder who either diverts more than 10,000 acre-feet annually or, on a monthly basis diverts more than 50 percent of the monthly median flow of the watershed (Hydrologic Unit Code (HUC) 10 as shown on the Division's eWRIMS database) where the diversion is located shall provide real-time telemetered diversion data via a public website that displays the data on at least a daily bases, that is updated weekly, at minimum. The data shall be provided to the board upon the request of the executive director in a format retrievable and viewable using Microsoft Excel, Microsoft Access, or other software program authorized by the deputy director.~~

~~(C)~~(B) For a reservoir subject to drawdown and refill during the collection to storage season, or that is otherwise operated in a cyclical manner, the maximum and minimum water surface elevations, the corresponding reservoir volume, and the monitoring dates shall be measured and the resulting data maintained.

~~(D)~~(C) For each reservoir, if water is diverted or flows into the reservoir under more than one ~~basis~~bases of right, including groundwater or water purchased under a contract, the amounts reported to the board shall be limited to the amounts covered by the water right being reported. A record of the alternative supplies entering the reservoir throughout the year shall be maintained to demonstrate that water stored is under a separate basis of right or contract.

(3) Data Retention. Each ~~water right holder~~diverter shall keep records of the data from each measuring device for a period of no less than 10 years.

(4) Telemetry Requirements.

(A) This paragraph applies to any diverter who:

(i) Diverts more than 10,000 acre-feet annually; or

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(ii) Owns or operates a reservoir or pond with a storage capacity of 10,000 acre-feet or more; or

(iii) Diverts during the period June 1 through September 30:

(a) Directly diverts more than 30 cubic feet per second at any time; or

(b) Has claimed water right(s) to more than 20 percent of historic calculated mean monthly stream flow as measured by a stream gage with publically available records maintained by the U.S. Geological Survey, the California Department of Water Resources, or the board; and

(1) Threatened, endangered, or fully protected fish species are present or have historically been present; or

(2) The diversion is made from a stream that is part of the board's North Coast Instream Flow Policy area; or

(3) The diversion is made from Deer Creek, Mill Creek or Antelope Creek watersheds of the Sacramento River watershed; or

(4) in the Maacama Creek, Green Valley Creek, Mill Creek or Dutch Bill Creek watersheds of the Russian River watershed.

(B) This paragraph applies to all rights, claimed rights, or combinations of rights and claimed rights to divert from a shared point of diversion if the sum of such rights or claimed rights meets the criteria of subparagraph (A) of this paragraph.

(C) By January 1, 2020, diverters subject to subparagraphs (A)(i) and (A)(ii)(a) of this paragraph shall provide telemetered diversion data via a public website that displays the data on at least a daily bases, that is updated weekly, at minimum. For diverters subject to subparagraph (A)(ii)(b), the executive director may establish the appropriate date for telemetering after notice and opportunity for comment. The data shall be provided to the board upon the request of the executive director in a format retrievable and viewable using Microsoft Excel, Microsoft Access, or other software program authorized by the deputy director.

(c) Calculating Volume from Recorded Data. If a measuring device measures the flow rate, water velocity, or water elevation, and does not report the total volume of water diverted or delivered, the ~~water right holder~~diverter shall report the conversion method used to convert the measured value to volume. The conversion method shall be approved by a qualified individual.

—(1) For a measuring device that measures flow-rate, the report shall describe protocols used to record the duration of operation where volume is derived by the following formula: Volume = (flow rate) x (duration).

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~~—(2) For a measuring device that measures flow velocity only, the report shall describe protocols used to determine the cross-sectional area of flow and the duration of operation, where volume is derived by the following formula: Volume = (velocity) x (cross-section flow area) x (duration).~~

~~—(3) For a measuring device that measures water elevation at the device (e.g. flow over a weir or differential elevation on either side of a device), the report shall describe protocols used to derive flow rate at the measuring device and the method or formula used to derive volume from the measured elevation value(s).~~

(d) Required Accuracy. The accuracy for each measuring device applies to the volume diverted or stored.

(1) A measuring device installed on or before January 1, 2016, shall be certified to be accurate to within ± 15 percent by volume.

(2) A measuring device installed or replaced after January 1, 2016 that is used to measure the diversion ~~or bypass~~ of water shall be certified to be accurate to within:

(A) ± 5 percent by volume in the laboratory if using a laboratory certification.

(B) ± 10 percent by volume in the field if using a non-laboratory certification for a water right holder diverter with a right or a claimed right greater than or equal to 100 acre-feet per year.

~~—(C) ± 15 percent by volume in the field if using a non-laboratory certification for a water right holder diverter with a right or a claimed right greater than or equal to 10 acre-feet per year.~~

(3) A measuring device installed or replaced after January 1, 2016 that is used to measure the water stored in a reservoir or pond shall be certified to be accurate to within:

~~—(A) ± 10 percent by volume in the field for a reservoir or pond with a storage capacity of 200 acre-feet or more.~~

~~—(B) ± 15 percent by volume in the field for a reservoir or pond with a storage capacity greater than 10 acre-feet and less than 200 acre-feet.~~

(e) Certification of ~~Measuring Device~~ Accuracy. The accuracy of a measuring device shall be initially certified and documented as follows:

(1) For a measuring device installed prior to January 1, 2016, the accuracy required shall be initially certified and documented by field-testing performed by an individual trained in the use of relevant field-testing equipment. The results from the field testing shall be documented in a report approved by a qualified individual and shall be filed with the next subsequent water use report.

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(2) For a measuring device installed or replaced after January 1, 2016, the accuracy shall be initially certified and documented by either:

(A) Laboratory certification prior to installation of a measuring device as documented by the manufacturer or an entity, institution or individual that tested the device following relevant industry-established protocols. Documentation shall include the manufacturer's literature or the results of laboratory testing of an individual measuring device or type of measuring device; or

(B) Non-laboratory certification after the installation of a measuring device in the field, as documented by either:

(i) The affidavit or declaration of a qualified individual documenting the design and installation of the measuring device at a specified location; or

(ii) A report approved by a qualified individual documenting the field-testing performed on the installed measuring device by an individual trained in the use of field testing equipment.

(f) Protocols for Field-Testing and Field-Inspection and Analysis. Field-testing shall be performed for a measuring device according to the manufacturer's recommendations or design specifications and be overseen by a qualified individual. Field inspection and analysis protocols shall be performed and the results shall be approved by a qualified individual for each measuring device to demonstrate the following:

(1) The design and installation standards used for each measuring device meets the accuracy standards of subdivision (d) of this section; and

(2) The operation and maintenance protocols will ensure compliance with the accuracy standards of subdivision (d) of this section.

(g) Installation, Maintenance and Performance Requirements. A measuring device shall be installed, maintained, operated, inspected, and monitored to ensure the accuracy standards of subdivision (d) of this section are met. The installation of a measuring device shall be performed by a qualified individual.

(h) Calibration. The measuring device shall be calibrated by a qualified individual upon installation and at least once every ~~three~~five years thereafter. The ~~water right holder~~diverter shall be responsible for more frequent calibration of measuring device(s) as necessary to ensure the accuracy requirements of subdivision (d) of this section are met.

(i) Measuring Device Location. No delivery or use of water shall occur between the point of diversion and the location of the measuring device, unless otherwise measured.

(j) Accessibility. The measuring device shall be installed in a manner such that it is readily accessible for reading, inspection, testing, repair or replacement. The ~~water right holder~~diverter

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shall make the measurement device reasonably available for inspection by an authorized representative of the board upon request. The ~~water right holder~~diverter shall provide the board's representative with reasonable access to inspect the measuring device. Failure to provide such reasonable access is a violation of this regulation.

(k) Verification of Measuring Device. The board may conduct a field inspection or request additional information from the ~~water right holder~~diverter to determine if the measuring device has been properly installed and meets the requirements of this section. Failure to timely install a measuring device or verify its accuracy is a violation of this regulation.

(l) Inadequate Measuring Device. If a measuring device fails to meet the accuracy requirements of subdivision (d) of this section, the ~~water right holder~~diverter shall repair or replace the measuring device at their own expense to meet such requirements.

(1) Notification. A ~~water right holder~~diverter shall timely notify the board in writing upon detecting that the holder's measuring device does not comply with the accuracy requirements of subdivision (d) of this section. The notification shall include the ~~water right holder's~~diverter's plan to take appropriate, timely corrective action to comply with the accuracy requirements of subdivision (d) of this section.

(2) Enforcement. Failure to timely repair or replace a measuring device that does not comply with the accuracy requirements of subdivision (d) of this section is a violation of this regulation.

(m) Lawful authority. Nothing in this section shall be construed to limit or modify the board's authority to obtain information under any other lawful authority.

Authority: Sections 183, 1051, 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1846, and 5103, Water Code.

§934 Measurement Method.

(a) A measurement method is a protocol for measuring water diversions, other than through a measuring device at each authorized point of diversion, where the method ~~is found by the deputy director to reasonably achieve~~achieves the accuracy requirements of subdivision (~~de~~) of this section. The board encourages ~~water right holders~~diverters on a local or regional basis to cooperate and establish a measurement method or methods to measure direct diversion, diversion to storage, and withdrawal or release from storage in an efficient and cost effective manner which meets the accuracy requirements of subdivision (~~de~~) of this section. Any measurement method must be able to quantify the amount of water diverted under all separate priorities of rights being exercised. If the claimed water rights included in a measurement method have

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different requirements under section 933, the more stringent requirement shall control for all of the claimed water rights covered by the measurement method.

~~(a) Request~~ (b) Minimum Standards for Measurement Method.

~~—(1) Form and Content. A Request for Approval of~~ A Measurement Method shall be prepared by a California-registered Professional Engineer.qualified individual. The requestmeasurement method submittal shall describe how the measurement method will meet the requirements of this Chapterchapter and include, at a minimum, the following information:

~~_____~~ (A) Name and contact information of all participants, including designation of a manageran agent to serve as the primary contact person.

~~_____~~ (B) MapTopographic or aerial map(s) showing location of participants and covered lands (including all assessor parcel numbers). The map shall conform to the mapping requirements of article 7 of chapter 2 of division 3 of this title.

~~_____~~ (C) Description of the measurement method, including how the method will be capable of measuring the volume of water diverted, rate of direct diversion, rate of collection to storage, and rate of withdrawal or release from storage.

~~_____~~ (D) Documentation required under subdivision (df) of this section verifying the accuracy of the measurement method.

~~_____~~ (E) A detailed description of how installing and maintaining a measuring device at each point of diversion is not feasible, would be unreasonably expensive, would unreasonably affect public trust resources, or would result in the waste or unreasonable use of water.

~~_____~~ (F) Description of the permitted, licensedpermits, licenses, registrations, certificates and water right claims covered by the measurement method including for each individual right: file number, owner name, water right type, priority of diversion, monthly and annual diversion amounts, place of use, purpose of use, and alternative sources of water.

~~_____~~ (G) Evaluation of public trust needs including minimum in stream flows and water quality concerns or bypass requirements of any of the water rights involved.

~~_____~~ (H) Evaluation of enterprise income of the water users if claiming installing and maintaining measuring and monitoring devices would be unreasonably expensive.

(F) Description of how the measurement method will account for each priority of right during periods of insufficient supply.

~~(2) Action by the deputy director. Only complete forms accompanied by maps will be accepted for review. No action will be taken on incomplete requests.~~

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~~(A) The measurement method will be reviewed and, if found to reasonably meet the purposes of this section, authorized by the~~ deputy director. may review measurement methods at the deputy director's discretion, and may reject measurement methods that fail to meet the requirements of this section. A measurement method may be conditionally authorized if it meets the requirements of this Chapter.

~~(B) A measurement method shall not be authorized for any project with an existing or prior gage, or where any requirement of any contract, policy, order, decision, judgment, determination, or other regulatory requirement of the board, a Regional Water Quality Control Board, other state or federal agency, or a court requires that diversions be gaged~~ measured by a measuring device at each point of diversion. A measurement method shall not be authorized for any project where it can reasonably be interpreted that gaging a measuring device at each point of diversion is necessary to meet such regulatory requirements.

~~(3) Initial Term and Renewal. The deputy director may authorize deadlines for the adoption of a measurement method for~~ shall be in accordance with subdivision (c) of section 932 of this title.

(c) Shared Measurement Point Upstream of the Delivery Point or Farm Headgate. A group of diverters may measure water diverted at a period not to exceed five years. Any request location upstream of their respective delivery points or farm headgates or at shared points of diversion if a written agreement is in place for renewal shall be on a form available on the board's website, and the diverters to share a measuring device located at the shared point of diversion. Diverters using a shared measuring device under this subdivision shall not report the following additional information to the board on an annual basis:

(1) The methodology used to apportion the volume of water delivered from the shared point of diversion to each downstream diverter, including how water will be deemed complete unless the accuracy of the apportioned by priority during periods of insufficient supply.

(2) The field or flow condition at each individual diverter's delivery point downstream of the point of measurement method has been reviewed including the duration of water delivery to the individual diverter, annual water use patterns, irrigated acreage (including GIS map showing assessor's parcel number and USDA field identification number), crops planted, on-farm irrigation system, and re-certified by a California registered Professional Engineer. other relevant distinctions in beneficial uses and water management practices.

~~(b)~~ (3) Consumptive use of water for each individual diverter.

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(d) Data

(1) Data Recording. The measurement method shall be capable of ~~recording~~reporting the date, time, and total amount of water diverted in accordance with the requirements of subdivision (b) of section 933 ~~subdivision (b)~~ of this title. The data shall be recorded in a format retrievable and viewable using Microsoft Xcel, Microsoft Access, or other software program authorized by the deputy director.

(2) Data Submittal. Each ~~water right holder~~diverter or claimant shall submit data from the measurement method to the board pursuant to chapter 2.7 of division 3 of this title, or within 30 days of request of the ~~board~~deputy director. Water use data for each twelve month reporting period shall be submitted on a form available on the board's website with the appropriate water use report including a Progress Report by Permittee, Report of Licensee, Supplemental Statement of Water Diversion and Use, and Water Use Reports of Registration and Certificate Holders.

(ee) Required Accuracy. The accuracy of the measurement method to determine the volumes of water diverted, diverted to storage, and withdrawn or released from storage shall reasonably achieve accuracy standards comparable to the standards listed in ~~section 933~~-subdivision (d) of section 933 of this title for individual measuring devices. The accuracy of the measurement method shall be determined by a ~~California-registered Professional Engineer~~qualified individual.

(df) Certification of Measurement Method Accuracy. The accuracy of a measurement method shall initially be certified and documented by field-testing performed by an individual trained in the use of relevant field-testing equipment. The results from the field testing shall be documented in a report approved by a ~~California-registered Professional Engineer~~qualified individual and shall be filed with the subsequent water use report. When the measurement method applies to water diverted for agricultural use, the certification shall be based on a statistically significant number of sampling points based on field size, include field testing and measurement during multiple phases of the crop-growth cycle, include all factors which influence water consumptive use demands, and calculate tailwater return flows. Field notes, calculations, and other materials used in the certification shall be included in the report.

~~(e) Shared Measurement Point Upstream of the Delivery Point or Farm Headgate. A group of water right holders may measure water diverted at a location upstream of their respective delivery points or farm headgates or at shared points of diversion if an agreement accepted by the deputy director is in place for the water right holders to share a measuring device located at the shared point of diversion. Water right holders using a shared measuring device under this subdivision shall report the following additional information to the board on an annual basis:~~

~~(1) The methodology used to apportion the volume of water delivered from the shared point of diversion to each downstream water right holder.~~

~~(2) The field or flow condition at each individual water right holder's delivery point downstream of the point of measurement including the duration of water delivery to the individual water right holder, annual water use patterns, irrigated acreage (including GIS map~~

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~~showing assessor's parcel number and USDA field identification number), crops planted, on-farm irrigation system, and other relevant distinctions in beneficial uses and water management practices.~~

~~(3) Any differences in consumptive use of water among the individual water right holders.~~

(fg) Operation and Performance Requirements. A measurement method shall be operated and maintained to ~~ensure~~meet the accuracy standards of subdivision (ee) of this section ~~are met~~. Field testing and re-analysis that the measurement method meets the requirements of this section shall be performed by a ~~California-registered Professional Engineer~~qualified individual upon installation, and at least once every ~~three~~five years thereafter.

(gh) Inadequate Measurement Method. If a measurement method fails to meet the accuracy standards of subdivision (ee) of this section ~~or the conditional approval by the deputy director~~, the measurement method shall be corrected to ~~ensure it complies~~comply with ~~these requirements~~such standards.

(1) Notification. The ~~water right holders~~diverters employing a measurement method shall notify the board in writing within 30 days of finding a measurement method does not comply with the accuracy standards of subdivision (ee) of this section ~~or the conditional approval by the deputy director~~. The notification shall include a plan to take appropriate, timely corrective action.

~~-(2) Enforcement.~~ Failure to correct defects or to ensure the measurement method complies with the accuracy standards of subdivision (ee) of this section is a violation of this regulation.

(3) Measuring Devices Required. If defects in the measurement method are not timely corrected, measuring devices shall be installed at each point of diversion previously covered by a measurement method within 90 days ~~of notification from the board that such measurement method has been deemed inadequate~~.

~~Authority: Sections 1058, 1840, and 1841, Water Code.~~

(i) Measurement Method Duration and Renewal.

(1) An measurement method may remain in effect for a period of not more than five years, commencing from the effective date applicable to diversions subject to the plan pursuant to subdivision (c) of section 932 of this title.

(2) A diverter may renew a measurement method by resubmitting it, with or without amendment, before the method expires.

(3) The deputy director may reject a measurement method renewal for failure of the diverter(s) to implement a previous method or for failure to achieve the required accuracy. Incomplete method submittals, submittals that do not meet the minimum

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standards of this section, and lapses in measurement methods shall not relieve a diverter of the requirement to fully comply with sections 933 and 934 of this chapter.

(j) Measurement methods submitted in accordance with the provisions of this section shall be timely implemented.

Authority: Sections 183, 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1846, and 5103, Water Code.

§935 Alternative Compliance for a Measuring Device or Measurement Method Requirement.

~~_____ (a) The deputy director may consider alternative compliance to one or more of the requirements of section 933 and section 934 of this title upon finding that strict compliance is not feasible, would be unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water.~~

~~_____ (b) The deputy director may authorize alternative compliance for a specific measuring device or measurement method, for a type of measuring device, or for similar measurement methods.~~

~~_____ (c) Request from a Water Right Holder for Alternative Compliance. A water right holder may file a request alternative compliance with the deputy director.~~

~~(1) The request shall be filed electronically on a form available on the board's website.~~

~~(2) The request shall describe how strict compliance with one or more of the requirements of section 933 and/or section~~

(a) Alternative Compliance – Generally. In circumstances where strict compliance with sections 933 or 934 of this title is not feasible, would be unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water, a diverter may submit an alternative compliance plan.

~~(3) The request~~

(b) Minimum Standards – an alternative compliance plan under subdivision (a) shall describe meet the following minimum standards:

(1) The plan shall include the following information:

(A) The name and contact information for all diverters covered by the plan;

(B) The name and contact information for the person designated to represent all diverters covered by the plan in matters before the board;

(C) Identification of each individual water right type and priority covered by the plan;

Note: Proposed additions to the California Code of Regulations are shown in underline. Proposed deletions are shown in strikethrough

PROPOSED EMERGENCY REGULATION FOR MEASURING AND REPORTING

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(D) A detailed description of the area served by the plan, including all points of diversion whether used or not used, all methods of diversion, any conveyance systems, all beneficial uses of water, and all acreage served;

(E) The assessor's parcel numbers and ownership within the area covered by the plan;

(F) Identification of the proposed measurement frequency;

(G) Identification of the proposed measurement methodology;

(H) Topographic maps or aerial photographs of the area covered by the plan that show the separate places of use authorized to be served by claimed water rights covered by the plan and showing the acreage served;

(I) An implementation schedule, including date-specific, objective milestones of plan implementation from date of filing through final implementation, including the estimated milestones for acquiring permits required for plan implementation and the estimated milestones for compliance with the California Environmental Quality Act, if required;

(J) Budget for implementation of the plan and the source of financing for the plan, and if funding is received from a federal, state, or local agency, the confirmation the agency's confirmation that the financing will cover the plan during its implementation schedule;

(K) A list of any permits required for plan implementation, the agencies that will issue the permits, and expected dates for issuance;

(L) An affirmation, signed by all diverters covered by the plan, that the plan will be implemented in accordance with the schedule contained therein and that all of their diversions under claimed water rights covered by the plan will not be exercised outside the scope of the plan.

(2) The plan shall include an explanation and substantiating documentation of how ~~the proposal is a reasonable alternative to one or more~~ each of the requirements of sections 933 and 934 will be complied with. Absent substantiating documentation showing cause to reduce the standard for compliance with each subdivision of sections 933 and 934, the plan shall state how compliance will be achieved.

(3) The plan shall provide detailed documentation establishing and supporting the specific basis for claiming that strict compliance with this chapter is not feasible, would be unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water. Any claim that strict compliance is unreasonable expensive shall be accompanied by a cost analysis.

(4) The plan shall include a certification that the compliance with this chapter has been met. Certification may be made by a qualified individual.

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(c) Filing of Alternative Compliance Plan.

(1) The alternative compliance plan shall be filed no later than the compliance deadline applicable to the diverter(s)' claim(s) of right under subdivisions (b) and (c) of section ~~933~~ and/or ~~934~~ 932 of this title.

~~(4)~~ (2) The alternative compliance plan shall be filed electronically on a form available on the board's website.

(3) The alternative compliance plan shall be filed under penalty of perjury.

(d) Diverters under an alternative compliance plan shall report on plan implementation. Documentation of compliance with the timelines and other elements of the alternative compliance plan shall be filed with the applicable annual report under chapter 2.7 of this title.

(e) All plans submitted in accordance with the provisions of this section shall be timely implemented in accordance with the schedule contained therein.

(f) Interpretation of whether a plan substantially complies with subdivisions (a), (b), or (d) of section 933 of this title is at the discretion of the deputy director. The deputy director may ~~review each request~~ make such determinations for ~~alternative compliance on a case-by-case basis.~~ a plan, group of substantially similar plans, or group of plans for substantially similar projects.

(g) Alternative compliance ~~proposals~~ plans received pursuant to this section will be posted on the board's web site, and provide opportunity for comment by any interested parties.

(h) The deputy director ~~may be conditionally approved:~~

~~(5) The deputy director may require a water right holder to submit annual reports or a~~ (1) Audit any plan or any element of a plan for compliance ~~plan to ensure~~ with this chapter;

(2) Require submission of evidence of plan implementation in accordance with the ~~conditions of approval of~~ schedule therein;

(3) Require changes or modification to any plan or plan component necessary to achieve compliance with this chapter,

(4) Require that any defect in a plan be corrected within a reasonable time; and

(5) Reject any plan that fails to meet the requirements of this chapter.

(j) A decision or order issued under subdivision (h) of this section is subject to reconsideration under article 2 (commencing with section 1122) of chapter 4 of part 1 of division 2 of the California Water Code, and all applicable sections of this title.

(k) Plan Duration and Renewal.

(1) An alternative compliance ~~are met~~ plan may remain in effect for a period of not more than five years, commencing from the effective date applicable to diversions subject to the plan pursuant to subdivision (c) of section 932 of this title.

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~~Authority: Sections 1058, 1840, and 1841, Water Code.~~

(2) A diverter may renew an alternative compliance plan by resubmitting it, with or without amendment, before the plan expires.

(3) The deputy director may reject a plan renewal for failure of the diverter to implement a previous plan according to its schedule, or for failure of a previous plan to achieve the required accuracy. Incomplete plans, plans that do not meet the minimum standards of this section, and lapses in plans shall not relieve a diverter of the requirement to fully comply with sections 933 and 934 of this chapter.

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1846, and 5103, Water Code.

§936 Request for Additional Time.

~~A water right holder~~

(a) A diverter may submit a request for additional time to comply with the provisions of this Chapter on a form available on the board's website. ~~Additional time may be granted by the deputy director upon a showing of good cause.~~ The additional time granted by the Deputy Director shall not exceed 24 months, ~~combined, under all per extension requests.~~

~~Authority: Sections 1058, 1840, and 1841, Water Code.~~

(b) Approval of a time extension request is contingent on the following:

(1) Financial considerations shall be considered only in cases where the diverter has requested agency funding, and is awaiting grant or loan award.

(2) Extensions based on other considerations are limited to:

(A) minimum time needed to access site due to weather conditions; or

(B) minimum time needed to obtain other agency permits; or

(C) minimum time needed to comply with construction time periods set in other agency permits; or

(D) unforeseen circumstances.

(c) All time extension requests shall be accompanied by documentation of grant or loan request or agency permit requests, as applicable. Funding and/or permit approval documents shall be submitted to the deputy director within 30 days of receipt. Time extension requests based on unforeseen circumstances must be accompanied by a showing of good cause and a showing that

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all reasonable efforts have been made to comply with the timelines established in the subdivision (c) of section 932 of this title.

(d) All time extension requests must be accompanied by a plan documenting the additional time needed to comply with the provisions of this chapter. The plan shall describe the interim measurement practices the diverter will implement while diligently pursuing compliance with this Chapter.

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1846, and 5103, Water Code.

§937 Report of Water Measuring Device.

(a) Report - Filing Requirements. A report of water measuring device shall be filed electronically on a form available on the board's website.

~~_____~~(1) For measuring devices installed on or before January 1, 2016, a ~~water right holder~~diverter shall submit a report of water measuring device to the board ~~on or before July 1, 2016~~with the next subsequent water use report.

~~_____~~(2) For measuring devices installed after January 1, 2016, a ~~water right holder~~diverter shall submit a report of water measuring device to the board with the first water use report submitted after installation of the device.

~~_____~~(3) After the initial report has been submitted, the ~~water right holder~~diverter shall provide the board with a Report of Water Measuring Device ~~or Measurement Method~~ at five year intervals.

~~_____~~(4) The ~~water right holder~~diverter shall submit a report of water measuring device to the board within 30 days of installation or calibration of a new or replacement measuring device.

~~_____~~(5) The ~~water right holder~~diverter shall submit a report of water measuring device to the board within 30 days of request from the board.

(b) Form - Content. The report of water measuring device shall contain the following information, as applicable:

(1) Name of ~~water right holder~~diverter

(2) Contact information for person testing performance of device, including email address

(3) Water right identification number, if assigned

(4) Type of measuring device.

(5) Make, model number and serial number of the measuring device.

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(6) Type of recording device.

(7) Make, model number and serial number of the recording device.

(8) Units of measurement.

(9) The date of installation.

(10) Certification of accuracy

(11) Name of the person who installed the measuring device.

(12) Date of most recent calibration or recalibration of the measuring device.

(13) Maintenance schedule for the measuring device and the recording device.

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 13, 1846, and 5103, Water Code.

§937 Compliance.

Failure to meet the requirements of this Chapter is violation subject to civil liability of up to \$500 per day pursuant to Water Code section 1846.

Authority: Sections 1058, 1840, and 1841, Water Code.

Reference: Sections 1846, Water Code.

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SWRCB Speaker List Form - January 19, 2016 Board Meeting (Responses)

Board Item	Speaker Order	Already spoken	Speaker	Affiliation	Email	Presentation	In support of proposed action	Requested Time	Speak only if necessary	Link to comment letter, if available
00- Public Forum	1	Yes	Douglass Wilhoit	Stockton Chamber of Commerce & Restore the Delta	doug@stocktonchamber.org			0:05:00		
00- Public Forum	2	Yes	Esperanza Vielma	Cafe Coop	evielma@cafecoop.org					
00- Public Forum	3	Yes	Barbara Barrigan-Parrilla	Restore the Delta	barbara@restorethedelta.org					
00- Public Forum	4	Yes	Ryan Camero	California Student Sustainability Coalition	rcarccamero@gmail.com					
00- Public Forum	5	Yes	Yolanda Park	Environmental Justice of Catholic Charities	ypark@ccstockton.org		S	0:05:00		
02- Morongo	1	Yes	John Covington	Morongo Band of Mission Indians	jcovington@morongo-nsn.gov		S	0:05:00		
03- Drought	1	Yes	David Guy	Northern California Water Association	dguy@norcalwater.org			0:01:00		
03- Drought	2	Yes	Tim O'Laughlin	San Joaquin Tributaries Authority						
03- Drought	3	Yes	Ara Azhderian	San Luis & Delta Mendota Water Authority	ara.azhderian@sldmwa.org					
03- Drought	4	Yes	Chris White	Central California Irrigation District	cwhite@ccidwater.org					
07- Measuring & Reporting	1	Yes	Alan Lilly	Sonoma CWA and Yuba CWA	abl@bkslawfirm.com			0:05:00		http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/docs/comments121715/todd_schram.pdf http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/docs/comments121715/curt_aikens.pdf
07- Measuring & Reporting	2	Yes	Bob Gore	Kings River			S	0:02:00		
07- Measuring & Reporting	3	Yes	Rickey Russell	California Coastkeeper Alliance				0:05:00		http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/docs/comments121715/rickey_russell.pdf
07- Measuring & Reporting	4	Yes	Danny Merkley	CA Farm Bureau	dmerkley@cfbf.com					http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/docs/comments121715/jack_rice.pdf
07- Measuring & Reporting	5	Yes	Ned Coe	General Public	ncoe@frontier.com		O			
07- Measuring & Reporting	6	Yes	Nick Bonsignore	Private Consultant	nbonsignore@cubecorp.com			0:05:00		
07- Measuring & Reporting	7	Yes	Kirk Wilbur	CA Cattlemen's Association	kirkwilbur@gmail.com		O	0:05:00		http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/docs/comments121715/kirk_wilbur.pdf
07- Measuring & Reporting	8	Yes	Peter Kiel	Wine Institute	pjk@eslawfirm.com			0:05:00		http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/docs/comments121715/jack_rice.pdf
07- Measuring & Reporting	9	Yes	Elizabeth Ponce	Shasta County Farm Bureau	lponce@lassencanyonnursery.com		O			
07- Measuring & Reporting	10	Yes	Greg Loveland	Los Angeles Department of Water & Power	gregory.loveland@ladwp.com			0:05:00		http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/docs/comments121715/james_yannotta.pdf
07- Measuring & Reporting	11	Yes	Eric Tillemans	Los Angeles Dept of Water & Power	eric.tillemans@gmail.com			0:05:00		http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/docs/comments121715/james_yannotta.pdf

SWRCB Speaker List Form - January 19, 2016 Board Meeting (Responses)

Board Item	Speaker Order	Already spoken	Speaker	Affiliation	Email	Presentation	In support of proposed action	Requested Time	Speak only if necessary	Link to comment letter, if available
07- Measuring & Reporting	12	Yes	Steven Chappell	Suisun Resource Conservation District	schappell@suisunrco.org			0:03:00		
07- Measuring & Reporting	13	Yes	Bill Gaines	Suisun Resource Conservation District	bill@gainesandassociates.net			0:02:00		
07- Measuring & Reporting	14	Yes	Gary Kienlen	MBK Engineers						http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/docs/comments121715/gary_kienlen.pdf
07- Measuring & Reporting	15	Yes	Todd Manley	Northern California Water Association	tmanley@norcalwater.org					http://www.waterboards.ca.gov/waterrights/water_issues/programs/measurement_regulation/docs/comments121715/todd_manley.pdf

Measurement and Reporting of Water Diversion Emergency Regulations Digest

Appendix 17 - Summary of Additional Public Comments

Following is a brief summary of additional comments and questions received during the regulation development process.

- **Cost of Measurement**
 - Many wanted to know how much the devices might cost, and if funding and grant sources were available.
 - Is there a list of people who sell the measurement devices?
 - Has the Water Board considered how people with low incomes will afford water measurement devices?
 - What will be the on-going cost burden of compliance?
 - Theft and vandalism are significant issues in remote locations.

The State Water Board developed a public handout of possible funding sources (appendix 9) to provide diverters with information on possible sources of financial assistance. The State Water Board was concerned about the cost of compliance with the measurement and monitoring requirements of the regulation, and therefore the Water Board made requirements in the regulation less stringent for people with smaller diversions. People who divert or store smaller amounts of water have more time to meet the measurement and monitoring requirements and they also have less stringent requirements related to measurement accuracy, monitoring frequency, and installation, operation, and maintenance.

- **Water Right Concerns**
 - The Water Board should look at diversion and consumptive use.
 - Many commenters were concerned about losing a portion of their water right if the reported diversion was lower than the face value of the permit or license.
 - How will the Water Board address the diversion of contract water?

Water rights are typically based on the amount of water diverted from an authorized point of diversion. Therefore, the diversion amount should be measured or determined in a manner that meets the accuracy standards of the regulation. There are diverters whose water use is better reflected by the amount of water they consume, and the analysis of consumptive use may be included as part of a measurement method or alternative compliance plan. Measurement of diverted water will allow the Water Board and the diverters themselves to gain a better understanding of how much water is being placed to beneficial use under each water right.

- **Compliance**
 - How will the state monitor compliance with the new requirements?

- The Water Board needs to do a better job of enforcing against people who are not complying.

The State Water Board will monitor compliance with the new requirements on a case-by-case basis. Compliance efforts may be prioritized based on a variety of factors which may include size of diversion, potential effects on public trust resources, history of compliance or non-compliance, and whether a diverter has shown due diligence and made a good faith effort to comply.

- Assisting the Public

- Have a checklist for the water users so they know what criteria they need to meet.
- The Water Board should hold water measurement workshops. The Water Board needs to provide some guidance on measurement devices.
- How will the Water Board inform all of the water users of the new requirements?
- How will the public communicate with staff once the regulation is in place?

The Water Board will work with the diverters to assist them in complying with the regulation.

The Water Board will update its website to include additional information on measurement and monitoring equipment to assist diverters as they choose which measuring devices or measurement methods best suit their specific situation. This additional information will include a discussion of the various measurement devices and measurement methods typically employed by diverters. The Water Board will also develop and post a list of vendors selling the measuring and monitoring devices.

The Water Board also maintains an email distribution list to inform interested parties of important changes or updates to the measurement and reporting requirements. Any persons desiring to receive future notices concerning the regulation may subscribe to the State Water Board's email distribution list. The subscription form is located at:

http://www.waterboards.ca.gov/resources/email_subscriptions/swrcb_subscribe.shtml.

To subscribe, a person would select the "Water Rights" category, check the box for either "Water Measurement" or "Water Rights Regulations," and then provide the required information.

- Stock Ponds/Reservoirs

- Staff gages will be difficult for stock ponds, as livestock will rub against the gage when the pond is empty.
- Significant concern about requiring hourly monitoring of water level in a reservoir.
- Stock ponds with a storage capacity less than 50 acre-feet should be exempt from the measurement requirements.

There were numerous public comments received on stock ponds during the public outreach process. The regulation has relaxed measurement and reporting standards for smaller reservoirs. For livestock reservoirs that store less than 50 acre-feet of water, the diverter is required to install a staff gauge and read the staff gauge once a month.

- Watermaster Concerns

- The Delta Watermaster should be solely responsible for monitoring water use in the Delta.
- When will water users in a Watermaster District be required to install and maintain water measurement devices?
- Will Watermasters have to install measurement devices in accordance with the emergency regulation? Some people wanted the Watermasters to be subject to the same measurement requirements.
- Will the records submitted by a Watermaster be sufficient or will individuals have to measure?
- There was also concern that Watermaster data would not have to meet the measurement and reporting requirements established in the regulation.

The State Water Board will develop a list of watermaster service areas and review how each watermaster reports on the diversions of water. Some diverters will be required to measure and monitor within a watermaster service area.

- Measurement

- Will the Water Board accept a method that uses pump efficiency and readings from an electrical meter to estimate the diversion of water?
- The regulation should provide for alternative methods like water diverted through a managed wetland.
- Is there much use in measuring the diversion of brackish water? Why is measuring brackish water in a marsh necessary?
- Brackish water is corrosive to measurement devices.
- Remote locations of some points of diversion will make measurement and monitoring difficult.
- Some gages are inaccessible parts of the year.
- How should the measurement of water be handled for a place of use where the water flows in during high tide and out during low tide?
- Hourly monitoring is not useful in most cases.
- Can be difficult to maintain accurate measurement across a wide range of flows (for example, inflow into a reservoir)

The State Water Board added the section on alternative compliance plans to the regulation as a way to provide for circumstances where strict compliance with the requirements in the regulation for a measuring device or measurement method are not feasible, would be unreasonably expensive, would unreasonably affect public trust uses,

or would result in the waste or unreasonable use of water. The State Water Board determined that it would be best to review these requests for alternative compliance on a case-by-case basis, and not try to include specific exemptions in the regulation itself.

- General
 - Many concerns were raised about the taking of property rights. This concern was primarily associated with the possible loss or reduction of the face value of a water right if actual reported diversions are lower than the face value of the water right.
 - A number of letters commented negatively on the adoption of SB88.
 - Did not receive sufficient notice of the public meetings.
 - The Water Board needs to do a better job of measuring available supply.
 - When will the “emergency” status of the regulation end?
 - Will these regulations apply to watersheds that are not in drought conditions?
 - Is the Water Board keeping track of flows in the rivers and determining what is available for environmental use?

The State Water Board understands the concerns about determining the amount of water available for diversion. The State Water Board is working with other governmental agencies to improve the determination and estimation of available water supplies.

Measurement and Reporting of Water Diversion Emergency Regulations Digest

Appendix 18 - Measurement and Reporting Requirements in Other Western States

A review of the measurement and monitoring requirements was made of Colorado, Oregon, Washington, Utah, and Arizona. The following text provides a summary of the information collected during this review.

- **Watermaster and Dedicated Field Staff**
 - Oregon
 - A Watermaster oversees each water district and regulates (adjusts) control works.
 - Department's field personnel work with landowners to fully implement the measurement strategy.
 - Headgates can be locked and kept closed by the watermaster.
 - Required control and measuring devices shall be approved by the watermaster.
 - Colorado
 - Field offices are staffed by Water Commissioners. The Commissioners' general duties include hands-on administration of water rights and the collection and recording of data from the field.
 - All measuring and water delivery devices are under the supervision and control of the State Engineer and the Division Engineer
 - Locking headgates are mandatory.
 - Washington
 - Seven watermasters provide technical assistance, investigate complaints and unauthorized use, and some perform ditch rider duties (viewing diversions, adjusting gate settings, etc.)
 - They do not act as "water cops".
- **Surface Water Measurement**
 - Oregon
 - Many water right permits include measurement condition(s).
 - In 2000, strategic plan for improving water measurement focused on diversions with the greatest impact on streamflows in areas with the greatest fishery needs.
 - 2,300 "significant diversions" were identified in 300 high priority watersheds.
 - Accounts for about 10% of diversions, 50% of water diverted in the state.
 - If the commission finds accurate water use information necessary because of serious water management problems, the commission by rule may require a water right owner to install a measuring device and to submit annually a water use report.

- Measuring devices shall be required when necessary for regulation or management purposes.
 - Colorado
 - The state/division engineers have the authority to order owners to install and maintain measuring devices and to report at reasonable times the readings of such devices.
 - In order to place a priority call and divert water in priority when a call is in place, an owner must have an operable headgate and measuring device
 - Washington
 - Since 1993, Water Code requires measurement of:
 - Surface water diversions greater than 1 cubic foot per second.
 - Diversions and withdrawals from sources that support critical or depressed fish stocks.
 - A ruling from a 1999 lawsuit requires 80% metering compliance in 16 Fish Critical Basins.
 - Measurement device required as condition of all new permits since 2002
 - The Department may require the owner to maintain a measuring device.
 - Utah
 - Measurement required statewide at the point of diversion.
 - The State Engineer approves the measuring device and control works.
 - Arizona
 - When required by the Director of Water Resources, the owner shall construct and maintain measuring devices.
- **Reservoir Measurement**
 - Oregon
 - When required by the Water Resources Commission, a measuring device below, and one above, the reservoir on each stream or source of supply.
 - Colorado
 - The Division Engineer or Water Commissioner verbally directs reservoir users concerning the measurement devices and reporting necessary to administer reservoir rights
 - Washington
 - When required by the Department, construct and maintain any measuring device necessary to ascertain the natural flow into and out of said reservoir.
 - Utah
 - At the discretion of the State Engineer, measure inflow, outflow, and change in storage.
 - Arizona
 - When required by the Director, measure below reservoir and change in storage. Measuring above the reservoir if necessary.
- **Reporting Required**
 - Oregon
 - Reporting by government entities – about 23% of water users.

- Many water right permits include condition for annual reporting.
 - Water year reporting. Report by December 31. Two month extension of time may be requested.
 - Certified Water Right Examiners help users submit water use reports and other reports.
 - Colorado
 - Upon request of the Water Commissioner
 - Field staff collects water use and diversion data.
 - Washington
 - Report calendar year use by Jan. 31 of the following calendar year
- **Accuracy**
 - Washington
 - $\pm 10\%$ accuracy for reported diversions
 - Measurement devices shall be kept in good repair.
 - Date when device was last calibrated is part of the water use report.
 - Meters shall be inspected and maintained as specified by the manufacturer.
 - Colorado
 - The State Engineer and the Division Engineer control all headgates and measuring devices used in connection with canals, flumes and ditches or reservoirs.
 - The State Engineer or Division Engineer also rate measuring flumes and weirs.
 - Oregon
 - Rules describe specific types of measurement, but allow for alternatives upon approval.
 - Control works are under the control of the Watermaster.
 - Alternative method must be capable of reporting water use within an accuracy of $\pm 15\%$.
 - Utah
 - A reasonable effort must be made to ensure that flow measurements are as accurate as possible.
 - Calibration not typically mentioned. States with staff in the field are more likely to determine inadequacy of measurement and reporting devices.
- **Alternative Methods**
 - Oregon
 - Method shall be approved by the Department
 - Notes on method shall be maintained for at least three years
 - Washington
 - Similar to the measurement method proposed in the Emergency Regulation.
 - The method is approved in writing in advance by the Department.
 - The method is certified by a professional engineer or other qualified person.

- Measurements shall meet accuracy requirements
- **Enforcement**
 - Oregon
 - After providing 30 day notice, may terminate water deliveries and use of water by any right holder who fails to install and maintain a measuring device or to submit a report.
 - If the appropriator refuses or neglects to construct and install the required water use control or measuring devices or have an approved construction schedule for such installation after ten days' notice, the watermaster may close the diversion or open the reservoir outlet.
 - Colorado
 - The Division Engineer can refuse to deliver water if devices are not maintained in good repair.
 - Should the owner of a reservoir refuse to maintain a staff gauge at the outlet of a reservoir, the reservoir is not entitled to hold any water until such time as the device is properly installed.
 - Washington
 - The department may order that a measuring device or facility be repaired or replaced within a specified time period.
 - May issue regulatory orders and civil penalties.
 - Utah
 - State Engineer may forbid use of water or take other enforcement action if device or control works not installed within 30 days of State Engineer notice.
 - Arizona
 - May prevent diversion or release water from storage after providing 20 days' notice to construct or maintain device.
- **Number of Offices**
 - Oregon - Water Resources Department
 - Five office locations, 15 field offices.
 - Colorado - State Engineer Office in Denver
 - Seven division offices located in the seven major river basins of the state.
 - Washington - Department of Ecology
 - Four office locations and five field offices
 - Six regional measurement coordinators.
 - Utah - Division of Water Rights (State Engineer is the Director).
 - Headquarters in Salt Lake City and five regional offices

Arizona - Department of Water Resources