



SDWA-171



EDMUND G. BROWN JR.  
GOVERNOR



MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

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## State Water Resources Control Board

Ronald Milligan, Operations Manager  
Central Valley Operations Office  
U.S. Bureau of Reclamation  
3310 El Camino Avenue, Suite 300  
Sacramento, CA 95821

David H. Roose, Chief  
SWP Operations Control Office  
California Department of Water Resources  
Division of Operations and Maintenance  
3310 El Camino Avenue, Suite 300  
Sacramento, CA 95821

Dear Messrs. Milligan and Rosse:

### ACTIONS TO CONSERVE COLD WATER POOL IN SHASTA RESERVOIR FOR FISHERY RESOURCES

This letter responds to your May 24, 2013 letter to Thomas Howard, Executive Director for the State Water Resources Control Board (State Water Board) regarding unprecedented dry conditions in the Sacramento Valley and needed actions to protect cold water pool (CWP) resources for fisheries purposes. In your letter you request that the State Water Board acknowledge that the water year classification for the Sacramento Valley contained in State Water Board Decision 1641 (D-1641, Figure 1, page 188) does not accurately reflect the unprecedented dry conditions that have occurred since January of this year, which are characteristic of a critically dry year determination. Specifically, you propose that the Bureau and Department comply with critically dry water year requirements for certain Delta water quality objectives instead of dry year requirements in order to conserve CWP resources in Shasta Reservoir needed to protect Chinook salmon this season.

#### Background

The State Water Board was first contacted regarding this matter on May 17, 2013, by Maria Rea, Supervisor of the Central Valley Office of the National Marine Fisheries Service (NOAA Fisheries). Ms. Rea emailed Mr. Howard expressing concerns that planned Shasta Reservoir releases to meet Delta water quality objectives required by D-1641 would impact winter-run Chinook salmon by depleting already low Shasta Reservoir CWP resources. Ms. Rea requested that the agencies meet as soon as possible to discuss this matter.

In the midst of these discussions, on May 20, 2013, Governor Edmund G. Brown Jr. issued an Executive Order (B-21-13) outlining California's exceptionally dry water year conditions and ordering that the Department and the State Water Board expedite the review of water transfers to address the dry conditions and water delivery limitations. As outlined in Executive Order B-21-13:

- much of California experienced record dry conditions in January through March 2013, registering historic lows on the Northern Sierra and the San Joaquin precipitation indices; and

FELICIA MARCUS, CHAIR | THOMAS HOWARD, EXECUTIVE DIRECTOR

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- record dry and warm conditions resulted in a snowpack substantially below average, with estimated May water content in the statewide snowpack being only 17 percent of average and with the spring snowmelt season now being well underway.

On May 22, 2013, State Water Board staff met with staff from the Bureau and Department to discuss possible Shasta Reservoir CWP actions. On May 24, 2013, State Water Board staff again met with staff from the Department and Bureau as well as staff from NOAA Fisheries, the U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Wildlife (CDFW) (collectively fisheries agencies) to discuss Shasta Reservoir CWP actions. The fisheries agencies agreed on the need to take actions to conserve CWP resources in Shasta Reservoir and concurred with a proposal that the Department and Bureau operate to meet critically dry year requirements for the Western and Interior Delta water quality objectives for the protection of agriculture included in Table 2 of D-1641 (page 182), which include the following stations:

- Sacramento River at Emmaton, Station D-22;
- San Joaquin River at Jersey Point, Station D-15;
- South Fork Mokelumne River at Terminus, Station C-13; and
- San Joaquin River at San Andreas Landing, Station C-4.

The fisheries agencies requested additional time and discussion to consider any further actions related to Delta outflow or other requirements due to potential fisheries related impacts. On May 24, 2013, Carl Wilcox of the CDFW and Maria Rea of NOAA Fisheries sent emails to State Water Board staff in support of the proposal that the Bureau and Department operate to meet critically dry year conditions for the above mentioned Western and Interior Delta compliance stations through August 15, 2013 (attached). On May 28, 2013, Michael Chotkowski with the USFWS also submitted an email of support for the changes mentioned above (attached).

Prior to receipt of your letter on May 24, 2013, Mr. Howard sent an initial response regarding this matter indicating that, in the interest of making the best use of limited water supplies and maintaining cold water pool storage in Shasta Reservoir, the State Water Board staff will not recommend taking any action if the projects operate to meet the critically dry year objectives for the Western and Interior Delta agricultural objectives, instead of operating to meet dry year objectives through August 15, 2013. Mr. Howard indicated that the intent to not take any action was conditioned on submittal of a temperature management plan pursuant to State Water Board Order 90-5 within one week of May 28, 2013, and operation in accordance with the plan, and any further conditions determined by the Executive Director of the State Water Board. Mr. Howard also indicated that the Bureau and Department will be required to include a water accounting under the change in operations. Mr. Howard indicated that we would follow up after receipt of a specific request from the Bureau and Department.

#### Proposal

In your letter you propose to meet critically dry year requirements pursuant to D-1641 for the Sacramento Valley, including requirements included in Table 3 for the protection of fish and wildlife, in order to conserve CWP resources. In your letter, you state that, although the January through April period during 2013 was the driest on record, the November and December

Mr. Ronald Milligan  
Mr. David H. Roose

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precipitation was sufficient to result in a Sacramento Valley classification of "dry" for water year 2013. Your letter further states that nearly 80 percent of this water year's precipitation occurred in October, November and December 2012, and an abnormally large portion of this fell as rain rather than snow as a result of warmer than normal conditions for that time of year. This combined with critically dry conditions in the months since the first of the year has resulted in minimal snow pack in the Sierra Nevada in the critical spring months. As of May 1, 2013, the Northern Sierra snowpack was only about 48 percent of the historical April 1 value and about 17 percent of normal. Further, you point out that unusually high stream depletions in the Sacramento Valley have also contributed to reduced storage levels.

Your letter explains that meeting dry year objectives could jeopardize the Bureau and Department's ability to meet objectives designed to protect fisheries later in the year. In particular, the Bureau has expressed concern that it may not be able meet the temperature requirement necessary to protect salmon present in the Sacramento River during the summer and fall if the CWP in Shasta Reservoir continues to be depleted. You state that operating to meet critically dry water year requirements for the Western and Interior Delta from May through August 15 of this year could result in a gain of approximately 115 thousand acre-feet (TAF) of water in upstream reservoirs at the end of September. You indicate that including the Delta outflow requirement (included in Table 3 of D-1641) for the same period would increase the gain in reservoir carryover storage to approximately 185 TAF. You further indicate that compliance with critically dry conditions will result in water quality conditions in the North Delta that are consistent with the current hydrology.

#### Response to Proposal

Article X, section 2 of the California Constitution sets forth a directive to maximize the reasonable and beneficial use of the State's waters. As such, this constitutional mandate provides an important consideration where statutory water rights provisions vest discretion in the State Water Board. We have reviewed the unique factors of your request and the recommendations of the fisheries agencies. As the person delegated by the State Water Board to act on water right permit terms that apply to conditions in the Delta, I will not object or take any action if the Bureau and Department operate to meet critically dry year objectives for Western and Interior Delta agricultural beneficial uses included in Table 2 of D-1641 instead of operating to meet dry year objectives through August 15, 2013. This conclusion is conditioned as specified in the above mentioned email from the State Water Board's Executive Director Thomas Howard. Specifically, the Bureau and Department shall submit a temperature management plan pursuant to State Water Board Order 90-5 by **June 4, 2013**, and shall operate in accordance with the approved plan to maximize temperature benefits to fisheries resources. The Bureau and Department shall consult with the fisheries agencies concerning temperature management decisions and shall immediately inform the State Water Board regarding any fisheries agencies concerns and proposed resolution of those concerns. The Bureau and Department shall implement additional actions as determined by me or the Executive Director of the State Water Board. The Bureau and Department shall also submit a water accounting to the State Water Board under the change in operations by **August 22, 2013**.

I understand that Delta outflow requirements are not currently controlling operational decisions related to releases from Shasta Reservoir, but likely will be in the next several weeks. In order to determine whether any additional changes to operations to meet Delta outflow or other objectives required by D-1641 should be made to protect CWP resources, the Bureau and Department should immediately consult with the fisheries agencies and State Water Board staff.

Mr. Ronald Milligan  
Mr. David H. Roose

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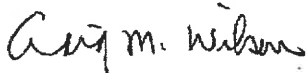
I will consider additional actions to conserve CWP resources upon receipt of input from the fisheries agencies on those matters.

In the future, the State Water Board staff and I expect discussions regarding compliance matters to begin as soon as potential issues are identified in order to allow the greatest flexibility to address these issues. The State Water Board will consider whether appropriate coordination took place in a timely manner when considering future enforcement action.

If you have any questions, please contact me at [cwilson@waterboards.ca.gov](mailto:cwilson@waterboards.ca.gov) or 916-445-5962. Written correspondence should be addressed as follows:

State Water Resources Control Board  
Office of Delta Watermaster  
Attn: Craig Wilson  
P.O. Box 100  
Sacramento, CA 95812

Sincerely,



Craig Wilson, Delta Watermaster  
State Water Resources Control Board

Enclosures

cc: Thomas Howard, Executive Director  
State Water Resources Control Board  
1001 I Street  
Sacramento, CA 95812

Maria Rea, Central Valley Office Supervisor  
National Marine Fisheries Service  
650 Capitol Mall, Suite 5-100  
Sacramento, CA 95814

Carl Wilcox  
California Department of Fish and Wildlife  
1416 9th Street  
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Kim Turner, Assistant Field Supervisor  
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cc: Continues on next page.

Mr. Ronald Milligan  
Mr. David H. Roose

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cc: Erin Foresman  
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Sacramento, CA 95814

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Paul Fujitani  
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3310 El Camino Avenue, Suite 300  
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John Leahigh  
California Department of Water Resources  
3310 El Camino Avenue, Suite 300  
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From: Wilcox, Carl@Wildlife [mailto:[Carl.Wilcox@wildlife.ca.gov](mailto:Carl.Wilcox@wildlife.ca.gov)]

Sent: Friday, May 24, 2013 4:04 PM

To: Marcus, Felicia@Waterboards; Howard, Tom@Waterboards; Wilson, Craig@Waterboards; Grober, Les@Waterboards

Cc: Riddle, Diane@Waterboards; Leahigh, John@DWR; [pfujitani@usbr.gov](mailto:pfujitani@usbr.gov); Dibble, Chad@Wildlife; Maria Rea - NOAA Federal; [Garwin.Yip@noaa.gov](mailto:Garwin.Yip@noaa.gov); [Jennifer\\_norris@fws.gov](mailto:Jennifer_norris@fws.gov); [Kim\\_S\\_Turner@fws.gov](mailto:Kim_S_Turner@fws.gov)

Subject: CDFW concurrence with proposed changes to Delta WQ standards requested by DWR and Reclamation

Board Chair Marcus,

This e-mail is to provide California Department of Fish & Wildlife (CDFW) support/concurrence regarding the U.S. Bureau of Reclamation's (Reclamation) and California Department of Water Resources' (DWR) proposal that the SWRCB change the Sacramento Valley Water Year Hydrologic Classification Index (40-30-30) water year type from "dry" to "critical" as it pertains to the Water Quality Objectives for Agricultural Beneficial Uses under D-1641 at the following Western Delta and Interior Delta monitoring stations:

- \* Sacramento River at Emmaton, Station D-22;
- \* San Joaquin River at Jersey Point, Station D-15;
- \* South Fork Mokelumne River at Terminus, Station C-13; and
- \* San Joaquin River at San Andreas Landing, Station C-4.

This request is to support applying the new water year classification as soon as possible, through August 15, 2013. The biggest benefit to changing the water year type for the specific water quality stations is increased storage in (or conversely, reducing the rate of drawdown of) Shasta Reservoir. This will likely benefit the life history needs of the 2013 cohorts of Chinook salmon, in addition to providing higher carryover storage (than otherwise would be realized) to begin water year 2014.

The proposal was discussed on a conference call today, Friday, May 24, among members of the SWRCB, Reclamation, DWR, U.S. Fish and Wildlife Service (USFWS), CDFW, and National Marine Fisheries Service (NMFS). In addition, the fish agencies conferred on the proposal and concur. The USFWS and NMFS will send separate e-mails expressing their support for the proposal. It is our understanding that a letter making the subject request will be forthcoming this afternoon. CDFW is providing this email concurrence to allow for a timely decision to maximize protection of Shasta storage to protect Chinook salmon. Any change in the formal submission by DWR and Reclamation to the SWRCB this afternoon from what is described above, will require re-evaluation by the CDFW before we could provide our concurrence.

Carl Wilcox

Policy Advisor to the Director for the Delta California Department of Fish and Wildlife

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[Carl.Wilcox@wildlife.ca.gov](mailto:Carl.Wilcox@wildlife.ca.gov)

**From:** Maria Rea - NOAA Federal [mailto:maria.rea@noaa.gov]

**Sent:** Friday, May 24, 2013 4:50 PM

**To:** Marcus, Felicia@Waterboards; Howard, Tom@Waterboards; Wilson, Craig@Waterboards; Grober, Les@Waterboards; Riddle, Diane@Waterboards

**Cc:** Garwin.Yip@noaa.gov; RMILLIGAN@usbr.gov; pfujitani@usbr.gov; Leahigh, John@DWR; Dan\_Castleberry@r1. Gov; Wilcox, Carl@Wildlife

**Subject:** NMFS support for change petition to D-1641

Dear Felicia and Tom:

This e-mail is to provide NOAA's National Marine Fisheries Service's (NMFS) support/concurrence regarding the U.S. Bureau of Reclamation's (Reclamation) and California Department of Water Resources' (DWR) proposal. As I understand it, and as discussed on a conference call this morning among members of the SWRCB, Reclamation, DWR, U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and NMFS, Reclamation and DWR will request that the SWRCB change the Sacramento Valley Water Year Hydrologic Classification Index (40-30-30) water year type from "dry" to "critical" as it pertains to the Water Quality Objectives for Agricultural Beneficial Uses under D-1641 at the following Western Delta and Interior Delta monitoring stations:

- Sacramento River at Emmaton, Station D-22;
- San Joaquin River at Jersey Point, Station D-15;
- South Fork Mokelumne River at Terminus, Station C-13; and
- San Joaquin River at San Andreas Landing, Station C-4.

This request is to support applying the new water year classification as soon as possible, through August 15, 2013. The biggest benefit to changing the water year type for the specific water quality stations is increased storage in (or conversely, reducing the rate of drawdown of) Shasta Reservoir. This will likely benefit the life history needs of the 2013 cohorts of Chinook salmon, in addition to providing higher carryover storage (than otherwise would be realized) to begin water year 2014. For example, Reclamation is currently releasing 13,000 cfs from Keswick Dam partly as a result of the Delta Cross Channel being open over the Memorial Day weekend and partly because of the spring tide, but largely to maintain compliance with the Emmaton water quality standard. In addition, the May forecast at the 90% exceedance hydrology indicates that the projected end of September (EOS) carryover storage at Shasta Reservoir is 1.527 million acre feet (MAF). The NMFS biological opinion on the long-term operations of the Central Valley Project and State Water Project does not have a minimum EOS carryover storage requirement in Shasta Reservoir. However, although the requirements in Action 1.2.3.C pertain to the February forecast, it does acknowledge and provide for drought exception procedures if a Clear Creek Temperature Compliance Point or 1.9 MAF EOS storage is not achievable, indicating that the forecasted carryover storage of 1.527 MAF is very low.

In addition, the fish agencies conferred on the proposal as discussed this morning, and also concur. The USFWS and CDFW will send separate e-mails expressing their support for the proposal.

Please let me know if you have any questions or need more information. My cell phone number is (916) 799-2359.

- Maria

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Maria Rea

Supervisor, Central Valley Office, NOAA Fisheries



**From:** "Chotkowski, Michael" <michael\_chotkowski@fws.gov>

**Date:** May 28, 2013 6:21:50 PM PDT

**To:** <Felicia.Marcus@waterboards.ca.gov>, <Tom.Howard@waterboards.ca.gov>, <Craig.Wilson@waterboards.ca.gov>, <Les.Grober@waterboards.ca.gov>

**Cc:** <Diane.Riddle@waterboards.ca.gov>, "Leahigh, John@DWR" <John.Leahigh@water.ca.gov>, PAUL FUJITANI <PFujitani@usbr.gov>, "Dibble, Chad@Wildlife" <Chad.Dibble@wildlife.ca.gov>, Maria Rea - NOAA Federal <maria.rea@noaa.gov>, Garwin Yip - NOAA Federal <garwin.yip@noaa.gov>, "Jen Norris" <jennifer\_norris@fws.gov>, Kim <kim\_s\_turner@fws.gov>, Roger Guinee <roger\_guinee@fws.gov>

**Subject:** Update to: FWS concurrence with proposed changes to Delta WQ standards, as requested by Reclamation and DWR

Board Chair Marcus,

Note: This email supersedes one I sent earlier today, which reflected a misunderstanding on my part. Apologies. Please discard the earlier email and substitute this one.

This email expresses the U.S. Fish and Wildlife Service's (Service) support for the State Water Board's proposal to implement the U.S. Bureau of Reclamation (Reclamation) and California Department of Water Resources (DWR) request to change the 40-30-30 Sacramento Valley water year type from "dry" to "critical," specifically as it pertains to relaxing the D-1641 water quality objectives for agricultural beneficial uses at four stations in the western Delta:

- \* Sacramento River at Emmaton, Station D-22;
- \* San Joaquin River at Jersey Point, Station D-15;
- \* South Fork Mokelumne River at Terminus, Station C-13; and
- \* San Joaquin River at San Andreas Landing, Station C-4.

The proposed change to the water year type for the specific water quality stations would reduce drawdown of Shasta Reservoir. This will likely benefit the early life history needs of the 2013 cohorts of Chinook salmon, in addition to providing higher carryover storage (than otherwise would be realized) to begin water year 2014.

The change in EC standard at these stations would occur immediately and last through August 15, 2013. The Service supports implementation of the proposal on a one-time basis, so long as implementation does not affect management of OMR flow to protect juvenile delta smelt in accordance with the Service's 2008 OCAP Biological Opinion.

It is our understanding that some discussions related to possible changes in Delta outflow have yet to occur. We will evaluate proposals related to deviations from the D-1641 Delta outflow standards when/if they are proposed.

The Service will continue to work cooperatively with its Federal and State partners to ensure that the CVP and SWP operations provide adequate protection for Threatened and Endangered species while delivering water that benefits 25 million agricultural and urban water users throughout California.

—

Mike Chotkowski  
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(916) 930-5632 Office  
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BUREAU OF RECLAMATION  
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DEPARTMENT OF WATER RESOURCES  
Division of Operations and Maintenance  
3310 El Camino Avenue, Suite 300  
Sacramento, California 95821

**MAY 24 2013**

IN REPLY REFER TO  
CVO-100  
WTR-4.10

Thomas Howard  
Executive Director  
State Water Resources Control Board  
1001 I Street  
Sacramento, California 95814

Subject: State Water Resources Control Board Water Right Decision 1641 Water Year  
Classification

Dear Mr. Howard:

The Department of Water Resources (DWR) and the United States Bureau of Reclamation (Reclamation) request that the State Water Resources Control Board (SWRCB) acknowledge that the water year classification for the Sacramento Valley based on the equation provided in Attachment 1, page 188 of Revised Water Rights Decision 1641 (D-1641) does not accurately reflect the unprecedented dry conditions experienced in 2013. Instead, the hydrologic conditions experienced between January and the present are characteristic of a "Critical" water year type. The current miscategorization in water year classification is projected to affect the storage of cold water pool for fisheries purposes due to controlling D-1641 Delta objectives in the May through August period. These objectives are:

- 1) EC parameters for Sacramento River at Emmaton (Interagency Station Number D-22), San Joaquin River at Jersey Point (Interagency Station Number D-15), South Fork Mokelumne River at Terminous (Interagency Station Number C-13), and San Joaquin River at San Andreas (interagency Station Number C-4) as defined in Table 2 on page 182
- 2) Delta Outflow, as defined on Table 3 on Page 184.

Water year classification also affects other objectives listed in D-1641 to a lesser degree, but it is not anticipated that those objectives will significantly control Delta operations in 2013.

Summary of Relevant Facts:

D-1641 imposes water quality objectives on the Central Valley Project (CVP) and State Water Project (SWP). Several of the objectives are dependent on the water year type as determined by the May 1, Sacramento Valley Index and the San Joaquin Valley Index. Although the January through April period during 2013 was the driest on record, the November and December precipitation was sufficient to result in a Sacramento Valley classification of "Dry" for water year 2013. The "Dry" water year classification is not representative of the extreme hydrological conditions in Northern California this calendar year and the water quality objectives based on this water year type could result in significant adverse impacts to the cold water pool operations at Shasta Reservoir. In fact, Governor Brown's recent executive order B-21-13 recognizes that, "much of California experienced record dry conditions in January through March 2013, registering historic lows on the Northern Sierra" and "record dry and warm conditions resulted in a snowpack substantially below average, with estimated May water content in the statewide snowpack being only 17 percent of average."

The 2013 water year has been particularly challenging with double the normal precipitation in November and December and historically low values from January into May. The current Northern Sierra 8 Station Precipitation Index from January 1, 2013 through May 15 is about 8.8 inches. Without additional measurable precipitation in May, this figure will represent the driest Northern Sierra 8-Station Precipitation Index for the January through May period on record. Attachment 1 shows the accumulated 8-station precipitation values from January through May for some of the extremely dry years including 1924, 1976, and 1977. The nearly 80 percent of this year's precipitation occurred in the first three months of the water year, and an abnormally large portion of this fell as rain rather than snow as a result of warmer than normal conditions for that time of year. This combined with critically dry conditions in the months since the first of the year has resulted in minimal snow pack in the Sierra Nevada in the critical spring months. The Northern Sierra snowpack was only about 48% of the historical April 1 value and about 17% of normal as of May 1, 2013. Creek and small stream flows that enter the Sacramento River system below major reservoirs are running at historically low levels in response to the extended dry period. DWR's May 1, 2013 Bulletin 120 forecasts an April to July runoff 48% of normal for the Sacramento Valley. Hydrological conditions are not likely to improve and the National Oceanic and Atmospheric Administration has indicated that California is in severe to extreme drought that is likely to persist or intensify into the summer (Attachment 2).

Additionally, unusually high depletions in the Sacramento Valley are adding to the operational challenges the CVP and SWP (collectively, Projects) are facing in meeting the 2013 water year type requirements. Typically, extremely dry years with low Northern Sierra 8-Station Precipitation Index values trigger the Shasta inflow shortage criteria included in water rights settlement contracts that would reduce water supplies for the senior water rights diverters in the Sacramento Valley. Yet, this year the wetter conditions in the fall months were sufficient to require full allocations to the Sacramento Valley and Feather River settlement contractors,

increasing demands on Shasta and Oroville storage. Therefore, it is expected that depletions will continue to run at a high rate into the summer. DWR and Reclamation are required to make releases in order to satisfy the senior water rights of the Sacramento River and Feather River settlement contractors, and the Exchange Contractors. These contracts specify the amount of water the Projects must deliver – for the Sacramento River and Exchange Contractors, Reclamation is required to deliver 100% of the contract total in any year where the forecasted inflow to Shasta Reservoir exceeds 3.2 million acre feet (af). This target was met in 2013 – thus Reclamation is mandated to deliver 100% of the contract total, and has no discretion under the contract to reduce these deliveries.

The unusually high stream depletions (Attachment 3) were a major cause of the exceedence of the Emmaton objective that occurred in April and May. This is described in further detail in DWR and Reclamation's letter to SWRCB dated May 24, 2013. The CVP and SWP reservoir systems were in a near normal condition in January, but Reclamation and DWR have drawn heavily on the storage since then due to the extended dry period, low unregulated flow entering the system, and high depletions in the Central Valley. Reservoir releases are currently well above average for this date.

In order to meet the Dry year water quality objectives rather than the Critical objectives, DWR and Reclamation have released significant volumes of water from Oroville, Shasta, and Folsom Reservoirs. The low reservoir inflow and increased storage withdrawal is depleting the cold water pool in the reservoirs that is important to provide adequate instream fishery habitat for anadromous fish in the rivers through the summer and fall.

SWRCB Water Rights Order 90-05 requires that Reclamation operate Shasta Reservoir to meet a daily average temperature of 56 degrees Fahrenheit in the Sacramento River at a location and through periods when higher temperatures will be detrimental to the fishery. Typically, through coordination with the Sacramento River Temperature Task Group (SRTTG), the location selected is between Balls Ferry and Bend Bridge on the Sacramento River. Without recognition of the Sacramento Valley water year type actually experienced in 2013, the projected low reservoir storage and limited cold water pool this year may result in the objective occurring well upstream of Balls Ferry and Reclamation is concerned whether the 56 degree objective can be maintained at any location in the Sacramento River through the fall. The cold water pool is vital to providing adequate habitat to salmon present in the Sacramento River through the summer and into the fall for both the winter-run Chinook salmon and fall-run Chinook salmon. The SRTTG has recommended an initial temperature compliance point of Airport Road located upstream of Balls Ferry due to the limited cold water resources this year.

Due to the unprecedented hydrologic conditions discussed above including the record dry January through May period, extremely low snowpack, and unusually high Sacramento valley depletions, conditions continue to deteriorate and it is clear that meeting the dry year objectives could jeopardize the ability to meet other fisheries objectives later in the year. The reservoir storage that accumulated in the wet fall, which was originally projected to be sufficient to meet the dry year objectives, is falling rapidly due to the abnormally large valley demands and

Reclamation is projecting CVP September carryover storages only about 63% of average.

There is a significant difference between the volume of Delta inflow needed to achieve the Dry and Critical water quality objectives for Jersey Point and Emmaton through June 15. If Reclamation and DWR are able to begin operating to the Critical year water quality objectives in May it may be possible to achieve 100,000 to 200,000 af, of cold water benefits in the upstream reservoirs. This savings in cold water storage would improve the chances of meeting the temperature objective at Airport Road. This cold water benefit will help avoid temperature related fish losses in the Sacramento River.

The greatest benefits to the Project's reservoir storage would occur in the May to August 15 period. The compliance locations in the Western Delta and Interior Delta shown in Table 3 on Page 182 (Sacramento River at Emmaton (Interagency Station Number D-22), San Joaquin River at Jersey Point (Interagency Station Number D-15), South Fork Mokelumne River at Terminous (Interagency Station Number C-13), and San Joaquin River at San Andreas Landing (Interagency Station Number C-4) would most likely be the objectives controlling the Project operations during the May to June 15 period and changes at these locations would have the greatest impact on improving upstream storage in the immediate future. The objectives of the Delta outflow compliance location in Table 3 on page 184 often can control Project operations through the summer and operating to a critical year with respect to Delta outflow will also assist in preserving cold water pool.

Currently, DWR and Reclamation are maintaining a Net Delta Outflow well over 9,000 cubic feet per second (cfs) in order to achieve the Dry year objectives for Jersey Point and Emmaton. If the Dry classification is changed to Critical, the controlling D-1641 objective through June would be the Net Delta Outflow Index of at least 7,100 cfs in Table 3, or the export to inflow ratio of 35% in Table 3. From July through August 15, the controlling criteria for either water year classification would most likely shift among the minimum Net Delta Outflow objectives in Table 3, the salinity objectives for Jersey Point and Emmaton in Table 2, the Export to Inflow ratio of 65% in Table 3, or the Contra Costa 250 chloride objective in Table 1.

Table 2 of D-1641 requires an electrical conductivity (EC) no greater than 0.45 mmhos/cm for both Emmaton and Jersey point locations from April 1 to June 15, and 1.67 mmhos/cm for Emmaton and 1.35 mmhos/cm for Jersey Point from June 15 to August 15 under a Dry Year classification. For a Critical year these objectives are 2.78 mmhos/cm from April 1 to August 15 for Jersey Point and Emmaton. Since the X2 outflow objective of 7,100 cfs, which is not linked to the year type designation would probably control in May, and June, there would only be a gradual increase in salinity at Jersey Point and Emmaton through June that is reflective of a Critical year. Water quality at Jersey Point and Emmaton would fluctuate with the tidal and meteorological conditions potentially moving towards a 1.0 to 2.0 mmhos/cm EC range in July. Compliance with the water quality objectives at the Jersey Point and Emmaton locations typically achieves the objectives at Terminous and San Andreas Landing. This gradual increase in salinity levels would be commensurate with those experienced in years with similar hydrologic conditions as those observed in recent months.

Reclamation estimates that from May through August 15 a change in the water year classification from Dry to Critical in the Western Delta and Interior Delta locations in Table 2 could result in a gain of about 115,000 af, in upstream reservoir carryover storage at the end of September. Including the Delta outflow compliance in Table 3 for the same period would increase the gain in reservoir carryover storage to about 185,000 af. There could be reductions in the release from Keswick Reservoir up to about 1,000 cubic feet second in late May and June under a Critical year classification.

D-1641 requires that the number of days less than or equal to 150 mg/l chloride at Contra Costa Pumping Plant be greater than 165 days for a Dry year and 155 days for a Critical year. DWR and Reclamation do not anticipate that this objective would be a controlling criteria for the Projects under either year classification and both objectives would be met. The minimum Net Delta Outflow required from February through June (Collinsville X2 at 7,100 cfs) should be adequate to achieve the Contra Costa objective under either the Dry or Critical classification.

SWRCB recognition of the change in water year type is in the public interest. The change will provide for a water year classification reflective of the extremely dry hydrologic conditions in 2013 and allow the projects to operate in a manner that will provide the maximum benefit to critical beneficial users without unreasonably affecting other designated beneficial uses. As noted above there will be no significant impacts to agricultural or municipal uses, and the change will provide significant benefit to fisheries resources. State and federal agencies have been focused on the protection and improvement of fishery conditions in the Delta watershed, and are in the process of analyzing options for balancing project operations for the numerous different beneficial uses. Approval of the following request would result in water quality conditions in the North Delta that are consistent with the hydrology we are currently experiencing, while preserving cold water storage critical to salmon survival.

Requested Action:

Reclamation and DWR request that the SWRCB recognize the change in year classification need and act immediately. Delaying such recognition to even June 1 will significantly impair Reclamation's ability to meet cold water temperature objectives on the Sacramento River. At present, the controlling D-1641 Delta water quality objectives for the Projects that are linked to the Sacramento Valley Index are Jersey Point in Table 2, Emmaton in Table 2. In addition, Delta Outflow in Table 3, may become a controlling standard and will also impact cold water pool storage starting in the middle of June.

We believe the SWRCB may balance protection of the beneficial uses in light of the critical water year type experienced on the Sacramento River in 2013. Immediate benefits to cold water pool storage can be achieved through the Projects meeting critical water year standards for the Interior and Western Delta salinity standards in Table 2. The compliance points at issue are Sacramento River at Emmaton (Interagency Station Number D-22), San Joaquin River at Jersey

Subject: SWRCB Water Right Decision 1641 Water Year Classification

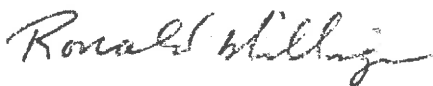
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Point (Interagency Station Number D-15), South Fork Mokelumne River at Terminous (Interagency Station Number C-13), and San Joaquin River at San Andreas Landing (Interagency Station Number C-4).

Additional cold water pool benefits can be achieved in July through September with recognition of the critical water year type in Table 3, Water Quality Objectives for Fish and Wildlife Beneficial Uses. As noted above; Delta outflow objectives will likely control project operations in July through September, where agricultural objectives are met under a critical water year designation. A Delta outflow standard reflective of the critical water year type may produce an additional 70,000 af of cold water pool storage.

If you have any questions or would like more information regarding this notification, please contact Mr. Paul Fujitani of Reclamation at 916-979-2197 or Mr. John Leahigh at 916-574-2722.

Sincerely,



Ronald Milligan, Operations Manager  
Central Valley Operations Office  
U.S. Bureau of Reclamation



David H. Roose, Chief  
SWP Operations Control Office  
Department of Water Resources

Attachment -4

cc: Mr. Craig M. Wilson, Delta Watermaster  
State Water Resources Control Board  
1001 I Street  
Sacramento, California 95812

Carl Wilcox  
California Department of Fish and Wildlife  
1416 9th Street  
Sacramento, California 95814

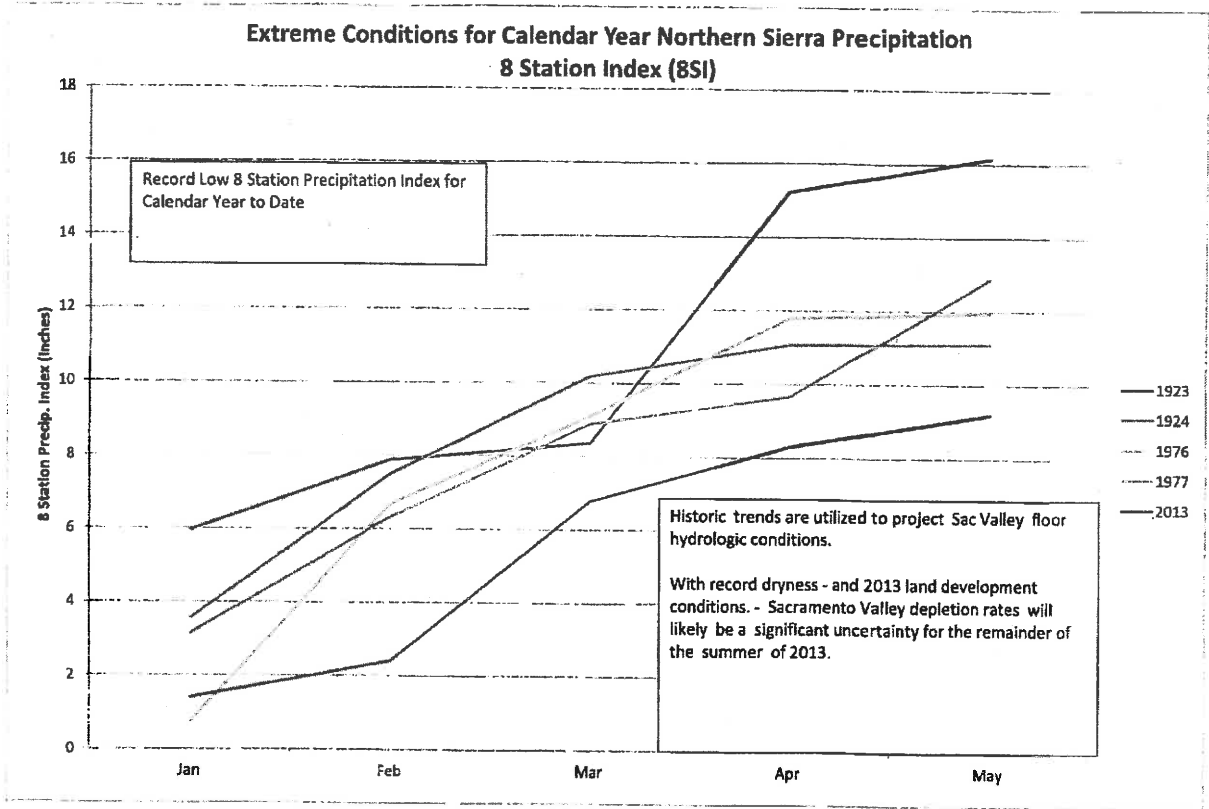
Ms. Maria Rae  
Central Valley Office Supervisor  
National Marine Fisheries Service  
650 Capitol Mall, Suite 5-100  
Sacramento, California 95814

Ms. Kim Turner  
Assistant Field Supervisor  
Bay-Delta Fish & Wildlife Office  
U.S. Fish & Wildlife Service  
650 Capitol Mall, Suite 8-300  
Sacramento, California 95814

Mr. Les Grober  
State Water Resources Control Board  
Division of Water Rights  
1001 I Street  
Sacramento, California 95812  
(w/encl to each)

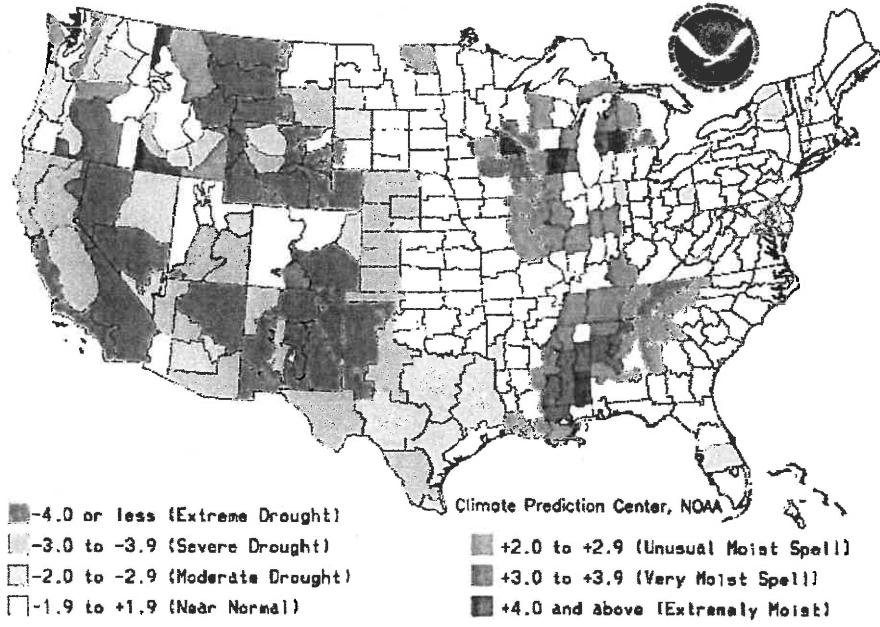


Attachment 1



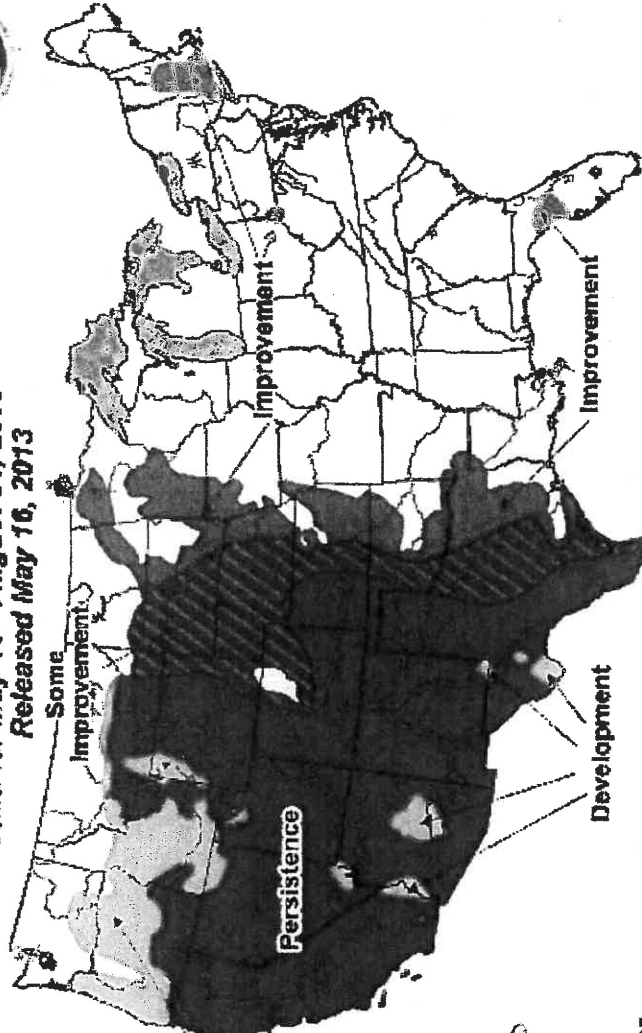
Attachment 2

Drought Severity Index by Division  
Weekly Value for Period Ending MAY 18, 2013  
Long Term Palmer



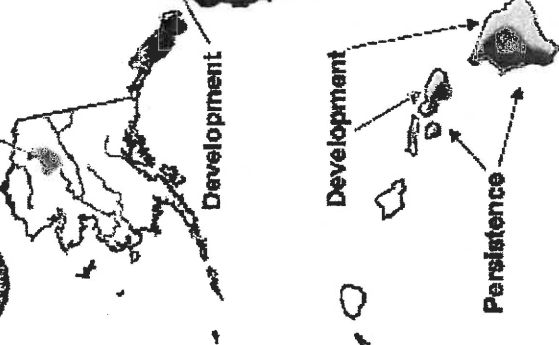


# U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period Valid for May 16 - August 31, 2013 Released May 16, 2013



No Drought  
Posted/Predicted

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.



## KEY:

-  Drought to persist or intensify
-  Drought ongoing, some improvement
-  Drought likely to improve, impacts ease
-  Drought development likely

Attachment 4

