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& POSTED  
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1 JEANNE M. ZOLEZZI - SBN 121282  
2 **HERUM CRABTREE BROWN**  
3 *A California Professional Corporation*  
4 2291 WEST MARCH LANE, SUITE B100  
5 STOCKTON, CALIFORNIA 95207  
6 Telephone: (209) 472-7700  
7 Facsimile: (209) 472-7986

8 Attorneys for SOLANO COUNTY WATER AGENCY  
9 [Additional Counsel of Record on Signature Page]

10 SUPERIOR COURT OF CALIFORNIA  
11 COUNTY OF SACRAMENTO

12 Coordination Proceeding Special Title  
13 (Rule 1550b)

JUDICIAL COUNCIL COORDINATION  
PROCEEDING NUMBER 2565

14 PUTAH CREEK WATER CASES

SACRAMENTO COUNTY SUPERIOR  
COURT CASE NUMBER 515766

15 PUTAH CREEK COUNCIL,  
16 Plaintiff,

SOLANO COUNTY SUPERIOR COURT  
CASE NUMBER 108552

17 v.

18 SOLANO IRRIGATION DISTRICT, and  
19 SOLANO COUNTY WATER AGENCY,

**NOTICE OF MOTION AND MOTION TO  
AMEND JUDGMENTS PURSUANT TO  
STIPULATION AMONG ALL PARTIES  
IN ACCORDANCE WITH SECTION VI  
OF AMENDED JUDGMENTS  
(NO OPPOSITION)**

20 Defendants.

DATE: November 1, 2002  
TIME: 9:30 a.m.  
DEPT: 47

21 CITY OF DAVIS,

22 Cross-Complainant,

23 v.

24 SOLANO IRRIGATION DISTRICT,  
25 SOLANO COUNTY WATER AGENCY,  
26 CITY OF VALLEJO, CITY OF SUISUN and  
27 MAINE PRAIRIE WATER DISTRICT,

28 Cross-Defendants.

SOLANO IRRIGATION DISTRICT,  
SOLANO COUNTY WATER AGENCY et al.  
Plaintiffs,

v.

THE NAMES OF ALL APPROPRIATIVE  
WATER RIGHTS HOLDERS IN UPPER  
BASIN, et al.

Defendants.

1 PLEASE TAKE NOTICE that on November 1, 2002, at 9:30 a.m., or as soon thereafter  
2 as the matter can be heard, all parties will, and hereby do, move that the Court amend the  
3 Amended Judgments entered in these matters by this court on September 8, 2000 in the manner  
4 shown on Exhibits 1, 2 and 3 attached hereto ("Second Amended Judgments"). This motion is  
5 made pursuant to Section VI of each of the Amended Judgments on the grounds that the  
6 additions proposed to the Amended Judgments are intended to clarify the intent of the parties in  
7 entering into the stipulation that resulted in the Amended Judgments. The parties bring this  
8 Motion pursuant to a stipulation among all parties dated June 18, 2002, attached hereto as  
9 Exhibit 4.

10 This motion is unopposed. If the Court is inclined to make the proposed changes to the  
11 Amended Judgments prior to the scheduled hearing date, without necessity for a hearing, then  
12 the parties request that the Court so advise them, and adopt the Second Amended Judgments  
13 without awaiting the noticed hearing date. An original Second Amended Judgment for each case  
14 has been lodged with the Court for this purpose.

15 This motion is based on this Notice of Motion and Motion, the Memorandum of Points  
16 and Authorities, the Declaration of Jeanne Zolezzi, the records and files of these actions, and any  
17 oral and documentary evidence as may be presented at the hearing, if any.

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19  
20 Dated: September 6, 2002

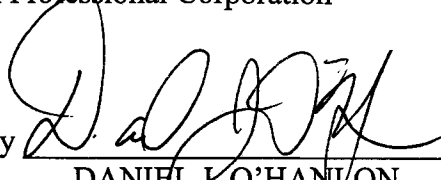
HERUM CRABTREE BROWN  
A California Professional Corporation

21  
22 By  \_\_\_\_\_  
23 JEANNE M. ZOLEZZI  
24 Attorneys for Solano County Water Agency  
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Dated: 8/21, 2002

KRONICK, MOSKOVITZ, TIEDEMANN & GIRARD  
A Professional Corporation

By   
DANIEL J. O'HANLON  
Attorneys for the Putah Creek Council

Dated: \_\_\_\_\_, 2002

LENNIHAN LAW  
A Professional Corporation

By \_\_\_\_\_  
MARTHA H. LENNIHAN  
Attorneys for City of Davis

Dated: \_\_\_\_\_, 2002

BARTKIEWICZ, KRONICK & SHANAHAN

By \_\_\_\_\_  
ALAN B. LILLY  
Attorneys for Regents of the University of California

Dated: \_\_\_\_\_, 2002

MINASIAN, SPRUANCE, BABER, MEITH,  
SOARES & SEXTON, LLP

By: \_\_\_\_\_  
PAUL R. MINASIAN  
Attorneys for Solano Irrigation District, City of  
Suisun and Maine Prairie Water District

Dated: \_\_\_\_\_, 2002

SOMACH, SIMMONS & DUNN

By \_\_\_\_\_  
STUART L. SOMACH  
Attorneys for the Cities of Vacaville, Fairfield and  
Vallejo

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Dated: \_\_\_\_\_, 2002

KRONICK, MOSKOVITZ, TIEDEMANN & GIRARD  
A Professional Corporation

By \_\_\_\_\_  
DANIEL J. O'HANLON  
Attorneys for the Putah Creek Council

Dated: Aug 2, 2002

LENNIHAN LAW  
A Professional Corporation

By Martha H. Lennihan  
MARTHA H. LENNIHAN  
Attorneys for City of Davis

Dated: \_\_\_\_\_, 2002

BARTKIEWICZ, KRONICK & SHANAHAN

By \_\_\_\_\_  
ALAN B. LILLY  
Attorneys for Regents of the University of California

Dated: \_\_\_\_\_, 2002

MINASIAN, SPRUANCE, BABER, MEITH,  
SOARES & SEXTON, LLP

By: \_\_\_\_\_  
PAUL R. MINASIAN  
Attorneys for Solano Irrigation District, City of  
Suisun and Maine Prairie Water District

Dated: \_\_\_\_\_, 2002

SOMACH, SIMMONS & DUNN

By \_\_\_\_\_  
STUART L. SOMACH  
Attorneys for the Cities of Vacaville, Fairfield and  
Vallejo

1 Dated: \_\_\_\_\_, 2002

KRONICK, MOSKOVITZ, TIEDEMANN & GIRARD  
A Professional Corporation

2  
3  
4 By \_\_\_\_\_  
5 DANIEL J. O'HANLON  
6 Attorneys for the Putah Creek Council

7 Dated: \_\_\_\_\_, 2002

LENNIHAN LAW  
A Professional Corporation

8  
9 By \_\_\_\_\_  
10 MARTHA H. LENNIHAN  
11 Attorneys for City of Davis

12 Dated: August 14, 2002

BARTKIEWICZ, KRONICK & SHANAHAN

13 By Alan B. Lilly  
14 ALAN B. LILLY  
15 Attorneys for Regents of the University of California

16 Dated: \_\_\_\_\_, 2002

MINASIAN, SPRUANCE, BABER, MEITH,  
SOARES & SEXTON, LLP

17  
18  
19 By: \_\_\_\_\_  
20 PAUL R. MINASIAN  
21 Attorneys for Solano Irrigation District, City of  
22 Suisun and Maine Prairie Water District

23 Dated: \_\_\_\_\_, 2002

SOMACH, SIMMONS & DUNN

24 By \_\_\_\_\_  
25 STUART L. SOMACH  
26 Attorneys for the Cities of Vacaville, Fairfield and  
27 Vallejo  
28

1 Dated: \_\_\_\_\_, 2002

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2  
3  
4 By \_\_\_\_\_  
5 DANIEL J. O'HANLON  
6 Attorneys for the Putah Creek Council

7 Dated: \_\_\_\_\_, 2002

LENNIHAN LAW  
A Professional Corporation

8  
9 By \_\_\_\_\_  
10 MARTHA H. LENNIHAN  
11 Attorneys for City of Davis

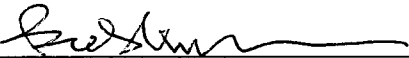
12 Dated: \_\_\_\_\_, 2002

BARTKIEWICZ, KRONICK & SHANAHAN

13 By \_\_\_\_\_  
14 ALAN B. LILLY  
15 Attorneys for Regents of the University of California

16 Dated: August 6, 2002

MINASIAN, SPRUANCE, BABER, MEITH,  
SOARES & SEXTON, LLP

17  
18  
19 By:   
20 PAUL R. MINASIAN  
21 Attorneys for Solano Irrigation District, City of  
22 Suisun and Maine Prairie Water District

23 Dated: \_\_\_\_\_, 2002

SOMACH, SIMMONS & DUNN

24 By \_\_\_\_\_  
25 STUART L. SOMACH  
26 Attorneys for the Cities of Vacaville, Fairfield and  
27 Vallejo  
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Dated: \_\_\_\_\_, 2002

KRONICK, MOSKOVITZ, TIEDEMANN & GIRARD  
A Professional Corporation

By \_\_\_\_\_  
DANIEL J. O'HANLON  
Attorneys for the Putah Creek Council

Dated: \_\_\_\_\_, 2002

LENNIHAN LAW  
A Professional Corporation

By \_\_\_\_\_  
MARTHA H. LENNIHAN  
Attorneys for City of Davis

Dated: \_\_\_\_\_, 2002

BARTKIEWICZ, KRONICK & SHANAHAN

By \_\_\_\_\_  
ALAN B. LILLY  
Attorneys for Regents of the University of California

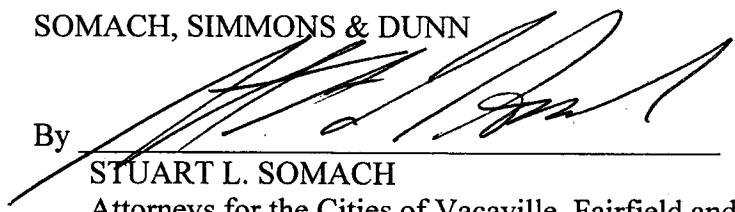
Dated: \_\_\_\_\_, 2002

MINASIAN, SPRUANCE, BABER, MEITH,  
SOARES & SEXTON, LLP

By: \_\_\_\_\_  
PAUL R. MINASIAN  
Attorneys for Solano Irrigation District, City of  
Suisun and Maine Prairie Water District

Dated: August 7, 2002

SOMACH, SIMMONS & DUNN

By  \_\_\_\_\_  
STUART L. SOMACH  
Attorneys for the Cities of Vacaville, Fairfield and  
Vallejo

# Exhibit 1



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SUPERIOR COURT OF CALIFORNIA  
COUNTY OF SACRAMENTO

Coordination Proceeding Special Title  
(Rule 1550b)

PUTAH CREEK WATER CASES

PUTAH CREEK COUNCIL,

Plaintiff,

v.

SOLANO IRRIGATION DISTRICT, and  
SOLANO COUNTY WATER AGENCY,

Defendants.

JUDICIAL COUNCIL COORDINATION  
PROCEEDING NUMBER 2565

SACRAMENTO COUNTY SUPERIOR  
COURT CASE NUMBER 515766

**SECOND AMENDED JUDGMENT**

The case of Putah Creek Council v. Solano Irrigation District and Solano County Water Agency, Sacramento County Superior Court No. 515766, was regularly tried before the Court sitting without a jury. This trial occurred in coordination with the trials of all the causes of action of the cross-complaint filed by the City of Davis, and the second cause of action of the cross-complaint filed by the Regents of the University of California in Solano Irrigation District et. al. v. the Names of all Appropriative Water Rights Holders, et. al., Solano County Superior Court No. 108552. This Second Amended Judgment, however, is entered only in Putah Creek Council v. Solano Irrigation District and Solano County Water Agency, Sacramento County Superior Court No. 515766.

1  
2 The trial was held on March 4, 1996 through April 5, 1996. Appearing as attorneys for  
3 plaintiff Putah Creek Council were Beveridge & Diamond, by Daniel J. O'Hanlon, Lawrence S.  
4 Bazel and Brett P. Moffatt. Appearing as attorneys for defendants Solano Irrigation District and  
5 Solano County Water Agency were Minasian, Minasian, Minasian, Spruance, Baber, Meith &  
6 Soares, by Tim O'Laughlin and William C. Paris, III.

7 Following the trial, the Court, having heard the testimony and considered the evidence,  
8 rendered its Judgment in this action. Judgment was entered on August 23, 1996. The cross-  
9 defendants appealed from the Judgment.

10 On December 4, 1996, the Court entered an Order Awarding Attorneys Fees, awarding  
11 fees and costs to the Putah Creek Council, its attorneys, and its experts. The defendants appealed  
12 from that Order.

13 While the Judgment and Order were on appeal, and before any decision on the  
14 appeals, the parties reached a stipulated settlement of the issues raised in this action. Pursuant to  
15 the terms of the settlement, the Court of Appeal referred the action to this Court for the limited  
16 purpose of considering the proposed settlement and amended judgments.

17 By motion filed on August 28, 2000, the parties jointly requested that the Court  
18 amend its Judgment in this action and its Order Awarding Attorneys Fees to conform to the  
19 terms of a settlement stipulated to among the parties. The Court considered the proposed  
20 amendments to the Judgment and the Order, and the briefs and evidence offered by the parties in  
21 support of the proposed amendments. The Court found that the proposed amendments to the  
22 Judgment and the Order were consistent with the requirements of Article X, Section 2 of the  
23 California Constitution, the public trust doctrine, and section 5937 of the California Fish and  
24 Game Code. Accordingly, the Court found that the Judgment and Order should be amended as  
25 requested, and entered the Amended Judgment requested and stipulated to by the parties on  
26 September 8, 2000.

27 By motion pursuant to Section VI of the Amended Judgment, the parties have  
28 jointly requested that the Court amend the Amended Judgment in this action to conform to the

1 terms of an amended settlement stipulated to among the parties. The Court has considered the  
2 proposed amendments to the Amended Judgment, and the briefs and evidence offered by the  
3 parties in support of the proposed amendments. The Court finds that the proposed amendments  
4 to the Amended Judgment are consistent with the requirements of Article X, Section 2 of the  
5 California Constitution, the public trust doctrine, and section 5937 of the California Fish and  
6 Game Code. Accordingly, the Court finds that the Amended Judgment should be amended as  
7 requested, and that the Second Amended Judgment requested and stipulated to by the parties  
8 should be entered.

9 WHEREFOR, the Amended Judgment entered in this action on September 8, 2000 is  
10 hereby AMENDED and superseded by this Second Amended Judgment, and the Court now  
11 ORDERS AND ADJUDGES AS FOLLOWS:

#### 12 I. PERMANENT INJUNCTION

13 The Solano Irrigation District ("SID") and Solano County Water Agency ("SCWA")  
14 forthwith shall modify their operations of, and other conduct regarding, the Solano Project as  
15 specified in Exhibit "A" attached hereto and incorporated herein fully by reference.

#### 16 II. ENFORCEMENT ACTIONS

17 If the Solano Project is operated to comply with the release and instream flow  
18 requirements specified in Exhibit "A" hereto, then the Putah Creek Council shall not pursue an  
19 action or proceeding for contempt of this Second Amended Judgment based on a violation or  
20 violations of one or more of the minimum mean daily flow requirements established in Exhibit  
21 "A" section A.(2), B.(2), C.(1), C.(2), C.(3), C.(4) and D.(3), or one or more of the minimum  
22 instantaneous flow requirements established in Exhibit "A" section A.(2), B.(2), C.(1), C.(2),  
23 C.(3), and C.(4), so long as:

24 A. The failure to comply was solely the result of an unanticipated and unforeseeable  
25 increase in a diversion or diversions from, or reduction in an inflow or inflows into, Putah Creek  
26 downstream of the Putah Diversion Dam, by some person or entity besides SID or SCWA, and  
27 the increase or reduction occurred so rapidly that the Solano Project could not reasonably  
28

1 maintain compliance by increasing the releases from the Putah Diversion Dam into lower Putah  
2 Creek; and

3 B. The four-day running mean flow at the relevant compliance point equaled or  
4 exceeded the applicable minimum mean daily flow; and

5 C. The instantaneous flow at the relevant compliance point was not more than 5 cfs less  
6 than the applicable minimum mean daily flow if the violation occurred during the period from  
7 January through July, and was not more than 3 cfs less than the applicable minimum mean daily  
8 flow if the violation occurred during the period from August through December.

### 9 III. LOWER PUTAH CREEK COORDINATING COMMITTEE

10 A. The parties shall, within six months after the filing of the Amended Judgment, form  
11 a Lower Putah Creek Coordinating Committee ("LPCCC") to carry out the responsibilities  
12 assigned to the LPCCC under this Amended Judgment.

13 The LPCCC shall be organized and governed in a manner that, at a minimum,  
14 incorporates the following:

15 (1) Membership: The LPCCC shall consist of ten members with five  
16 members representing the Putah Creek Council, the City of Davis, and the Regents of the  
17 University of California (the "Yolo parties") and five members representing the Solano County  
18 Water Agency, the Solano Irrigation District, the Maine Prairie Water District, and the Cities of  
19 Vacaville, Fairfield, Vallejo and Suisun City (the "Solano parties"). The selection of the Yolo  
20 parties' representatives shall be undertaken in a manner to be determined by the Yolo parties; the  
21 selection of the Solano parties' representatives shall be undertaken in a manner to be determined  
22 by the Solano parties.

23 (2) Voting:

24 (a) Full LPCCC Membership: Matters before the LPCCC shall be  
25 deemed approved only if a majority of the Yolo members and a majority of the Solano members  
26 approve the action. A quorum shall be deemed present if a minimum of three members is present  
27 from each side. Alternates may be selected and shall have the voting rights of the regular  
28 members not in attendance.

1 (b) Rotation of Chairmanship: A chairman and vice-chairman shall  
2 be elected (or selected by agreement of all LPCCC members) to serve on an annual basis. If the  
3 first chairman elected (or selected) is a Solano party representative, then the first vice-chairman  
4 shall be a Yolo party representative, and conversely if the first chairman selected is a Yolo party  
5 representative, then the first vice-chairman shall be a Solano party representative. Thereafter, the  
6 chairman and vice-chairman shall alternate between a Yolo party representative and a Solano  
7 party representative. The chairman and vice-chairman together shall constitute an executive  
8 committee. In situations where emergency actions must be taken before the LPCCC or the Core  
9 Group can be convened, either in person or by conference telephone call, the executive  
10 committee shall be authorized to act without the full LPCCC or the Core Group. In that event,  
11 the executive committee immediately shall report its actions to the full LPCCC by fax or e-mail,  
12 and shall obtain ratification or further directions from the full LPCCC.

13 (c) Core Group: A "Core Group" shall be formed. It shall be  
14 comprised of six members, of whom three shall be representatives of the three Yolo parties, and  
15 three shall be selected by the Solano parties' representatives.

16 At the discretion and written request of any member of the Core  
17 Group, a matter otherwise subject to vote by the full LPCCC shall be dealt with solely by the  
18 Core Group. Any action dealt with by the Core Group shall only be approved if at least two of  
19 the Core Group members representing the Yolo parties and two of the Core Group members  
20 representing the Solano parties shall have voted to approve the action.

21 (3) Scope of Authority: The LPCCC shall have the responsibility to  
22 undertake the following:

23 (a) To monitor implementation of the Putah Creek Settlement  
24 Agreement and to make an annual report to the Court and to the parties to the settlement  
25 agreement.

26 (b) Through the Streamkeeper and any other means that may be  
27 approved by the LPCCC, to monitor the condition of Putah Creek from Putah Diversion Dam to  
28 the Yolo Bypass ("lower Putah Creek") and to make recommendations to appropriate agencies

1 about the condition of the waterway and actions appropriate to preserve and protect this stretch  
2 of Putah Creek.

3 (c) To undertake maintenance, restoration and enhancement  
4 measures with respect to lower Putah Creek resources and to support and coordinate the efforts  
5 of public agencies, private property owners and non-profit associations in furtherance of such  
6 maintenance, restoration and enhancement.

7 (d) To serve as a forum for discussion and possible resolution of  
8 lower Putah Creek related concerns and issues. Provided, however, this provision shall not be  
9 construed to give the LPCCC any authority to amend this Second Amended Judgment.

10 (e) To coordinate with the Reclamation Board and the Department of  
11 Water Resources on flood control issues regarding Putah Creek.

12 (f) To develop a system to share data regarding lower Putah Creek.

13 (g) To develop an active public education/information program on  
14 Lower Putah Creek.

15 (h) To seek grants and funds where appropriate for projects in pursuit  
16 of the above goals.

17 (i) To oversee the Streamkeeper. The Streamkeeper shall be  
18 employed by SCWA except as otherwise determined by the LPCCC after entry of this Second  
19 Amended Judgment.

20 (j) To establish standing and ad hoc committees, including a  
21 Technical Committee, as may be necessary or appropriate to further the LPCCC's  
22 responsibilities.

23 (4) The LPCCC and any standing committees shall comply with the Ralph  
24 M. Brown Act, Government Code sections 54950—54962.

25 (5) SCWA shall provide administrative support for the LPCCC, any standing  
26 or ad hoc committees and the Streamkeeper.

27 (6) As part of the Parties' ongoing efforts to protect and enhance the instream  
28 values associated with lower Putah Creek, SCWA shall contribute, in coordination with the

1 contributions and activities specified in Section III.H. hereof, the following amounts of money,  
2 which shall be utilized for the specified activities. Each specific expenditure of money shall be  
3 authorized in advance by the LPCCC, and the LPCCC shall supervise the specified activities.

4 (a) \$10,000 per year for native vegetation preservation and  
5 enhancement, including the identification of areas along the lower Putah Creek dominated by  
6 non-native species, and their removal and replacement with native trees and grasses. This work  
7 will be coordinated with efforts by other individuals and entities involved in similar removal and  
8 replacement efforts.

9 (b) \$55,000 per year for the monitoring of wildlife, including birds,  
10 mammals, reptiles and amphibians which live in and around lower Putah Creek.

11 (c) Amounts, if any, to be determined by SCWA for acquisition of  
12 easements from voluntary, willing sellers, for the maintenance and enhancement of the biological  
13 resources of lower Putah Creek. These acquisitions shall be coordinated with the development of  
14 a long-term plan. The development of this plan shall be coordinated with other interested entities  
15 and individuals.

16 (d) \$55,000 per year for the monitoring of native fish in lower Putah  
17 Creek.

18 (e) \$40,000 per year for a Streamkeeper for lower Putah Creek,  
19 whose duties shall include, without limitation, preparing reports to the LPCCC regarding all  
20 aspects of lower Putah Creek, attending all LPCCC meetings, weekly monitoring and recording  
21 of flows at specified locations, weekly monitoring and recording of all diversions from lower  
22 Putah Creek, coordinating field trips and public projects to improve lower Putah Creek natural  
23 values, and identification and reporting to the LPCCC of any activities that are harmful to the  
24 health of lower Putah Creek.

25 (f) General grants totaling \$250,000 in the aggregate for the  
26 preservation and enhancement of the natural values of lower Putah Creek, which shall be  
27 allocated by the LPCCC.

28 (g) The amounts provided for in subsections (a), (b), (d) and (e) to

1 the extent not allocated by the LPCCC in any given year shall not carry over to subsequent years.  
2 Amounts not expended on the matters enumerated above, however, as authorized by the LPCCC,  
3 may be expended for the following additional purposes:

4 (i) For preservation and enhancement of birds, mammals,  
5 reptiles and amphibians that live in and around lower Putah Creek; and

6 (ii) For preservation and enhancement of native fish in lower  
7 Putah Creek.

8 (h) The contributions specified in subparagraphs (6)(a), (b), (d) and  
9 (e) shall be annually adjusted, up or down, in proportion to any changes in the first quarterly IPD  
10 published, in the relevant year, in the Survey of Current Business, by the United States  
11 Department of Commerce. If the IPD no longer is available, then the most comparable available  
12 index shall be used instead.

13 B. If the parties to this Second Amended Judgment have not reached agreement on  
14 the exact form and functions of the LPCCC within six months after the filing of the Amended  
15 Judgment, then the Court, exercising its reserved jurisdiction, shall mediate the development of a  
16 final agreement with respect to the form and functions of the LPCCC and, if the parties fail to  
17 agree during the mediation, shall have the authority to mandate the form and functions of the  
18 LPCCC after considering any arguments of the parties. If the LPCCC ever is unable to decide  
19 how to spend any of the moneys that are described in subsection III.A.(6) hereof, then the Court,  
20 exercising its reserved jurisdiction, shall mediate the development of an appropriate plan to  
21 spend such moneys, and, if the LPCCC fails to approve such a plan, then the Court shall have the  
22 authority to mandate an appropriate plan for the expenditure of such moneys.

23 C. The LPCCC shall specify the general duties and responsibilities of the  
24 Streamkeeper and shall review and evaluate the Streamkeeper's performance at least once each  
25 year. The Streamkeeper shall report directly to the Executive Committee of the LPCCC, and the  
26 Executive Committee of the LPCCC shall supervise the Streamkeeper's day-to-day duties and  
27 responsibilities.



1 D. The LPCCC shall determine the scopes of the work to be performed under  
2 subparagraphs A.(3)(a), (b), (c) and (d) of this Second Amended Judgment. No expenditures  
3 under subparagraphs A.(6)(a), (b), (c), (d), (e) and (f) of this Second Amended Judgment shall be  
4 made without the advance approval of the LPCCC.

5 E. The LPCCC shall pursue and support the following types of measures for  
6 anadromous fish, through the fish surveys and the Streamkeeper's work described in  
7 subparagraphs A.(6)(d) and (e) and other actions that may be taken by the LPCCC, including  
8 seeking additional funding where already identified sources are insufficient and coordinating  
9 with other applicable planning efforts:

10 (1) A survey and analysis of existing spawning gravels for anadromous fish  
11 in the reach of lower Putah Creek from the Putah Diversion Dam to Pedrick Road, and the  
12 potential for enhancement of these spawning gravels;

13 (2) A survey and analysis of any obstacles to anadromous fish passage in  
14 lower Putah Creek, includes for the purposes of this survey and analysis, the Putah Diversion  
15 Dam and any structures downstream therefrom;

16 (3) The development of a sedimentation management plan for lower Putah  
17 Creek that would prevent or mitigate for any damage to fish habitat that may be caused by  
18 releases of sediment at the Putah Diversion Dam;

19 (4) Monitoring of lower Putah Creek to determine the extent and timing of  
20 chinook salmon, steelhead trout and Pacific lamprey in lower Putah Creek;

21 (5) Provided, however, that if an HCP process has been initiated within one  
22 year of entry of the Amended Judgment and includes a proposed Safe Harbor provision with  
23 activities delineated in both the proposed Safe Harbor provision and subparagraphs III.E.(1) – (4),  
24 then the LPCCC shall not undertake the activities until either the HCP is finalized or five years  
25 have passed since entry of the Amended Judgment.

26 F. The Core Group may approve changes to any provision of this Section III,  
27 provided that such changes do not alter, and are not inconsistent with, any other provision of this  
28 Second Amended Judgment. The Core Group shall file any such changes and an explanation of

1 the reasons for the change with the court, for filing with this Second Amended Judgment, within  
2 30 days after the Core Group approves the changes.

3 G. All data collected during any of the activities referenced in this Section III and  
4 all reports and other documents provided to the LPCCC shall be immediately made available for  
5 inspection and copying by any party to this Amended Judgment or any interested member of the  
6 public during normal business hours. To the extent feasible and reasonable, SCWA shall post on  
7 its Internet website, or make available to the public by similar electronic means, all data and  
8 reports that must be made available for inspection and copying under the preceding sentence of  
9 this paragraph within 15 days after SCWA receives each set of such data and each such report.

10 H. The parties are encouraged to augment, to the degree permitted by applicable  
11 law, the sums of money herein committed by SCWA, in order to further the work outlined  
12 herein. The parties will provide notice to and coordinate with the LPCCC regarding actions that  
13 may affect the scope of the LPCCC's authority and responsibilities with respect to lower Putah  
14 Creek as is provided for in this Amended Judgment.

#### 15 IV. LIMIT ON AVERAGE ANNUAL ALLOCATIONS

16 Solano Project Contract Allocations are defined as the amount of all Solano Project  
17 Water delivered to Participating Agencies pursuant to the agreements between SCWA and the  
18 Participating Agencies. Solano Project Contract Allocations also include Solano Project Water  
19 not delivered during the allocation year and instead stored in Lake Berryessa pursuant to Article  
20 4(c) of the Contract Between the United States and Solano County Water Agency Providing For  
21 Water Service (Contract No. 14-06-200-4090R). Putah South Canal Conveyance losses (Canal  
22 inflows minus deliveries from Canal) are not included in Solano Project Contract Allocations.  
23 During each year, Solano Project Contract Allocations shall be limited such that there are never  
24 ten (10) successive years during which, over those ten years, the average Solano Project Contract  
25 Allocations exceed 192,350 af per year. The Parties acknowledge that the 10-year average  
26 amount of Solano Project Water delivered to Participating Agencies may exceed 192,350 af in  
27 certain years due to the delivery of the aforementioned stored water.

28

1 **V. AWARD OF FEES AND EXPENSES**

2 SCWA and SID have paid to the Putah Creek Council's attorneys, the Putah Creek  
3 Council itself, and to the Putah Creek Council's expert witnesses, respectively, the amount listed  
4 below for each:

- |    |    |                          |              |
|----|----|--------------------------|--------------|
| 5  | 1. | Beveridge & Diamond, LLP | \$ 1,115,882 |
| 6  | 2. | Morrison & Foerster      | \$ 178,991   |
| 7  | 3. | Latham & Watkins         | \$ 209,644   |
| 8  | 4. | Putah Creek Council      | \$ 27,769    |
| 9  | 5. | Eugene Yates             | \$ 33,057    |
| 10 | 6. | Steven Chainey           | \$ 6,972     |

11 **VI. RESERVED JURISDICTION**

12 This Court reserves continuing jurisdiction over the parties to provide for the administration  
13 and enforcement of this Second Amended Judgment, including jurisdiction to modify this  
14 Second Amended Judgment in accordance with applicable law.

15 DATED: \_\_\_\_\_, 2002

17 \_\_\_\_\_  
HONORABLE RICHARD A. PARK  
JUDGE OF THE SUPERIOR COURT

**Exhibit "A"****Solano Project Releases and Instream Flows for Lower Putah Creek****A. Rearing Flows ((1), (2) & (3) all shall be maintained)**

(1) Solano Irrigation District ("SID") and Solano County Water Agency ("SCWA") shall, for each month as set forth below, maintain mean daily releases from the Putah Diversion Dam to Creek downstream of the Putah Diversion Dam (hereinafter "lower Putah Creek") that are equal to or in excess of the following rates, expressed in cubic feet per second ("cfs"):

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean Daily Release (cfs)	20	25	25	25	16	26	46	43	43	43	34	20

These mean daily releases shall be measured at the Putah Diversion Dam and made from the Putah Diversion Dam into lower Putah Creek immediately downstream of the Putah Diversion Dam. The instantaneous releases at the Putah Diversion Dam shall at all times equal or exceed ninety percent (90%) of the applicable mean daily release requirement.

(2) SID and SCWA shall, for each month as set forth below, release sufficient water from the Putah Diversion Dam into lower Putah Creek immediately downstream of the Putah Diversion Dam to maintain mean daily flows in lower Putah Creek that are equal to or in excess of the following rates, expressed in cubic feet per second ("cfs"):

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean Daily Flows (cfs)	5	10	10	15	15	25	30	20	15	15	10	5

These mean daily flows shall be maintained and measured at or in the near vicinity of the Interstate 80 Bridge. The instantaneous flow at the Interstate 80 Bridge shall at all times equal or exceed ninety percent (90%) of the applicable mean daily flow requirement.

(3) SID and SCWA shall at all times of the year release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a continuous flow of surface water in Putah Creek from the Old Davis Road Bridge to the western boundary of the Yolo Bypass, identified as River Mile 0.0 on trial exhibit number 41.

B. Spawning Flows ((1), (2) & (3) all shall be maintained)

(1) At a time between February 15 and March 31 of every calendar year, SID and SCWA shall release a three-consecutive-day pulse of water from the Putah Diversion Dam into lower Putah Creek equal to or in excess of the following rates:

- (a) 150 cfs for the first 24 hours;
- (b) 100 cfs for the second 24 hours; and
- (c) 80 cfs for the third 24 hours.

SID and SCWA may, in their discretion, time this pulse so as to utilize any uncontrolled flows that may provide some or all of the water needed to comply with this requirement.

(2) In every year, for the 30 days that follow the three-day pulse release described in paragraph B.(1), SID and SCWA shall release sufficient water from the Putah Diversion Dam into lower Putah Creek to maintain a mean daily flow equal to or in excess of 50 cfs at the Interstate 80 Bridge. During this period, the instantaneous flows at the Interstate 80 Bridge shall at all times equal or exceed 45 cfs.

(3) In every year, at the conclusion of the 30th day of the 50 cfs spawning flows described in subsection B.(2), SID and SCWA then shall ramp down the controlled releases from the Putah Diversion Dam gradually over a seven-day period until the flows are in compliance with the applicable requirements set forth in subsections A.(2), A.(3), C.(3) and C.(4) of this Exhibit "A".

C. Supplemental Flows ((1), (2), (3), & (4) all shall be maintained)

The requirements set forth thus far herein are intended to protect the aquatic and related resources found in lower Putah Creek. It has been agreed, however, that in addition to maintaining these resources, SID and SCWA shall provide supplemental flows in an attempt to enhance the aquatic and related resources of lower Putah Creek above that baseline. Accordingly:

(1) SID and SCWA shall, during the period from November 1 through December 15 of each calendar year, release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a mean daily flow of at least 5 cfs, and an instantaneous flow of at least 2 cfs, at the point where Putah Creek discharges into the Toe Drain on the eastern side of the Yolo Bypass (the "East Toe Drain").

(2) Beginning sometime between November 15 and December 15 of each calendar year, SID and SCWA shall release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a mean daily flow of at least 50 cfs, and an instantaneous flow of at least 45 cfs, for five consecutive days at the point where Putah Creek discharges into the East Toe Drain. If a flash board dam is present on Putah Creek near the East Toe Drain during that period, and if the flash boards are removed during that period, then to the extent feasible the first day of the 50 cfs pulse flow at the East Toe Drain shall follow the removal of the flash boards. The precise timing of the initiation of the 50 cfs pulse flow shall be set each year by the Lower Putah Creek Coordinating Committee established in accordance with section III of the Second Amended Judgment (the "LPCCC"). The objective of the LPCCC shall be to time the release so as to maximize the potential for such flows to attract anadromous fish into Putah Creek. If the exact date of releases has not been established or agreed upon by the LPCCC, then the releases dealt with in this subparagraph shall commence on December 1 of the affected calendar year.

(3) Beginning on the sixth day after initiation of the above described 50 cfs pulse flow, and continuing each day thereafter through March 31, SID and SCWA shall release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a mean daily flow of at least 19 cfs, and an instantaneous flow of at least 14 cfs, at I-80.

(4) Beginning on April 1 of each calendar year, and continuing each day thereafter through May 31, SID and SCWA shall release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a mean daily flow of at least 5 cfs, and an instantaneous flow of at least 2 cfs, at the point where Putah Creek discharges into the East Toe Drain.

**D. Drought Year Flows**

(1) During years when total storage in Lake Berryessa is less than 750,000 acre feet ("af") as of April 1 (a "Drought Year"), the release and instream flow requirements set forth in sections D.(2), D.(3) and D.(4) below ("Drought Year Requirements") shall apply instead of the release and instream flow requirements set forth in sections A., B. and C. above ("Non-Drought Year Requirements"). Provided, however, that if after April 1 the total storage in Lake Berryessa rises to 750,000 af or more, then the Non-Drought Year Requirements shall immediately take effect.

(2) During a Drought Year, releases of water from the Putah Diversion Dam into lower Putah Creek shall equal or exceed the following amounts (mean daily values, in cfs, with instantaneous releases always equal to or exceeding 90 % of the listed values):

Oct	Nov	Dec	Jan	Feb	Mar	Apr	Ma	Jun	Jul	Aug	Sep
15	25	25	25	16	26	46	33	33	33	26	15

(3) During a Drought Year, SID and SCWA shall release sufficient water from the Putah Diversion Dam to maintain a continuous flow of surface water in Putah Creek from

Putah Diversion Dam to the Interstate 80 Bridge, and further shall release sufficient water from the Putah Diversion Dam to maintain a minimum mean daily instream flow of 2 cfs at the Interstate 80 Bridge, with instantaneous flows always equal to or exceeding 1 cfs. Under these conditions, SID and SCWA shall not be required to maintain a continuous flow of surface water in the reach of Putah Creek below the Interstate 80 Bridge.

(4) Whenever the release and instream flow requirements set forth in sections D.(2) and D.(3) are in effect for two consecutive years, then during the next year thereafter the Non-Drought Year Requirements shall apply and shall remain in effect for an entire period from April 1 through March 31, unless total storage in Lake Berryessa on April 1 is less than 400,000 af. If the Drought Year Requirements are ever in effect for three or more consecutive years, then the Non-Drought Year Requirements shall apply and remain in effect for an entire period from April 1 through March 31 in the first subsequent year during which total storage in Lake Berryessa on April 1 exceeds 400,000 af.

(5) For the purposes of this section D, "total storage in Lake Berryessa" shall be the actual amount of water that physically is stored in Lake Berryessa (including all carryover storage) plus a Storage Adjustment. As of the date of entry of the Amended Judgment, the Storage Adjustment shall be zero. Thereafter, the amount of any controlled release of water from Lake Berryessa that is not for the purpose of (i) Solano Project Diversions, or (ii) maintaining the flows in lower Putah Creek that are required by the Amended Judgment shall be added to the Storage Adjustment. When Lake Berryessa spills, and all carryover storage has been spilled or otherwise eliminated, the Storage Adjustment shall be re-set to zero. The Storage Adjustment shall never be less than zero. "Solano Project Diversions," for the purpose of this paragraph, means water delivered to Solano Project Participating Agencies and Putah South Canal Conveyance losses (Canal inflows minus deliveries from canals).



(6) If Solano Project Water that is not within the scope of Solano Project Contract Allocations, as is defined in Section IV of the Second Amended Judgment, ever is stored in an offstream reservoir or reservoirs or underground storage, and, as a result, Lake Berryessa storage levels are reduced below the levels that would occur in the absence of such storage, then the 750,000 af amount in paragraph D.(1) and the 400,000 af amount in paragraph D.(4) shall be adjusted so that Drought Year Requirements will continue to occur at the same frequencies as they would have occurred in the absence of such storage.

E. Illegal Diversion Account

If there is any risk that illegal diversions may take place from lower Putah Creek to a degree that water released by the Solano Project for the purposes of maintaining the minimum flows set forth herein will be significantly depleted, then the procedures set forth in the attached Exhibit "A-1" shall be implemented.

F. Monitoring Requirements ((1), (2), (3), & (4) all shall be satisfied)

(1) SID and SCWA shall continuously measure and record releases from the Putah Diversion Dam to lower Putah Creek, and shall determine and record each day's mean daily release.

(2) SID and SCWA shall forthwith install and maintain flow measurement gauges capable of measuring instream flows on a continuous basis at the Interstate 80 Bridge and near the East Toe Drain. SID and SCWA shall collect and maintain the data recorded by each of these gauges as is necessary to demonstrate their compliance with the flow requirements imposed by this Second Amended Judgment. In addition, SID and SCWA shall make regular measurements of instream flows at Stevenson Road Bridge, Pedrick Road Bridge and Old Davis Road Bridge. If the instream flow measured at Stevenson Road Bridge, Pedrick Road Bridge, or at Old Davis Road Bridge, is less than the minimum instream flow requirements in section A.(2) above on more than an

infrequent basis, then the paragraph A.(2) flow requirements shall start to apply at such measurement point or points, in addition to still applying at the Interstate 80 Bridge. SID and SCWA shall install, maintain, repair, calibrate and operate gauging equipment at such compliance points as may be necessary to ensure and demonstrate their compliance with the provisions of this Exhibit "A". Gaging equipment shall be installed to provide a range of measurement from 0 cfs to at least 200 cfs.

(3) SID and SCWA shall monitor flows in the entire reach of lower Putah Creek from Old Davis Road Bridge to River Mile 0.0 with sufficient frequency and by sufficient means to ensure compliance with the requirement in part A.(3) of this Second Amended Judgment that continuous flow of surface water be maintained in this reach at all times of the year. All measurements and observations of this reach made for purposes of compliance with this requirement shall be recorded.

(4) SID and SCWA shall maintain records, in both paper and electronic format, of all release and flow measurements, all calculated mean daily releases and flows, and all observations required by this Second Amended Judgment. Promptly upon request, these records shall be made available for review and copying by any person during normal business hours at the offices of SID or SCWA.

**Exhibit "A-1"**

**Effects of Illegal Diversions of Water from Lower Putah Creek  
on Solano Project's Obligations to Maintain Exhibit A Instream Flow Requirements**

1. The Solano Project shall satisfy all of the release and instream flow requirements that are specified in Exhibit A at all times, whether or not any illegal diversions of water from lower Putah Creek are occurring, except to the extent that exceptions to the instream flow requirements are authorized by this Exhibit "A-1". These exceptions shall only be authorized during the irrigation season. "Irrigation season" shall mean the period from March 1 through October 31 of each year.
2. To determine the Solano Project's obligations to satisfy the instream flow requirements specified in Exhibit A during times when illegal diversions from lower Putah Creek are occurring, an Illegal Diversion Account shall be established. Starting at the beginning of the sixth irrigation season during which this Illegal Diversion Account is drawn upon, the balance in this account shall be set to 1,000 acre feet at the beginning of each irrigation season, regardless of the account's balance at the end of the prior irrigation season. Prior to the sixth irrigation season in which the Illegal Diversion Account is drawn upon, the balance in the Illegal Diversion Account at the beginning of each irrigation season shall be set to 2,000 acre feet. Any credits made pursuant to Paragraph 9 of this Exhibit "A-1" for any irrigation season shall be in addition to the initial balance. SCWA shall maintain an accurate accounting of all credits to and deductions from this account, and shall provide all members of the LPCCC with an updated accounting of the credits to and deductions from this account on at least a weekly basis whenever such credits or deductions are made.

3. At the beginning of each irrigation season, SCWA shall provide written notice to all riparian landowners of SCWA's projections of the time period during which such landowners legally may divert from each reach of lower Putah Creek during the irrigation season. This notice shall encourage each riparian landowner to provide SCWA with the dates and amounts of the landowner's planned diversions of water from lower Putah Creek during the irrigation season. SCWA may, in its discretion, provide additional notices, making updated SCWA projections of the amounts of water that such landowners legally may divert from lower Putah Creek, to these landowners as the irrigation season progresses. The calculations in these notices shall be based on the formulas and procedures described in Exhibit "A-2". SCWA shall provide a copy of one of each type of all such notices to all of the members of the LPCCC at the same time that SCWA provides such notices to any riparian landowners.

4. The term "illegal diversion" in this Exhibit "A-1" means a diversion that is illegal based on the formulas and procedures described in Exhibit "A-2". The sole purposes of this definition are for implementing the provisions of this Exhibit "A-1" regarding deductions from the Illegal Diversion Account pursuant to this paragraph 4 and modifying the Solano Project's release requirements pursuant to paragraph 6 of this Exhibit "A-1". If SCWA has filed, and is diligently pursuing, a court action against a landowner with an illegal diversion, and if SCWA has complied with all of the provisions of paragraph 3 of this Exhibit "A-1", and is complying with all of the provisions of paragraph 5 of this Exhibit "A-1", then deductions shall be made from the Illegal Diversion Account for any amounts of water that the Solano Project releases from the Putah Diversion Dam into lower Putah Creek during the irrigation season solely for the purpose of compensating for that illegal diversion

while maintaining the instream flows specified in Exhibit "A". "Diligently pursuing" means seeking, at the earliest possible opportunities, a temporary restraining order, a preliminary injunction and a permanent injunction stopping the illegal diversion, and a declaratory judgment regarding the illegality of the diversion. If there is more than one illegal diversion, then all of the provisions of this paragraph shall apply to each illegal diversion.

5. During any period during which deductions are being made from the Illegal Diversion Account, SCWA shall make streamflow measurements on a continuous basis at sufficient locations along lower Putah Creek to make the calculations and determinations described in Exhibit "A-2". During such periods, SCWA shall provide copies of all of the streamflow measurement data, the calculations and determinations described in Exhibit "A-2" and the accurate accounting of all credits to and deductions from the Illegal Diversion Account to all members of the LPCCC at least once each week, and shall post all such data, calculations and determinations on its Internet website, or make such information available to members of the LPCCC and the public by similar electronic means, and shall update such posted information at least once each day.

6. If the balance in the Illegal Diversion Account ever reaches zero, then, during the remainder of the irrigation season during which the Account balance reached zero and while SCWA continues to diligently pursue the court action described in the paragraph 4 above and continues to make available the data, calculations, determinations and reports described in paragraph 5 above, and while the court action is pending, the Solano Project shall not be required to fully comply with any instream flow requirement that is specified in Exhibit "A" for a point that is located downstream of any illegal diversion that is subject to the court action and that occurs after the Illegal Diversion Account balance reaches zero.

Instead, under these conditions, the Solano Project shall release from the Putah Diversion Dam into lower Putah Creek at least the amounts of water that would be sufficient to satisfy all of the instream flow requirements in Exhibit "A", if the illegal diversion that is subject to the court action were not occurring. Under these circumstances, the Solano Project's release obligations shall be adjusted as frequently as necessary to reflect changes in hydrological conditions or changes in the rate of the illegal diversion. Immediately upon the cessation of such illegal diversion, the conclusion, dismissal or cessation of diligent pursuit of the court action, or the end of the irrigation season, whichever occurs first, the Solano Project shall satisfy all of the instream flow requirements in Exhibit "A". If court actions regarding more than one illegal diversion are pending, then the provisions of this paragraph shall apply to all such illegal diversions.

7. Deductions from the Illegal Diversion Account for an illegal diversion may be made only for a maximum of two years after the court action described in paragraph 4 above is filed against the landowner with the illegal diversion. Even if a final judgment is not issued in such court action within two years after the action is filed, and even if such court action is dismissed for any reason, the Solano Project nevertheless thereafter shall be required to maintain all of the instream flows described in Exhibit "A", and no further deductions shall ever be made from the Illegal Diversion Account for any illegal diversion that is or was the subject of the court action. However, if a new illegal diversion with neither a point of diversion nor a place of use that is within the scope of the court action described in paragraph 4 above occurs, then the provisions of paragraphs 4, 5 and 6 above, and this paragraph, shall apply to the new illegal diversion. If there is more than one such new illegal

diversion, then the provisions of paragraphs 4, 5 and 6 above, and this paragraph, shall apply to each such new illegal diversion.

8. If a court of competent jurisdiction issues a final judgment specifying the legality or illegality of any particular diversion from lower Putah Creek, then SCWA shall adjust the formulas and calculations in Exhibit "A-2" to be consistent with the court's judgment, and the adjusted formulas and calculations shall be applied thereafter. Immediately upon making such adjustment, SCWA shall advise all members of the LPCCC of the adjustment. If any party to this Second Amended Judgment disagrees with SCWA's adjustment, then that party may ask the LPCCC to try to resolve the disagreement, or may ask the court that issued this Second Amended Judgment, by noticed motion, to determine what the appropriate adjustment should be.

9. If any adjustments to the formulas or calculations in Exhibit "A-2" are made pursuant to paragraph 8 of this Exhibit A-1, then appropriate adjustments shall be made to the Illegal Diversion Account, for example, credits shall be made for the total amount of all debits that previously were made from the Account for diversion that were treated by SCWA as illegal, but which would have been legal under the adjusted formulas and calculations. If SCWA ceases to diligently pursue any court action described in paragraph 4 of this Exhibit "A-1" before a final judgment is entered, then credits shall be made to the Illegal Diversion Account for the total amount of all debits that previously were made from the Account for the diversion that was the subject of the court action. The credits described in this paragraph shall be spread equally over the same number of irrigation seasons as the number of irrigation seasons during which debits from the Account were made. If the court issues its final judgment during an irrigation season, then the first year of such credits shall be made

[3/13/00]

immediately to the Account. If the court issues its final judgment not during an irrigation season, then the first year of such credits shall be made during the next irrigation season.

Subsequent credits shall be made during the immediately following irrigation seasons.



**Exhibit "A-2"****Solano County Water Agency's Methodology for Monitoring  
and Quantifying the Availability and Use of  
Riparian Water in Lower Putah Creek**

This document provides the Solano County Water Agency's ("SCWA") explanation and basis for its methodology for monitoring and quantifying the availability and use of riparian water in Putah Creek, downstream of the Putah Diversion Dam. SCWA's methodology, hereafter referred to as the Lower Putah Creek Riparian Water Program ("PRWP"), will be used by SCWA to (1) differentiate between and quantify the availability of riparian versus non-riparian waters in Putah Creek, downstream of the Putah Diversion Dam, and (2) identify and quantify illegal water diversions, downstream of the Putah Diversion Dam. SCWA anticipates that implementation of the PRWP will increase the efficiency with which the instream flow requirements of the Solano Project, as specified by the Putah Creek Settlement Agreement, are satisfied, and facilitate the lawful diversion of riparian water downstream of the Putah Diversion Dam.

**1.0 OVERVIEW****1.1 Key Elements of Lower Putah Creek Riparian Water Program**

The PRWP consists of two components: Pre-irrigation season water availability forecasts, and real-time stream flow monitoring during the irrigation season, where "irrigation season" is defined as March 1 through October 31. Annual water availability

forecasts will be provided to riparian water users prior to the irrigation season, so they and other interested parties can plan and, if necessary, make other arrangements for obtaining irrigation water, before significant time and financial resources are committed to the cultivation of a given crop. Real-time monitoring will be conducted to: (1) determine, on a daily basis, the quantities of riparian water that are available to water users in Lower Putah Creek, and (2) differentiate and quantify, on a daily basis, legal versus illegal riparian diversions.

### 1.2 Definition of Riparian Water

For the purposes of the PRWP, riparian stream flows are defined as any surface water derived from precipitation or rising groundwater that, given prevailing hydrologic conditions, would occur in Lower Putah Creek in the absence of the Solano Project. Non-riparian water, such as treated wastewater and agricultural return flows originating from a non-riparian source (e.g., pumped groundwater that would not otherwise be tributary to the creek) cannot, by definition, be diverted by riparian water right claimants and, therefore, is not included as a source of riparian water from Lower Putah Creek.

### 2.0 WATER AVAILABILITY FORECASTS

SCWA's riparian water availability forecasts for Lower Putah Creek will be based on stream flow conditions observed in the Putah Creek drainage, upstream of the Putah Diversion Dam, in the prior (i.e., antecedent conditions) and current water year. Forecasts

will be made on January 1, March 1 and May 1. The January 1 and March 1 forecasts, which will be made before the current rainy season is over, will be based in part on projected stream flow conditions for the balance of the rainy season, while the May 1 forecast, the final forecast for the water year, will be based on actual runoff measured to date. Both the January 1 and March 1 forecasts will include three scenarios, based on the assumption that the balance of the rainy season will either be "wet" (25% exceedance), "normal" (50% exceedance) or "dry" (75% exceedance).

In order to address the differing sources and durations of riparian stream flows (surface stream flows from Putah Creek and/or tributaries to Putah Creek, or rising groundwater), Lower Putah Creek has been divided into five reaches. Water availability forecasts will be made for each reach. Stream reach designations and the analytic framework for making water availability forecasts are presented in "Attachment 1".

### **3.0 REAL-TIME MONITORING**

#### **3.1 Quantifying Available Riparian Water Supply**

Stream flows and the associated stream flow gains and losses will be monitored by reach, on a continuous basis, and the availability of riparian water and extent of illegal diversions will be determined daily, using a series of water mass balance equations to track the quantities of both riparian and non-riparian water entering and leaving each stream reach.

A summary of the equations used to define riparian water availability, by stream reach, is presented in Attachment 1.

Although the determination of net riparian flow is based on real-time stream flow measurements, there are situations where real-time stream flow measurements are not practical and therefore simplifying assumptions must be used, much as they are in the Condition 12 Settlement Agreement for the Upper Putah Creek drainage. For example, under existing conditions it is difficult to measure accurately real-time stream flow losses in the stream reach now inundated by Lake Solano. Consequently, a "fixed" loss figure previously adopted by the United States Bureau of Reclamation may be used in the water mass balance calculation for this reach. In all cases, the simplifying assumptions used to quantify the availability of riparian water are purposely conservative in the sense that they tend to overstate the availability of riparian stream flows. Overstating riparian water availability is preferred, since it presumably increases the enforceability of the PRWP and its acceptability to riparian water users.

### **3.1.1 Data Collection**

#### **3.1.1.1 Measurement of Riparian Diversions**

Riparian diversions will either be measured directly, using an appropriate meter and assuming landowner/operator permission is obtained, or indirectly, via measurement of creek stream flows in the vicinity of the diversion. Riparian diversions typically constitute a

readily measurable fraction of the total stream flow in any given reach (500-2,000 gallons per minute, or about 1-5 cubic feet per second), and are therefore easily detected by continuously measuring stream flows entering and leaving a given stream segment.

### **3.1.1.2 Measurement of Agricultural Return Flows and Wastewater Discharges**

The agricultural return flows entering Lower Putah Creek are for the most part non riparian water sources, as are the treated wastewater discharges from the University of California - Davis (U.C. Davis) water treatment facility, which enter Lower Putah Creek near Old Davis Road. Nevertheless, these water sources must be quantified for water mass balance accounting purposes. The University's treated wastewater discharges are measured and recorded by the treatment plant operators. Most of the agricultural return flows are too small and/or sporadic to warrant direct measurement, and will therefore be estimated, or if insignificant relative to the total creek stream flow, ignored. However, one notable exception is the Willow Canal, which discharges into Lower Putah Creek just upstream of Pedrick Road. Discharges from the Willow Canal, which is operated by the Yolo County Flood Control and Water Conservation District (YCFC&WCD), will be measured as necessary.

### **3.1.1.3 Measurement of Groundwater Seepage and Evapotranspiration**

The amounts of groundwater seepage (into or out of the creek) and water lost to open-water evaporation and transpiration by riparian vegetation vary gradually over time, in comparison to the fluctuating gains and losses associated with water diversions and

agricultural return flows. For the purposes of the PRWP, the net flow gain or loss from these factors (groundwater seepage, evaporation and transpiration) are combined into a single term that represents the natural or "background" net stream flow gain or loss rate within a given reach. Background gains and losses are most easily quantified as the difference in stream flow over a given reach ("top of reach" stream flow versus "bottom of reach" stream flow), in the absence of any diversions or "intra reach inflows."

Groundwater seepage along the reach from I-505 to Stevenson Bridge typically transitions from net loss (seepage out of the creek) to net gain (seepage into the creek). The location of the transition point and the total amount of influent seepage along the gaining stretch depend on the regional groundwater levels in the underlying groundwater basin. This reach will be subdivided into two sub-reaches when necessary to calculate riparian water availability. The upstream end of the gaining segment will be detected by periodic stream flow measurements and/or temperature changes in the creek.

#### **3.1.1.4 Special Situations**

##### **Pumping from Riparian Wells**

There is no clear boundary between wells that induce additional seepage from the creek and wells that pump regional groundwater; the percentage of pumped water that consists of induced seepage decreases gradually with depth and horizontal distance from the creek. A pragmatic approach adequate for the purpose of the PRWP is to include in the accounting the effects of a well if its effect on stream flow can be detected by the stream flow

monitoring program. The philosophy behind this approach is that well pumping does not matter if its effects on stream flow are not measurable; and if the effects are measurable, then the evidence and justification for including the well as a riparian diverter are already at hand. In practice, it is unlikely that wells more than about 500 feet from the creek or more than 100 feet deep will measurably affect stream flow.

#### Impoundments Below Mace Boulevard

Riparian water accounting is slightly more complicated at the downstream end of Putah Creek, between Mace Boulevard and the Toe Drain in the Yolo Bypass. Two impoundments are created in the creek channel each year to provide pumping pools for irrigation operations. The lower impoundment is a flashboard dam operated jointly by Los Rios Farms and the California Department of Fish and Game. Frequently, some of the water impounded behind this dam is water that is diverted from the Toe Drain of the Yolo Bypass at a pumping station about 1 mile north of the dam and conveyed to the impoundment by a canal. It may be necessary to gage the inflows from this canal into Putah Creek to determine the availability of Putah Creek riparian water in the impoundment. The issue may be moot, however, because the downstream compliance point for resident native fish flows is at river mile 0, which is upstream of the impoundment.

The upper impoundment is a temporary dirt berm across the channel that provides a crossing for farm vehicles in addition to creating a pumping pool. The berm is at about river mile 1.0 (aligned with country road 106B), and the impounded water derives entirely from Putah Creek. Irrigation return flows from adjacent fields may include water that originated

from Toe Drain diversions, and these return flows will be measured or estimated in the same manner as for return flows in other reaches of the creek.

#### Riparian Diversions from Pools in the Creekbed

Prior to construction of the Solano Project, landowners in a few locations were able to pump water from natural or constructed pools in the creekbed after live flow in the creek had ceased in summer. These pools were separate from the well-documented gaining reach above Stevenson Bridge, where groundwater seepage into the creekbed can create surface water stream flows in the absence of surface water inflows from upstream reaches. The accounting methodology described here does not encompass the water in isolated pools that would have been present in the absence of the Solano Project. The historical number of pools is thought to be small, and the pumping rates they could sustain also were probably small.

The possible availability of riparian water from isolated pools will be dealt with on a case-by-case basis. If a landowner can provide evidence that persistent pools existed on his or her property during periods of discontinuous streamflow prior to the Solano Project construction, then the sustained pumping yield of those pools will be estimated to quantify the amount of riparian water presently available to the landowner from that source. The yield will be estimated from the pool volume and the permeability of the surrounding streambed materials, which may release shallow groundwater when the pool level is lowered by pumping.



### New Diversions and Return Flows

As parcels change ownership or existing landowners modify their farming operations, some diversions and return flows may be added and others discontinued. Word of mouth and the annual riparian water forecast mailing should be sufficient to inform any newcomers that riparian diversions from Lower Putah Creek are monitored and regulated. The new users will be encouraged to join the cooperative effort to manage and utilize riparian water supplies. Any changes in discharges by U.C. Davis, YCFC&WCD, and other agencies or industries hopefully will also be communicated to the Solano County Water Agency to facilitate a smooth transition. Any unreported changes will eventually be detected by the stream flow monitoring program, periodic field surveys, neighboring landowners, or the streamkeeper.

### Uncooperative Riparian Diverters

It is hoped that all riparian diverters will cooperate with each other and with the Solano County Water Agency to make efficient use of the available riparian water supply without any illegal diversions. However, it is possible that some landowners will attempt to conceal their diversions or refuse to provide information about when and how much water they are diverting, or when and where return flows occur. Fortunately, all of this information can be obtained anyway. It would be impossible to conceal a significant diversion for very long because the pumping equipment and power supplies are large, visible, and make sound and because the effects of the diversion will be detected by the stream flow monitoring program. The pumping rate at any diversion can be measured fairly accurately by gaging the stream flow immediately upstream and downstream of the diversion. Return flows can

similarly be estimated by surveys of the field drainage patterns and the direct observation of the return flows.

### **3.2 Quantifying Illegal Diversions**

Any diversion in excess of the calculated net riparian flow is considered illegal. Illegal diversions, like net riparian flow, will be monitored and quantified by reach, and to the extent possible, by individual diverters. A summary of the equations used to quantify illegal diversions is presented in Attachment 1.

If total riparian diversions in any given reach exceed the available riparian supply and the diverters are unwilling to voluntarily reduce their total diversions to match the available supply, and these actions adversely affect the Solano County Water Agency, then the Agency may sue some or all of the active diverters and seek court orders addressing the illegal diversions. It is hoped that this type of enforcement action will not be necessary. The PRWP will provide all of the data needed on a real-time basis to enable the active riparian diverters to manage their activities and restrict the locations and rates of their diversions so that they remain within the legally available supply.

### **3.3 Public Access to Riparian Water Accounting Data and Calculations**

The Solano County Water Agency will conduct the data collection activities and complete the calculations necessary to generate the pre-irrigation season water availability

[3/23/00]

forecasts and the real-time riparian water availability determinations. All data collected for these purposes and all formulas and computer programs used in the calculations will be available on request to any interested agency, group or individual. The Solano County Water Agency will publish the data and results on its website and update the information approximately daily during the irrigation season.

The Solano County Water Agency will deliver the first (January) pre-season water availability forecast by mail to all riparian landowners along Lower Putah Creek. Landowners may at that time request that the subsequent forecasts (March and May) also be sent by mail if the landowner is unable to access the information by Internet. It would not be practical to disseminate the real-time monitoring data by mail because it will be updated daily during the irrigation season. Active diverters who need the daily information will be able to view it on the Solano County Water Agency's website or call the Agency to obtain the information by telephone.

**ATTACHMENT 1 TO EXHIBIT "A-2"**

**1.0 Pre-Irrigation Season Predictions**

**A) Objective:**

To estimate future availability of riparian stream flows, based on projected and/or prior hydrologic conditions in the Putah Creek drainage. For pre-irrigation season prediction purposes, assume riparian stream flows consist of surface runoff from precipitation and rising groundwater.

**B) Analytic Approach:**

- i) Divide Lower Putah Creek into the following reaches:
- a) Putah Diversion Dam to Highway 505 Bridge (a "losing reach")
  - b) Highway 505 Bridge to Stevenson Bridge (a "gaining reach")
  - c) Stevenson Bridge to I-80 Bridge (a "losing reach")
  - d) I-80 Bridge to Mace Boulevard (a "losing reach")
  - e) Mace Boulevard to Yolo Bypass (a "losing reach")

(Reach designations based on hydrogeologic features, proximity of suitable stream flow gaging sites and existing riparian diversions. When necessary, reach "b" will be subdivided into two sub-reaches.)

- ii) Predict average monthly flow and date of zero flow for each of the above riparian water sources, in each of the five reaches:
- a) Surface runoff: calculate using statistical relationships derived from historical data.
    - Stream flow recession curves derived from stream flow gaging data for "At Winters", "Near Winters" and "Near Davis" stream flow gaging stations.
    - Stream reach percolation/evapotranspiration loss estimating algorithms developed for the Solano County Water Agency's Lower Putah Creek stream flow model.
  - b) Rising groundwater: calculate using statistical relationships derived from historical data.
    - Stream reach groundwater gain/loss estimating algorithms developed for the Solano County Water Agency's Lower Putah Creek streamflow model.

**C) Timing of Pre-Irrigation Season Predictions:**

- i) January 1 – Predictions based on hydrology of water year to date and three scenarios for the remainder of the year's rainy season: "wet year" (25% Lake

Berryessa inflow exceedance), "normal year" (50% Lake Berryessa inflow exceedance) and "dry year" (75% Lake Berryessa inflow exceedance).

- ii) March 1 – Predictions based on hydrology of water year to date and projected 25%, 50% and 75% exceedance runoff rates for the remainder of the year's rainy season .
- iii) May 1 – Final prediction based on hydrology of the water year through April.

## 2.0 Methodology for Quantifying Riparian Streamflows During Irrigation Season

Note: Riparian stream flows are defined here as any surface water derived from precipitation or rising groundwater that, given prevailing hydrologic conditions, would occur in Lower Putah Creek in the absence of the Solano Project. Non riparian water, such as treated wastewater and agricultural return flows originating from a non riparian source (e.g., pumped groundwater) cannot, by definition, be diverted by riparian water right claimants and therefore, are not included as a source of riparian water from Lower Putah Creek.

### A) Overview:

- i) Calculate, on a daily basis, pre Solano Project stream flows (i.e., stream flow that would occur if there were no dams – no Solano Project) at the Putah Diversion Dam site .
- ii) Compare computed daily pre Solano Project stream flow (i.e., stream flow that would occur if there were no dams – no Solano Project) with current Putah Diversion Dam release – determine what fraction of the current release is stored water or any other non riparian water source, versus riparian stream flows .
- iii) Using real-time stream flow monitoring data to quantify prevailing percolation/evapotranspiration losses and any non riparian water sources, calculate riparian flows by stream reach. The total quantity of riparian water in any given reach is defined here as the sum of all riparian water sources less percolation/evapotranspiration losses.

### B) Analytical Approach:

- i) Riparian stream flows at Putah Diversion Dam site:  

$$\text{USRSF} = \text{LBI} + \text{IDTI} - \text{IDCL}$$

Where: USRSF = Riparian stream flow at Putah Diversion Dam

LBI = Computed/measured Lake Berryessa inflow  
 (less any associated non riparian flow)

IDTI = Inter Dam Reach tributary inflow  
 (less any associated non riparian flow)

IDCL = channel percolation/evapotranspiration losses that would occur in the Inter Dam Reach in the absence of Lake Solano

(A stream gage will be placed on Pleasants Creek to facilitate real-time estimation of inflow from inter-dam tributaries. For accounting purposes, seepage and evaporation losses from Lake Solano are assumed to be constant and will therefore be characterized by a fixed continuous loss rate term).

- ii) Riparian stream flows in first reach downstream of Putah Diversion Dam (Putah Diversion Dam to 505 Bridge):

$$1RRSF = USRSF + TRSF + 1RAG - 1RCL$$

Where: 1RRSF = Computed riparian stream flow in Reach 1  
 USRSF = Computed riparian stream flow at Putah Diversion Dam  
 TRSF = Measured stream flow from tributaries (Dry Creek, McCune aka Pleasant Creek), less any associated non riparian flow  
 1RAG = Ag return flow water originating from a riparian source in reach 1  
 1RCL = Measured channel percolation/evapotranspiration losses in reach 1

Notes:

- (1) Agricultural return flow water that originates from a riparian water source (riparian water diverted from Putah Creek or associated tributaries) is classified as riparian water and therefore can be lawfully diverted by other riparian water right claimants.

- iii) Riparian stream flows in second reach downstream of Putah Diversion Dam (505 Bridge to Stevenson Bridge):

$$2RRSF = 1RRSF - 1RD (+/-) 2RCL + 2RAG$$

Where: 2RRSF = Computed riparian stream flow in Reach 2  
 1RRSF = Computed riparian stream flow in Reach 1  
 2RCL = Combined sum of groundwater "gains", channel percolation/evapotranspiration losses in reach 2  
 2RAG = Ag return flow water in reach 2 originating from a riparian source  
 1RD = Riparian diversion in Reach 1

Notes:

- (1) There are no significant tributaries entering Putah Creek in this Reach .  
 (2) Due to the spatial and temporal variability of rising groundwater, portions of the so called "gaining reach" (generally the upstreammost third of the reach) frequently lose rather than gain water. Accordingly, there are instances when some of the riparian diverters within Reach 2 have access

to rising groundwater, while others do not. When necessary, Reach 2 will be broken into two sub reaches for the purpose of quantifying riparian stream flows.

- iv) Riparian stream flows in third reach downstream of Putah Diversion Dam (Stevenson Bridge to I-80):

$$3RRSF = 2RRSF - 2RD - 3RCL + 3RAG$$

Where: 3RRSF = Computed riparian stream flow in Reach 3  
 2RRSF = Computed riparian stream flow in Reach 2  
 2RD = Riparian diversions in Reach 2  
 3RCL = Measured channel percolation/evapotranspiration losses in reach 3  
 3RAG = Ag return flow water in reach 3 originating from a riparian source

- v) Riparian stream flows in fourth reach downstream of Putah Diversion Dam (I-80 to Mace Boulevard) :

$$4RRSF = 3RRSF - 3RD - 4RCL + 4RAG$$

Where: 4RRSF = Computed riparian stream flow in Reach 4  
 3RRSF = Computed riparian stream flow in Reach 3  
 3RD = Riparian diversion in Reach 3  
 4RCL = Measured channel percolation/evapotranspiration losses in reach 4  
 4RAG = Ag return flow water in reach 4 originating from a riparian source

- vi) Riparian stream flows in fifth reach downstream of Putah Diversion Dam (Mace Boulevard to RM 0.0 aka Yolo Bypass) :

$$5RRSF = 4RRSF - 4RD - 5RCL + 5RAG$$

Where: 5RRSF = Computed riparian stream flows in Reach 5  
 4RRSF = Computed riparian stream flows in Reach 4  
 4RD = Riparian diversions in Reach 4  
 5RCL = Measured channel percolation/evapotranspiration losses in reach 5  
 5RAG = Ag return flow water in reach 5 originating from a riparian source

Note: The above formulas will be adjusted as necessary to reflect changing conditions such as new or terminated diversions or discharges.

### **3.0 Methodology for Quantifying Illegal Riparian Diversion During Irrigation Season**

Note: Diversions in excess of the available riparian stream flow (i.e., diversion of water released from storage or other non riparian flow) are considered illegal.

A) Overview:

For each reach, calculate difference between daily riparian diversions and computed riparian streamflow. If riparian diversions exceed computed riparian streamflow, the difference is considered to be the result of illegal diversions.

B) Analytical Approach:

- i) Illegal riparian diversions in first through fifth reaches downstream of Putah Diversion Dam:

$$\begin{aligned} \text{If: } & (ith)RD > (ith)RRSF \\ \text{Then: } & (ith)IRD = (ith)RD - (ith)RRSF \end{aligned}$$

Where: (ith)RD = Riparian diversions in Reach 1, 2, 3, 4 or 5  
 (ith)RRSF = Computed riparian streamflow in Reach 1, 2, 3, 4 or 5  
 (ith)IRD = Computed illegal diversions in Reach 1, 2, 3, 4 or 5

The Solano County Water Agency is under no obligation to enforce against any illegal riparian diverters whose actions do not adversely affect the Agency's ability to comply with any contractual or legal obligation.



# Exhibit 2

1  
2  
3 SUPERIOR COURT OF CALIFORNIA  
4 COUNTY OF SACRAMENTO  
5  
6

7  
8 Coordination Proceeding Special Title  
(Rule 1550b)

JUDICIAL COUNCIL COORDINATION  
PROCEEDING NUMBER 2565

9 PUTAH CREEK WATER CASES  
10

SOLANO COUNTY SUPERIOR COURT  
CASE-NUMBER 108552

11 REGENTS OF THE UNIVERSITY OF  
CALIFORNIA,

SECOND AMENDED JUDGMENT

12 Cross-Complainant,

13 v.

14 SOLANO COUNTY WATER AGENCY,  
15 SOLANO IRRIGATION DISTRICT, CITY  
OF FAIRFIELD, CITY OF VACAVILLE,  
16 CITY OF VALLEJO, CITY OF SUISUN  
CITY and MAINE PRAIRIE WATER  
DISTRICT,

17 Cross-Defendants.  
18  
19

20 The second cause of action of the cross-complaint of the Regents of the University of  
21 California in Solano Irrigation District et. al. v. the Names of all Appropriative Water Rights  
22 Holder, et. al., Solano County Superior Court No. 108552, was regularly tried before the Court  
23 sitting without a jury. This trial occurred in coordination with the trials of the second cause of  
24 action of the cross-complaint filed by the City of Davis in this action and Putah Creek Council v.  
25 Solano Irrigation District and Solano County Water Agency, Sacramento County Superior Court  
26 No. 515766. This Second Amended Judgment, however, is entered only on the Regents of the  
27 University of California's cross-complaint in Solano Irrigation District et. al. v. the Names of all  
28 Appropriative Water Rights Holder, et. al., Solano County Superior Court No. 108552.

1 The trial was held on March 4, 1996 through April 5, 1996. Appearing as attorneys for  
2 cross-complainant Regents of the University of California were Bartkiewicz, Kronick &  
3 Shanahan, P.C., by Alan B. Lilly. Appearing as attorneys for cross-defendants Solano Irrigation  
4 District and Solano County Water Agency were Minasian, Minasian, Minasian, Spruance, Baber,  
5 Meith & Soares, by Tim O'Laughlin and William C. Paris, III.

6 Following the trial, the Court, having heard the testimony and considered the evidence,  
7 rendered its Judgment in this action. Judgment was entered on August 23, 1996. The cross-  
8 defendants appealed from the Judgment.

9 On November 27, 1996, the Court entered an Order Awarding Attorneys Fees, awarding  
10 fees and costs to the Regents of the University of California. The cross-defendants appealed from  
11 that Order.

12 While the Judgment and Order were on appeal, and before any decision on the appeals,  
13 the parties reached a stipulated settlement of the issues raised in this action. Pursuant to the  
14 terms of the settlement, the Court of Appeal referred the action to this Court for the limited  
15 purpose of considering the proposed settlement.

16 By motion filed on August 28, 2000, the parties jointly requested that the Court amend its  
17 Judgment in this action and its Order Awarding Attorneys Fees to conform to the terms of a  
18 settlement stipulated to among the parties. The Court considered the proposed amendments to  
19 the Judgment and the Order, and the briefs and evidence offered by the parties in support of the  
20 proposed amendments. The Court found that the proposed amendments to the Judgment and the  
21 Order were consistent with the requirements of Article X, Section 2 of the California  
22 Constitution, the public trust doctrine, and section 5937 of the California Fish and Game Code.  
23 Accordingly, the Court found that the Judgment and Order should be amended as requested, and  
24 entered the Amended Judgment requested and stipulated to by the parties on September 8, 2000.

25 By motion filed pursuant to Section VI of the Amended Judgment, the parties jointly  
26 requested that the Court amend the Amended Judgment in this action to conform to the terms of  
27 an amended settlement stipulated to among the parties. The Court has considered the proposed  
28 amendments to the Amended Judgment, and the briefs and evidence offered by the parties in

1 support of the proposed amendments. The Court finds that the proposed amendments to the  
2 Amended Judgment are consistent with the requirements of Article X, Section 2 of the California  
3 Constitution, the public trust doctrine, and section 5937 of the California Fish and Game Code.  
4 Accordingly, the Court finds that the Amended Judgment should be amended as requested, and  
5 that the Second Amended Judgment requested and stipulated to by the parties should be entered.

6 WHEREFOR, the Amended Judgment entered in this action on September 8, 2000 is  
7 hereby AMENDED and superseded by this Second Amended Judgment, and the Court now  
8 ORDERS AND ADJUDGES AS FOLLOWS:

9 **I. PERMANENT INJUNCTION**

10 The Solano Irrigation District ("SID") and Solano County Water Agency ("SCWA")  
11 forthwith shall modify their operations of, and other conduct regarding, the Solano Project as  
12 specified in Exhibit "A" attached hereto and incorporated herein fully by reference.

13 **II. ENFORCEMENT ACTIONS**

14 If the Solano Project is operated to comply with the release and instream flow  
15 requirements specified in Exhibit "A" hereto, then the Regents of the University of California  
16 shall not pursue an action or proceeding for contempt of this Second Amended Judgment based  
17 on a violation or violations of one or more of the minimum mean daily flow requirements  
18 established in Exhibit "A" section A.(2), B.(2), C.(1), C.(2), C.(3), C.(4) and D.(3), or one or  
19 more of the minimum instantaneous flow requirements established in Exhibit "A" section A.(2),  
20 B.(2), C.(1), C.(2), C.(3), and C.(4), so long as:

21 A. The failure to comply was solely the result of an unanticipated and unforeseeable  
22 increase in a diversion or diversions from, or reduction in an inflow or inflows into, Putah Creek  
23 downstream of the Putah Diversion Dam, by some person or entity besides SID or SCWA, and  
24 the increase or reduction occurred so rapidly that the Solano Project could not reasonably  
25 maintain compliance by increasing the releases from the Putah Diversion Dam into lower Putah  
26 Creek; and

27 B. The four-day running mean flow at the relevant compliance point equaled or  
28 exceeded the applicable minimum mean daily flow; and

1 C. The instantaneous flow at the relevant compliance point was not more than 5 cfs less  
2 than the applicable minimum mean daily flow if the violation occurred during the period from  
3 January through July, and was not more than 3 cfs less than the applicable minimum mean daily  
4 flow if the violation occurred during the period from August through December.

5 **III. LOWER PUTAH CREEK COORDINATING COMMITTEE**

6 A. The parties shall, within six months after the filing of the Amended Judgment,  
7 form a Lower Putah Creek Coordinating Committee ("LPCCC") to carry out the responsibilities  
8 assigned to the LPCCC under the Amended Judgment.

9 The LPCCC shall be organized and governed in a manner that, at a minimum,  
10 incorporates the following:

11 (1) Membership: The LPCCC shall consist of ten members with five  
12 members representing the Putah Creek Council, the City of Davis, and the Regents of the  
13 University of California (the "Yolo parties") and five members representing the Solano County  
14 Water Agency, the Solano Irrigation District, the Maine Prairie Water District, and the Cities of  
15 Vacaville, Fairfield, Vallejo and Suisun City (the "Solano parties"). The selection of the Yolo  
16 parties' representatives shall be undertaken in a manner to be determined by the Yolo parties; the  
17 selection of the Solano parties' representatives shall be undertaken in a manner to be determined  
18 by the Solano parties.

19 (2) Voting:

20 (a) Full LPCCC Membership: Matters before the LPCCC shall be  
21 deemed approved only if a majority of the Yolo members and a majority of the Solano members  
22 approve the action. A quorum shall be deemed present if a minimum of three members is present  
23 from each side. Alternates may be selected and shall have the voting rights of the regular  
24 members not in attendance.

25 (b) Rotation of Chairmanship: A chairman and vice-chairman shall  
26 be elected (or selected by agreement of all LPCCC members) to serve on an annual basis. If the  
27 first chairman elected (or selected) is a Solano party representative, then the first vice-chairman  
28 shall be a Yolo party representative, and conversely if the first chairman selected is a Yolo party

1 representative, then the first vice-chairman shall be a Solano party representative. Thereafter, the  
2 chairman and vice-chairman shall alternate between a Yolo party representative and a Solano  
3 party representative. The chairman and vice-chairman together shall constitute an executive  
4 committee. In situations where emergency actions must be taken before the LPCCC or the Core  
5 Group can be convened, either in person or by conference telephone call, the executive  
6 committee shall be authorized to act without the full LPCCC or the Core Group. In that event,  
7 the executive committee immediately shall report its actions to the full LPCCC by fax or e-mail,  
8 and shall obtain ratification or further directions from the full LPCCC.

9 (c) Core Group: A "Core Group" shall be formed. It shall be  
10 comprised of six members, of whom three shall be representatives of the three Yolo parties, and  
11 three shall be selected by the Solano parties' representatives.

12 At the discretion and written request of any member of the Core  
13 Group, a matter otherwise subject to vote by the full LPCCC shall be dealt with solely by the  
14 Core Group. Any action dealt with by the Core Group shall only be approved if at least two of  
15 the Core Group members representing the Yolo parties and two of the Core Group members  
16 representing the Solano parties shall have voted to approve the action.

17 (3) Scope of Authority: The LPCCC shall have the responsibility to  
18 undertake the following:

19 (a) To monitor implementation of the Putah Creek Settlement  
20 Agreement and to make an annual report to the Court and to the parties to the settlement  
21 agreement.

22 (b) Through the Streamkeeper and any other means that may be  
23 approved by the LPCCC, to monitor the condition of Putah Creek from Putah Diversion Dam to  
24 the Yolo Bypass ("lower Putah Creek") and to make recommendations to appropriate agencies  
25 about the condition of the waterway and actions appropriate to preserve and protect this stretch  
26 of Putah Creek.

27 (c) To undertake maintenance, restoration and enhancement  
28 measures with respect to lower Putah Creek resources and to support and coordinate the efforts

1 of public agencies, private property owners and non-profit associations in furtherance of such  
2 maintenance, restoration and enhancement.

3 (d) To serve as a forum for discussion and possible resolution of  
4 lower Putah Creek related concerns and issues. Provided, however, this provision shall not be  
5 construed to give the LPCCC any authority to amend this Second Amended Judgment.

6 (e) To coordinate with the Reclamation Board and the Department of  
7 Water Resources on flood control issues regarding Putah Creek.

8 (f) To develop a system to share data regarding lower Putah Creek.

9 (g) To develop an active public education/information program on  
10 Lower Putah Creek.

11 (h) To seek grants and funds where appropriate for projects in pursuit  
12 of the above goals.

13 (i) To oversee the Streamkeeper. The Streamkeeper shall be  
14 employed by SCWA except as otherwise determined by the LPCCC after entry of this Second  
15 Amended Judgment.

16 (j) To establish standing and ad hoc committees, including a  
17 Technical Committee, as may be necessary or appropriate to further the LPCCC's  
18 responsibilities.

19 (4) The LPCCC and any standing committees shall comply with the Ralph  
20 M. Brown Act, Government Code sections 54950—54962.

21 (5) SCWA shall provide administrative support for the LPCCC, any standing  
22 or ad hoc committees and the Streamkeeper.

23 (6) As part of the Parties' ongoing efforts to protect and enhance the instream  
24 values associated with lower Putah Creek, SCWA shall contribute, in coordination with the  
25 contributions and activities specified in Section III.H. hereof, the following amounts of money,  
26 which shall be utilized for the specified activities. Each specific expenditure of money shall be  
27 authorized in advance by the LPCCC, and the LPCCC shall supervise the specified activities.

28 (a) \$10,000 per year for native vegetation preservation and

1 enhancement, including the identification of areas along the lower Putah Creek dominated by  
2 non-native species, and their removal and replacement with native trees and grasses. This work  
3 will be coordinated with efforts by other individuals and entities involved in similar removal and  
4 replacement efforts.

5 (b) \$55,000 per year for the monitoring of wildlife, including birds,  
6 mammals, reptiles and amphibians which live in and around lower Putah Creek.

7 (c) Amounts, if any, to be determined by SCWA for acquisition of  
8 easements from voluntary, willing sellers, for the maintenance and enhancement of the biological  
9 resources of lower Putah Creek. These acquisitions shall be coordinated with the development of  
10 a long-term plan. The development of this plan shall be coordinated with other interested entities  
11 and individuals.

12 (d) \$55,000 per year for the monitoring of native fish in lower Putah  
13 Creek.

14 (e) \$40,000 per year for a Streamkeeper for lower Putah Creek,  
15 whose duties shall include, without limitation, preparing reports to the LPCCC regarding all  
16 aspects of lower Putah Creek, attending all LPCCC meetings, weekly monitoring and recording  
17 of flows at specified locations, weekly monitoring and recording of all diversions from lower  
18 Putah Creek, coordinating field trips and public projects to improve lower Putah Creek natural  
19 values, and identification and reporting to the LPCCC of any activities that are harmful to the  
20 health of lower Putah Creek.

21 (f) General grants totaling \$250,000 in the aggregate for the  
22 preservation and enhancement of the natural values of lower Putah Creek, which shall be  
23 allocated by the LPCCC.

24 (g) The amounts provided for in subsections (a), (b), (d) and (e) to  
25 the extent not allocated by the LPCCC in any given year shall not carry over to subsequent years.  
26 Amounts not expended on the matters enumerated above, however, as authorized by the LPCCC,  
27 may be expended for the following additional purposes:

28 (i) For preservation and enhancement of birds, mammals,



1 reptiles and amphibians that live in and around lower Putah Creek; and

2 (ii) For preservation and enhancement of native fish in lower  
3 Putah Creek.

4 (h) The contributions specified in subparagraphs (6)(a), (b), (d) and  
5 (e) shall be annually adjusted, up or down, in proportion to any changes in the first quarterly IPD  
6 published, in the relevant year, in the Survey of Current Business, by the United States  
7 Department of Commerce. If the IPD no longer is available, then the most comparable available  
8 index shall be used instead.

9 B. If the parties to this Second Amended Judgment have not reached agreement on  
10 the exact form and functions of the LPCCC within six months after the filing of the Amended  
11 Judgment, then the Court, exercising its reserved jurisdiction, shall mediate the development of a  
12 final agreement with respect to the form and functions of the LPCCC and, if the parties fail to  
13 agree during the mediation, shall have the authority to mandate the form and functions of the  
14 LPCCC after considering any arguments of the parties. If the LPCCC ever is unable to decide  
15 how to spend any of the moneys that are described in subsection III.A.(6) hereof, then the Court,  
16 exercising its reserved jurisdiction, shall mediate the development of an appropriate plan to  
17 spend such moneys, and, if the LPCCC fails to approve such a plan, then the Court shall have the  
18 authority to mandate an appropriate plan for the expenditure of such moneys.

19 C. The LPCCC shall specify the general duties and responsibilities of the  
20 Streamkeeper and shall review and evaluate the Streamkeeper's performance at least once each  
21 year. The Streamkeeper shall report directly to the Executive Committee of the LPCCC, and the  
22 Executive Committee of the LPCCC shall supervise the Streamkeeper's day-to-day duties and  
23 responsibilities.

24 D. The LPCCC shall determine the scopes of the work to be performed under  
25 subparagraphs A.(3)(a), (b), (c) and (d) of this Second Amended Judgment. No expenditures  
26 under subparagraphs A.(6)(a), (b), (c), (d), (e) and (f) of this Second Amended Judgment shall be  
27 made without the advance approval of the LPCCC.

28 E. The LPCCC shall pursue and support the following types of measures for

1 anadromous fish, through the fish surveys and the Streamkeeper's work described in  
2 subparagraphs A.(6)(d) and (e) and other actions that may be taken by the LPCCC, including  
3 seeking additional funding where already identified sources are insufficient and coordinating  
4 with other applicable planning efforts:

5 (1) A survey and analysis of existing spawning gravels for anadromous fish  
6 in the reach of lower Putah Creek from the Putah Diversion Dam to Pedrick Road, and the  
7 potential for enhancement of these spawning gravels;

8 (2) A survey and analysis of any obstacles to anadromous fish passage in  
9 lower Putah Creek, includes for the purposes of this survey and analysis, the Putah Diversion  
10 Dam and any structures downstream therefrom;

11 (3) The development of a sedimentation management plan for lower Putah  
12 Creek that would prevent or mitigate for any damage to fish habitat that may be caused by  
13 releases of sediment at the Putah Diversion Dam;

14 (4) Monitoring of lower Putah Creek to determine the extent and timing of  
15 chinook salmon, steelhead trout and Pacific lamprey in lower Putah Creek;

16 (5) Provided, however, that if an HCP process has been initiated within one  
17 year of entry of the Amended Judgment and includes a proposed Safe Harbor provision with  
18 activities delineated in both the proposed Safe Harbor provision and subparagraphs III.E.(1)–(4),  
19 then the LPCCC shall not undertake the activities until either the HCP is finalized or five years  
20 have passed since entry of the Amended Judgment.

21 F. The Core Group may approve changes to any provision of this Section III,  
22 provided that such changes do not alter, and are not inconsistent with, any other provision of this  
23 Second Amended Judgment. The Core Group shall file any such changes and an explanation of  
24 the reasons for the change with the court, for filing with this Second Amended Judgment, within  
25 30 days after the Core Group approves the changes.

26 G. All data collected during any of the activities referenced in this Section III and  
27 all reports and other documents provided to the LPCCC shall be immediately made available for  
28 inspection and copying by any party to this Second Amended Judgment or any interested

1 member of the public during normal business hours. To the extent feasible and reasonable,  
2 SCWA shall post on its Internet website, or make available to the public by similar electronic  
3 means, all data and reports that must be made available for inspection and copying under the  
4 preceding sentence of this paragraph within 15 days after SCWA receives each set of such data  
5 and each such report.

6 H. The parties are encouraged to augment, to the degree permitted by applicable  
7 law, the sums of money herein committed by SCWA, in order to further the work outlined  
8 herein. The parties will provide notice to and coordinate with the LPCCC regarding actions that  
9 may affect the scope of the LPCCC's authority and responsibilities with respect to lower Putah  
10 Creek as is provided for in this Amended Judgment.

#### 11 IV. LIMIT ON AVERAGE ANNUAL ALLOCATIONS

12 Solano Project Contract Allocations are defined as the amount of all Solano Project  
13 Water delivered to Participating Agencies pursuant to the agreements between SCWA and the  
14 Participating Agencies. Solano Project Contract Allocations also include Solano Project Water  
15 not delivered during the allocation year and instead stored in Lake Berryessa pursuant to Article  
16 4(c) of the Contract Between the United States and Solano County Water Agency Providing For  
17 Water Service (Contract No. 14-06-200-4090R). Putah South Canal Conveyance losses (Canal  
18 inflows minus deliveries from Canal) are not included in Solano Project Contract Allocations.  
19 During each year, Solano Project Contract Allocations shall be limited such that there are never  
20 ten (10) successive years during which, over those ten years, the average Solano Project Contract  
21 Allocations exceed 192,350 af per year. The Parties acknowledge that the 10-year average  
22 amount of Solano Project Water delivered to Participating Agencies may exceed 192,350 af in  
23 certain years due to the delivery of the aforementioned stored water.

#### 24 V. AWARD OF FEES AND EXPENSES

25 The cross-defendants shall not be required to pay the Regents of the University of  
26 California any amount of money on account of the attorney fees and expenses incurred by the  
27 Regents in this action before or on the date of this Second Amended Judgment.

1 **VI. RESERVED JURISDICTION**

2 This Court reserves continuing jurisdiction over the parties to provide for the administration  
3 and enforcement of this Second Amended Judgment, including jurisdiction to modify this  
4 Second Amended Judgment in accordance with applicable law.

5  
6 DATED: \_\_\_\_\_, 2002

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8 HONORABLE RICHARD A. PARK  
9 JUDGE OF THE SUPERIOR COURT

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**Exhibit "A"****Solano Project Releases and Instream Flows for Lower Putah Creek****A. Rearing Flows ((1), (2) & (3) all shall be maintained)**

(1) Solano Irrigation District ("SID") and Solano County Water Agency ("SCWA") shall, for each month as set forth below, maintain mean daily releases from the Putah Diversion Dam to Creek downstream of the Putah Diversion Dam (hereinafter "lower Putah Creek") that are equal to or in excess of the following rates, expressed in cubic feet per second ("cfs"):

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean Daily Release (cfs)	20	25	25	25	16	26	46	43	43	43	34	20

These mean daily releases shall be measured at the Putah Diversion Dam and made from the Putah Diversion Dam into lower Putah Creek immediately downstream of the Putah Diversion Dam. The instantaneous releases at the Putah Diversion Dam shall at all times equal or exceed ninety percent (90%) of the applicable mean daily release requirement.

(2) SID and SCWA shall, for each month as set forth below, release sufficient water from the Putah Diversion Dam into lower Putah Creek immediately downstream of the Putah Diversion Dam to maintain mean daily flows in lower Putah Creek that are equal to or in excess of the following rates, expressed in cubic feet per second ("cfs"):

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean Daily Flows (cfs)	5	10	10	15	15	25	30	20	15	15	10	5

These mean daily flows shall be maintained and measured at or in the near vicinity of the Interstate 80 Bridge. The instantaneous flow at the Interstate 80 Bridge shall at all times equal or exceed ninety percent (90%) of the applicable mean daily flow requirement.

(3) SID and SCWA shall at all times of the year release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a continuous flow of surface water in Putah Creek from the Old Davis Road Bridge to the western boundary of the Yolo Bypass, identified as River Mile 0.0 on trial exhibit number 41.

B. Spawning Flows ((1), (2) & (3) all shall be maintained)

(1) At a time between February 15 and March 31 of every calendar year, SID and SCWA shall release a three-consecutive-day pulse of water from the Putah Diversion Dam into lower Putah Creek equal to or in excess of the following rates:

- (a) 150 cfs for the first 24 hours;
- (b) 100 cfs for the second 24 hours; and
- (c) 80 cfs for the third 24 hours.

SID and SCWA may, in their discretion, time this pulse so as to utilize any uncontrolled flows that may provide some or all of the water needed to comply with this requirement.

(2) In every year, for the 30 days that follow the three-day pulse release described in paragraph B.(1), SID and SCWA shall release sufficient water from the Putah Diversion Dam into lower Putah Creek to maintain a mean daily flow equal to or in excess of 50 cfs at the Interstate 80 Bridge. During this period, the instantaneous flows at the Interstate 80 Bridge shall at all times equal or exceed 45 cfs.

(3) In every year, at the conclusion of the 30th day of the 50 cfs spawning flows described in subsection B.(2), SID and SCWA then shall ramp down the controlled releases from the Putah Diversion Dam gradually over a seven-day period until the flows are in compliance with the applicable requirements set forth in subsections A.(2), A.(3), C.(3) and C.(4) of this Exhibit "A".

C. Supplemental Flows ((1), (2), (3), & (4) all shall be maintained)

The requirements set forth thus far herein are intended to protect the aquatic and related resources found in lower Putah Creek. It has been agreed, however, that in addition to maintaining these resources, SID and SCWA shall provide supplemental flows in an attempt to enhance the aquatic and related resources of lower Putah Creek above that baseline. Accordingly:

(1) SID and SCWA shall, during the period from November 1 through December 15 of each calendar year, release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a mean daily flow of at least 5 cfs, and an instantaneous flow of at least 2 cfs, at the point where Putah Creek discharges into the Toe Drain on the eastern side of the Yolo Bypass (the "East Toe Drain").

(2) Beginning sometime between November 15 and December 15 of each calendar year, SID and SCWA shall release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a mean daily flow of at least 50 cfs, and an instantaneous flow of at least 45 cfs, for five consecutive days at the point where Putah Creek discharges into the East Toe Drain. If a flash board dam is present on Putah Creek near the East Toe Drain during that period, and if the flash boards are removed during that period, then to the extent feasible the first day of the 50 cfs pulse flow at the East Toe Drain shall follow the removal of the flash boards. The precise timing of the initiation of the 50 cfs pulse flow shall be set each year by the Lower Putah Creek Coordinating Committee established in accordance with section III of the Second Amended Judgment (the "LPCCC"). The objective of the LPCCC shall be to time the release so as to maximize the potential for such flows to attract anadromous fish into Putah Creek. If the exact date of releases has not been established or agreed upon by the LPCCC, then the releases dealt with in this subparagraph shall commence on December 1 of the affected calendar year.

(3) Beginning on the sixth day after initiation of the above described 50 cfs pulse flow, and continuing each day thereafter through March 31, SID and SCWA shall release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a mean daily flow of at least 19 cfs, and an instantaneous flow of at least 14 cfs, at I-80.

(4) Beginning on April 1 of each calendar year, and continuing each day thereafter through May 31, SID and SCWA shall release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a mean daily flow of at least 5 cfs, and an instantaneous flow of at least 2 cfs, at the point where Putah Creek discharges into the East Toe Drain.

**D. Drought Year Flows**

(1) During years when total storage in Lake Berryessa is less than 750,000 acre feet ("af") as of April 1 (a "Drought Year"), the release and instream flow requirements set forth in sections D.(2), D.(3) and D.(4) below ("Drought Year Requirements") shall apply instead of the release and instream flow requirements set forth in sections A., B. and C. above ("Non-Drought Year Requirements"). Provided, however, that if after April 1 the total storage in Lake Berryessa rises to 750,000 af or more, then the Non-Drought Year Requirements shall immediately take effect.

(2) During a Drought Year, releases of water from the Putah Diversion Dam into lower Putah Creek shall equal or exceed the following amounts (mean daily values, in cfs, with instantaneous releases always equal to or exceeding 90 % of the listed values):

Oct	Nov	Dec	Jan	Feb	Mar	Apr	Ma	Jun	Jul	Aug	Sep
15	25	25	25	16	26	46	33	33	33	26	15

(3) During a Drought Year, SID and SCWA shall release sufficient water from the Putah Diversion Dam to maintain a continuous flow of surface water in Putah Creek from



Putah Diversion Dam to the Interstate 80 Bridge, and further shall release sufficient water from the Putah Diversion Dam to maintain a minimum mean daily instream flow of 2 cfs at the Interstate 80 Bridge, with instantaneous flows always equal to or exceeding 1 cfs. Under these conditions, SID and SCWA shall not be required to maintain a continuous flow of surface water in the reach of Putah Creek below the Interstate 80 Bridge.

(4) Whenever the release and instream flow requirements set forth in sections D.(2) and D.(3) are in effect for two consecutive years, then during the next year thereafter the Non-Drought Year Requirements shall apply and shall remain in effect for an entire period from April 1 through March 31, unless total storage in Lake Berryessa on April 1 is less than 400,000 af. If the Drought Year Requirements are ever in effect for three or more consecutive years, then the Non-Drought Year Requirements shall apply and remain in effect for an entire period from April 1 through March 31 in the first subsequent year during which total storage in Lake Berryessa on April 1 exceeds 400,000 af.

(5) For the purposes of this section D, "total storage in Lake Berryessa" shall be the actual amount of water that physically is stored in Lake Berryessa (including all carryover storage) plus a Storage Adjustment. As of the date of entry of the Amended Judgment, the Storage Adjustment shall be zero. Thereafter, the amount of any controlled release of water from Lake Berryessa that is not for the purpose of (i) Solano Project Diversions, or (ii) maintaining the flows in lower Putah Creek that are required by the Amended Judgment shall be added to the Storage Adjustment. When Lake Berryessa spills, and all carryover storage has been spilled or otherwise eliminated, the Storage Adjustment shall be re-set to zero. The Storage Adjustment shall never be less than zero. "Solano Project Diversions," for the purpose of this paragraph, means water delivered to Solano Project Participating Agencies and Putah South Canal Conveyance losses (Canal inflows minus deliveries from canals).

(6) If Solano Project Water that is not within the scope of Solano Project Contract Allocations, as is defined in Section IV of the Second Amended Judgment, ever is stored in an offstream reservoir or reservoirs or underground storage, and, as a result, Lake Berryessa storage levels are reduced below the levels that would occur in the absence of such storage, then the 750,000 af amount in paragraph D.(1) and the 400,000 af amount in paragraph D.(4) shall be adjusted so that Drought Year Requirements will continue to occur at the same frequencies as they would have occurred in the absence of such storage.

E. Illegal Diversion Account

If there is any risk that illegal diversions may take place from lower Putah Creek to a degree that water released by the Solano Project for the purposes of maintaining the minimum flows set forth herein will be significantly depleted, then the procedures set forth in the attached Exhibit "A-1" shall be implemented.

F. Monitoring Requirements ((1), (2), (3), & (4) all shall be satisfied)

(1) SID and SCWA shall continuously measure and record releases from the Putah Diversion Dam to lower Putah Creek, and shall determine and record each day's mean daily release.

(2) SID and SCWA shall forthwith install and maintain flow measurement gauges capable of measuring instream flows on a continuous basis at the Interstate 80 Bridge and near the East Toe Drain. SID and SCWA shall collect and maintain the data recorded by each of these gauges as is necessary to demonstrate their compliance with the flow requirements imposed by this Second Amended Judgment. In addition, SID and SCWA shall make regular measurements of instream flows at Stevenson Road Bridge, Pedrick Road Bridge and Old Davis Road Bridge. If the instream flow measured at Stevenson Road Bridge, Pedrick Road Bridge, or at Old Davis Road Bridge, is less than the minimum instream flow requirements in section A.(2) above on more than an

infrequent basis, then the paragraph A.(2) flow requirements shall start to apply at such measurement point or points, in addition to still applying at the Interstate 80 Bridge. SID and SCWA shall install, maintain, repair, calibrate and operate gauging equipment at such compliance points as may be necessary to ensure and demonstrate their compliance with the provisions of this Exhibit "A". Gaging equipment shall be installed to provide a range of measurement from 0 cfs to at least 200 cfs.

(3) SID and SCWA shall monitor flows in the entire reach of lower Putah Creek from Old Davis Road Bridge to River Mile 0.0 with sufficient frequency and by sufficient means to ensure compliance with the requirement in part A.(3) of this Second Amended Judgment that continuous flow of surface water be maintained in this reach at all times of the year. All measurements and observations of this reach made for purposes of compliance with this requirement shall be recorded.

(4) SID and SCWA shall maintain records, in both paper and electronic format, of all release and flow measurements, all calculated mean daily releases and flows, and all observations required by this Second Amended Judgment. Promptly upon request, these records shall be made available for review and copying by any person during normal business hours at the offices of SID or SCWA.

**Exhibit "A-1"**

**Effects of Illegal Diversions of Water from Lower Putah Creek  
on Solano Project's Obligations to Maintain Exhibit A Instream Flow Requirements**

1. The Solano Project shall satisfy all of the release and instream flow requirements that are specified in Exhibit A at all times, whether or not any illegal diversions of water from lower Putah Creek are occurring, except to the extent that exceptions to the instream flow requirements are authorized by this Exhibit "A-1". These exceptions shall only be authorized during the irrigation season. "Irrigation season" shall mean the period from March 1 through October 31 of each year.
2. To determine the Solano Project's obligations to satisfy the instream flow requirements specified in Exhibit A during times when illegal diversions from lower Putah Creek are occurring, an Illegal Diversion Account shall be established. Starting at the beginning of the sixth irrigation season during which this Illegal Diversion Account is drawn upon, the balance in this account shall be set to 1,000 acre feet at the beginning of each irrigation season, regardless of the account's balance at the end of the prior irrigation season. Prior to the sixth irrigation season in which the Illegal Diversion Account is drawn upon, the balance in the Illegal Diversion Account at the beginning of each irrigation season shall be set to 2,000 acre feet. Any credits made pursuant to Paragraph 9 of this Exhibit "A-1" for any irrigation season shall be in addition to the initial balance. SCWA shall maintain an accurate accounting of all credits to and deductions from this account, and shall provide all members of the LPCCC with an updated accounting of the credits to and deductions from this account on at least a weekly basis whenever such credits or deductions are made.

3. At the beginning of each irrigation season, SCWA shall provide written notice to all riparian landowners of SCWA's projections of the time period during which such landowners legally may divert from each reach of lower Putah Creek during the irrigation season. This notice shall encourage each riparian landowner to provide SCWA with the dates and amounts of the landowner's planned diversions of water from lower Putah Creek during the irrigation season. SCWA may, in its discretion, provide additional notices, making updated SCWA projections of the amounts of water that such landowners legally may divert from lower Putah Creek, to these landowners as the irrigation season progresses. The calculations in these notices shall be based on the formulas and procedures described in Exhibit "A-2". SCWA shall provide a copy of one of each type of all such notices to all of the members of the LPCCC at the same time that SCWA provides such notices to any riparian landowners.

4. The term "illegal diversion" in this Exhibit "A-1" means a diversion that is illegal based on the formulas and procedures described in Exhibit "A-2". The sole purposes of this definition are for implementing the provisions of this Exhibit "A-1" regarding deductions from the Illegal Diversion Account pursuant to this paragraph 4 and modifying the Solano Project's release requirements pursuant to paragraph 6 of this Exhibit "A-1". If SCWA has filed, and is diligently pursuing, a court action against a landowner with an illegal diversion, and if SCWA has complied with all of the provisions of paragraph 3 of this Exhibit "A-1", and is complying with all of the provisions of paragraph 5 of this Exhibit "A-1", then deductions shall be made from the Illegal Diversion Account for any amounts of water that the Solano Project releases from the Putah Diversion Dam into lower Putah Creek during the irrigation season solely for the purpose of compensating for that illegal diversion

while maintaining the instream flows specified in Exhibit "A". "Diligently pursuing" means seeking, at the earliest possible opportunities, a temporary restraining order, a preliminary injunction and a permanent injunction stopping the illegal diversion, and a declaratory judgment regarding the illegality of the diversion. If there is more than one illegal diversion, then all of the provisions of this paragraph shall apply to each illegal diversion.

5. During any period during which deductions are being made from the Illegal Diversion Account, SCWA shall make streamflow measurements on a continuous basis at sufficient locations along lower Putah Creek to make the calculations and determinations described in Exhibit "A-2". During such periods, SCWA shall provide copies of all of the streamflow measurement data, the calculations and determinations described in Exhibit "A-2" and the accurate accounting of all credits to and deductions from the Illegal Diversion Account to all members of the LPCCC at least once each week, and shall post all such data, calculations and determinations on its Internet website, or make such information available to members of the LPCCC and the public by similar electronic means, and shall update such posted information at least once each day.

6. If the balance in the Illegal Diversion Account ever reaches zero, then, during the remainder of the irrigation season during which the Account balance reached zero and while SCWA continues to diligently pursue the court action described in the paragraph 4 above and continues to make available the data, calculations, determinations and reports described in paragraph 5 above, and while the court action is pending, the Solano Project shall not be required to fully comply with any instream flow requirement that is specified in Exhibit "A" for a point that is located downstream of any illegal diversion that is subject to the court action and that occurs after the Illegal Diversion Account balance reaches zero.

Instead, under these conditions, the Solano Project shall release from the Putah Diversion Dam into lower Putah Creek at least the amounts of water that would be sufficient to satisfy all of the instream flow requirements in Exhibit "A", if the illegal diversion that is subject to the court action were not occurring. Under these circumstances, the Solano Project's release obligations shall be adjusted as frequently as necessary to reflect changes in hydrological conditions or changes in the rate of the illegal diversion. Immediately upon the cessation of such illegal diversion, the conclusion, dismissal or cessation of diligent pursuit of the court action, or the end of the irrigation season, whichever occurs first, the Solano Project shall satisfy all of the instream flow requirements in Exhibit "A". If court actions regarding more than one illegal diversion are pending, then the provisions of this paragraph shall apply to all such illegal diversions.

7. Deductions from the Illegal Diversion Account for an illegal diversion may be made only for a maximum of two years after the court action described in paragraph 4 above is filed against the landowner with the illegal diversion. Even if a final judgment is not issued in such court action within two years after the action is filed, and even if such court action is dismissed for any reason, the Solano Project nevertheless thereafter shall be required to maintain all of the instream flows described in Exhibit "A", and no further deductions shall ever be made from the Illegal Diversion Account for any illegal diversion that is or was the subject of the court action. However, if a new illegal diversion with neither a point of diversion nor a place of use that is within the scope of the court action described in paragraph 4 above occurs, then the provisions of paragraphs 4, 5 and 6 above, and this paragraph, shall apply to the new illegal diversion. If there is more than one such new illegal

diversion, then the provisions of paragraphs 4, 5 and 6 above, and this paragraph, shall apply to each such new illegal diversion.

8. If a court of competent jurisdiction issues a final judgment specifying the legality or illegality of any particular diversion from lower Putah Creek, then SCWA shall adjust the formulas and calculations in Exhibit "A-2" to be consistent with the court's judgment, and the adjusted formulas and calculations shall be applied thereafter. Immediately upon making such adjustment, SCWA shall advise all members of the LPCCC of the adjustment. If any party to this Second Amended Judgment disagrees with SCWA's adjustment, then that party may ask the LPCCC to try to resolve the disagreement, or may ask the court that issued this Second Amended Judgment, by noticed motion, to determine what the appropriate adjustment should be.

9. If any adjustments to the formulas or calculations in Exhibit "A-2" are made pursuant to paragraph 8 of this Exhibit A-1, then appropriate adjustments shall be made to the Illegal Diversion Account, for example, credits shall be made for the total amount of all debits that previously were made from the Account for diversion that were treated by SCWA as illegal, but which would have been legal under the adjusted formulas and calculations. If SCWA ceases to diligently pursue any court action described in paragraph 4 of this Exhibit "A-1" before a final judgment is entered, then credits shall be made to the Illegal Diversion Account for the total amount of all debits that previously were made from the Account for the diversion that was the subject of the court action. The credits described in this paragraph shall be spread equally over the same number of irrigation seasons as the number of irrigation seasons during which debits from the Account were made. If the court issues its final judgment during an irrigation season, then the first year of such credits shall be made



[3/13/00]

immediately to the Account. If the court issues its final judgment not during an irrigation season, then the first year of such credits shall be made during the next irrigation season.

Subsequent credits shall be made during the immediately following irrigation seasons.

**Exhibit "A-2"****Solano County Water Agency's Methodology for Monitoring  
and Quantifying the Availability and Use of  
Riparian Water in Lower Putah Creek**

This document provides the Solano County Water Agency's ("SCWA") explanation and basis for its methodology for monitoring and quantifying the availability and use of riparian water in Putah Creek, downstream of the Putah Diversion Dam. SCWA's methodology, hereafter referred to as the Lower Putah Creek Riparian Water Program ("PRWP"), will be used by SCWA to (1) differentiate between and quantify the availability of riparian versus non-riparian waters in Putah Creek, downstream of the Putah Diversion Dam, and (2) identify and quantify illegal water diversions, downstream of the Putah Diversion Dam. SCWA anticipates that implementation of the PRWP will increase the efficiency with which the instream flow requirements of the Solano Project, as specified by the Putah Creek Settlement Agreement, are satisfied, and facilitate the lawful diversion of riparian water downstream of the Putah Diversion Dam.

**1.0 OVERVIEW****1.1 Key Elements of Lower Putah Creek Riparian Water Program**

The PRWP consists of two components: Pre-irrigation season water availability forecasts, and real-time stream flow monitoring during the irrigation season, where "irrigation season" is defined as March 1 through October 31. Annual water availability

forecasts will be provided to riparian water users prior to the irrigation season, so they and other interested parties can plan and, if necessary, make other arrangements for obtaining irrigation water, before significant time and financial resources are committed to the cultivation of a given crop. Real-time monitoring will be conducted to: (1) determine, on a daily basis, the quantities of riparian water that are available to water users in Lower Putah Creek, and (2) differentiate and quantify, on a daily basis, legal versus illegal riparian diversions.

### **1.2 Definition of Riparian Water**

For the purposes of the PRWP, riparian stream flows are defined as any surface water derived from precipitation or rising groundwater that, given prevailing hydrologic conditions, would occur in Lower Putah Creek in the absence of the Solano Project. Non-riparian water, such as treated wastewater and agricultural return flows originating from a non-riparian source (e.g., pumped groundwater that would not otherwise be tributary to the creek) cannot, by definition, be diverted by riparian water right claimants and, therefore, is not included as a source of riparian water from Lower Putah Creek.

## **2.0 WATER AVAILABILITY FORECASTS**

SCWA's riparian water availability forecasts for Lower Putah Creek will be based on stream flow conditions observed in the Putah Creek drainage, upstream of the Putah Diversion Dam, in the prior (i.e., antecedent conditions) and current water year. Forecasts

will be made on January 1, March 1 and May 1. The January 1 and March 1 forecasts, which will be made before the current rainy season is over, will be based in part on projected stream flow conditions for the balance of the rainy season, while the May 1 forecast, the final forecast for the water year, will be based on actual runoff measured to date. Both the January 1 and March 1 forecasts will include three scenarios, based on the assumption that the balance of the rainy season will either be "wet" (25% exceedance), "normal" (50% exceedance) or "dry" (75% exceedance).

In order to address the differing sources and durations of riparian stream flows (surface stream flows from Putah Creek and/or tributaries to Putah Creek, or rising groundwater), Lower Putah Creek has been divided into five reaches. Water availability forecasts will be made for each reach. Stream reach designations and the analytic framework for making water availability forecasts are presented in "Attachment 1".

### **3.0 REAL-TIME MONITORING**

#### **3.1 Quantifying Available Riparian Water Supply**

Stream flows and the associated stream flow gains and losses will be monitored by reach, on a continuous basis, and the availability of riparian water and extent of illegal diversions will be determined daily, using a series of water mass balance equations to track the quantities of both riparian and non-riparian water entering and leaving each stream reach.

A summary of the equations used to define riparian water availability, by stream reach, is presented in Attachment 1.

Although the determination of net riparian flow is based on real-time stream flow measurements, there are situations where real-time stream flow measurements are not practical and therefore simplifying assumptions must be used, much as they are in the Condition 12 Settlement Agreement for the Upper Putah Creek drainage. For example, under existing conditions it is difficult to measure accurately real-time stream flow losses in the stream reach now inundated by Lake Solano. Consequently, a "fixed" loss figure previously adopted by the United States Bureau of Reclamation may be used in the water mass balance calculation for this reach. In all cases, the simplifying assumptions used to quantify the availability of riparian water are purposely conservative in the sense that they tend to overstate the availability of riparian stream flows. Overstating riparian water availability is preferred, since it presumably increases the enforceability of the PRWP and its acceptability to riparian water users.

### **3.1.1 Data Collection**

#### **3.1.1.1 Measurement of Riparian Diversions**

Riparian diversions will either be measured directly, using an appropriate meter and assuming landowner/operator permission is obtained, or indirectly, via measurement of creek stream flows in the vicinity of the diversion. Riparian diversions typically constitute a

readily measurable fraction of the total stream flow in any given reach (500-2,000 gallons per minute, or about 1-5 cubic feet per second), and are therefore easily detected by continuously measuring stream flows entering and leaving a given stream segment.

### **3.1.1.2 Measurement of Agricultural Return Flows and Wastewater Discharges**

The agricultural return flows entering Lower Putah Creek are for the most part non riparian water sources, as are the treated wastewater discharges from the University of California - Davis (U.C. Davis) water treatment facility, which enter Lower Putah Creek near Old Davis Road. Nevertheless, these water sources must be quantified for water mass balance accounting purposes. The University's treated wastewater discharges are measured and recorded by the treatment plant operators. Most of the agricultural return flows are too small and/or sporadic to warrant direct measurement, and will therefore be estimated, or if insignificant relative to the total creek stream flow, ignored. However, one notable exception is the Willow Canal, which discharges into Lower Putah Creek just upstream of Pedrick Road. Discharges from the Willow Canal, which is operated by the Yolo County Flood Control and Water Conservation District (YCFC&WCD), will be measured as necessary.

### **3.1.1.3 Measurement of Groundwater Seepage and Evapotranspiration**

The amounts of groundwater seepage (into or out of the creek) and water lost to open-water evaporation and transpiration by riparian vegetation vary gradually over time, in comparison to the fluctuating gains and losses associated with water diversions and

agricultural return flows. For the purposes of the PRWP, the net flow gain or loss from these factors (groundwater seepage, evaporation and transpiration) are combined into a single term that represents the natural or "background" net stream flow gain or loss rate within a given reach. Background gains and losses are most easily quantified as the difference in stream flow over a given reach ("top of reach" stream flow versus "bottom of reach" stream flow), in the absence of any diversions or "intra reach inflows."

Groundwater seepage along the reach from I-505 to Stevenson Bridge typically transitions from net loss (seepage out of the creek) to net gain (seepage into the creek). The location of the transition point and the total amount of influent seepage along the gaining stretch depend on the regional groundwater levels in the underlying groundwater basin. This reach will be subdivided into two sub-reaches when necessary to calculate riparian water availability. The upstream end of the gaining segment will be detected by periodic stream flow measurements and/or temperature changes in the creek.

#### **3.1.1.4 Special Situations**

##### **Pumping from Riparian Wells**

There is no clear boundary between wells that induce additional seepage from the creek and wells that pump regional groundwater; the percentage of pumped water that consists of induced seepage decreases gradually with depth and horizontal distance from the creek. A pragmatic approach adequate for the purpose of the PRWP is to include in the accounting the effects of a well if its effect on stream flow can be detected by the stream flow

monitoring program. The philosophy behind this approach is that well pumping does not matter if its effects on stream flow are not measurable; and if the effects are measurable, then the evidence and justification for including the well as a riparian diverter are already at hand. In practice, it is unlikely that wells more than about 500 feet from the creek or more than 100 feet deep will measurably affect stream flow.

#### Impoundments Below Mace Boulevard

Riparian water accounting is slightly more complicated at the downstream end of Putah Creek, between Mace Boulevard and the Toe Drain in the Yolo Bypass. Two impoundments are created in the creek channel each year to provide pumping pools for irrigation operations. The lower impoundment is a flashboard dam operated jointly by Los Rios Farms and the California Department of Fish and Game. Frequently, some of the water impounded behind this dam is water that is diverted from the Toe Drain of the Yolo Bypass at a pumping station about 1 mile north of the dam and conveyed to the impoundment by a canal. It may be necessary to gage the inflows from this canal into Putah Creek to determine the availability of Putah Creek riparian water in the impoundment. The issue may be moot, however, because the downstream compliance point for resident native fish flows is at river mile 0, which is upstream of the impoundment.

The upper impoundment is a temporary dirt berm across the channel that provides a crossing for farm vehicles in addition to creating a pumping pool. The berm is at about river mile 1.0 (aligned with country road 106B), and the impounded water derives entirely from Putah Creek. Irrigation return flows from adjacent fields may include water that originated



from Toe Drain diversions, and these return flows will be measured or estimated in the same manner as for return flows in other reaches of the creek.

#### Riparian Diversions from Pools in the Creekbed

Prior to construction of the Solano Project, landowners in a few locations were able to pump water from natural or constructed pools in the creekbed after live flow in the creek had ceased in summer. These pools were separate from the well-documented gaining reach above Stevenson Bridge, where groundwater seepage into the creekbed can create surface water stream flows in the absence of surface water inflows from upstream reaches. The accounting methodology described here does not encompass the water in isolated pools that would have been present in the absence of the Solano Project. The historical number of pools is thought to be small, and the pumping rates they could sustain also were probably small.

The possible availability of riparian water from isolated pools will be dealt with on a case-by-case basis. If a landowner can provide evidence that persistent pools existed on his or her property during periods of discontinuous streamflow prior to the Solano Project construction, then the sustained pumping yield of those pools will be estimated to quantify the amount of riparian water presently available to the landowner from that source. The yield will be estimated from the pool volume and the permeability of the surrounding streambed materials, which may release shallow groundwater when the pool level is lowered by pumping.

### New Diversions and Return Flows

As parcels change ownership or existing landowners modify their farming operations, some diversions and return flows may be added and others discontinued. Word of mouth and the annual riparian water forecast mailing should be sufficient to inform any newcomers that riparian diversions from Lower Putah Creek are monitored and regulated. The new users will be encouraged to join the cooperative effort to manage and utilize riparian water supplies. Any changes in discharges by U.C. Davis, YCFC&WCD, and other agencies or industries hopefully will also be communicated to the Solano County Water Agency to facilitate a smooth transition. Any unreported changes will eventually be detected by the stream flow monitoring program, periodic field surveys, neighboring landowners, or the streamkeeper.

### Uncooperative Riparian Diverters

It is hoped that all riparian diverters will cooperate with each other and with the Solano County Water Agency to make efficient use of the available riparian water supply without any illegal diversions. However, it is possible that some landowners will attempt to conceal their diversions or refuse to provide information about when and how much water they are diverting, or when and where return flows occur. Fortunately, all of this information can be obtained anyway. It would be impossible to conceal a significant diversion for very long because the pumping equipment and power supplies are large, visible, and make sound and because the effects of the diversion will be detected by the stream flow monitoring program. The pumping rate at any diversion can be measured fairly accurately by gaging the stream flow immediately upstream and downstream of the diversion. Return flows can

similarly be estimated by surveys of the field drainage patterns and the direct observation of the return flows.

### **3.2 Quantifying Illegal Diversions**

Any diversion in excess of the calculated net riparian flow is considered illegal. Illegal diversions, like net riparian flow, will be monitored and quantified by reach, and to the extent possible, by individual diverters. A summary of the equations used to quantify illegal diversions is presented in Attachment 1.

If total riparian diversions in any given reach exceed the available riparian supply and the diverters are unwilling to voluntarily reduce their total diversions to match the available supply, and these actions adversely affect the Solano County Water Agency, then the Agency may sue some or all of the active diverters and seek court orders addressing the illegal diversions. It is hoped that this type of enforcement action will not be necessary. The PRWP will provide all of the data needed on a real-time basis to enable the active riparian diverters to manage their activities and restrict the locations and rates of their diversions so that they remain within the legally available supply.

### **3.3 Public Access to Riparian Water Accounting Data and Calculations**

The Solano County Water Agency will conduct the data collection activities and complete the calculations necessary to generate the pre-irrigation season water availability

forecasts and the real-time riparian water availability determinations. All data collected for these purposes and all formulas and computer programs used in the calculations will be available on request to any interested agency, group or individual. The Solano County Water Agency will publish the data and results on its website and update the information approximately daily during the irrigation season.

The Solano County Water Agency will deliver the first (January) pre-season water availability forecast by mail to all riparian landowners along Lower Putah Creek. Landowners may at that time request that the subsequent forecasts (March and May) also be sent by mail if the landowner is unable to access the information by Internet. It would not be practical to disseminate the real-time monitoring data by mail because it will be updated daily during the irrigation season. Active diverters who need the daily information will be able to view it on the Solano County Water Agency's website or call the Agency to obtain the information by telephone.

**ATTACHMENT 1 TO EXHIBIT "A-2"**

**1.0 Pre-Irrigation Season Predictions**

**A) Objective:**

To estimate future availability of riparian stream flows, based on projected and/or prior hydrologic conditions in the Putah Creek drainage. For pre-irrigation season prediction purposes, assume riparian stream flows consist of surface runoff from precipitation and rising groundwater.

**B) Analytic Approach:**

- i) Divide Lower Putah Creek into the following reaches:
- a) Putah Diversion Dam to Highway 505 Bridge (a "losing reach")
  - b) Highway 505 Bridge to Stevenson Bridge (a "gaining reach")
  - c) Stevenson Bridge to I-80 Bridge (a "losing reach")
  - d) I-80 Bridge to Mace Boulevard (a "losing reach")
  - e) Mace Boulevard to Yolo Bypass (a "losing reach")

(Reach designations based on hydrogeologic features, proximity of suitable stream flow gaging sites and existing riparian diversions. When necessary, reach "b" will be subdivided into two sub-reaches.)

- ii) Predict average monthly flow and date of zero flow for each of the above riparian water sources, in each of the five reaches:
- a) Surface runoff: calculate using statistical relationships derived from historical data.
    - Stream flow recession curves derived from stream flow gaging data for "At Winters", "Near Winters" and "Near Davis" stream flow gaging stations.
    - Stream reach percolation/evapotranspiration loss estimating algorithms developed for the Solano County Water Agency's Lower Putah Creek stream flow model.
  - b) Rising groundwater: calculate using statistical relationships derived from historical data.
    - Stream reach groundwater gain/loss estimating algorithms developed for the Solano County Water Agency's Lower Putah Creek streamflow model.

**C) Timing of Pre-Irrigation Season Predictions:**

- i) January 1 – Predictions based on hydrology of water year to date and three scenarios for the remainder of the year's rainy season: "wet year" (25% Lake

Berryessa inflow exceedance), "normal year" (50% Lake Berryessa inflow exceedance) and "dry year" (75% Lake Berryessa inflow exceedance).

- ii) March 1 – Predictions based on hydrology of water year to date and projected 25%, 50% and 75% exceedance runoff rates for the remainder of the year's rainy season .
- iii) May 1 – Final prediction based on hydrology of the water year through April.

**2.0 Methodology for Quantifying Riparian Streamflows During Irrigation Season**

Note: Riparian stream flows are defined here as any surface water derived from precipitation or rising groundwater that, given prevailing hydrologic conditions, would occur in Lower Putah Creek in the absence of the Solano Project. Non riparian water, such as treated wastewater and agricultural return flows originating from a non riparian source (e.g., pumped groundwater) cannot, by definition, be diverted by riparian water right claimants and therefore, are not included as a source of riparian water from Lower Putah Creek.

**A) Overview:**

- i) Calculate, on a daily basis, pre Solano Project stream flows (i.e., stream flow that would occur if there were no dams – no Solano Project) at the Putah Diversion Dam site .
- ii) Compare computed daily pre Solano Project stream flow (i.e., stream flow that would occur if there were no dams – no Solano Project) with current Putah Diversion Dam release – determine what fraction of the current release is stored water or any other non riparian water source, versus riparian stream flows .
- iii) Using real-time stream flow monitoring data to quantify prevailing percolation/evapotranspiration losses and any non riparian water sources, calculate riparian flows by stream reach. The total quantity of riparian water in any given reach is defined here as the sum of all riparian water sources less percolation/evapotranspiration losses.

**B) Analytical Approach:**

- i) Riparian stream flows at Putah Diversion Dam site:  

$$USRSF = LBI + IDTI - IDCL$$

Where: USRSF = Riparian stream flow at Putah Diversion Dam

LBI = Computed/measured Lake Berryessa inflow  
 (less any associated non riparian flow)  
 IDTI = Inter Dam Reach tributary inflow  
 (less any associated non riparian flow)

IDCL = channel percolation/evapotranspiration losses that would occur in the Inter Dam Reach in the absence of Lake Solano

(A stream gage will be placed on Pleasants Creek to facilitate real-time estimation of inflow from inter-dam tributaries. For accounting purposes, seepage and evaporation losses from Lake Solano are assumed to be constant and will therefore be characterized by a fixed continuous loss rate term).

- ii) Riparian stream flows in first reach downstream of Putah Diversion Dam (Putah Diversion Dam to 505 Bridge):

$$1RRSF = USRSF + TRSF + 1RAG - 1RCL$$

Where: 1RRSF = Computed riparian stream flow in Reach 1  
 USRSF = Computed riparian stream flow at Putah Diversion Dam  
 TRSF = Measured stream flow from tributaries (Dry Creek, McCune aka Pleasant Creek), less any associated non riparian flow  
 1RAG = Ag return flow water originating from a riparian source in reach 1  
 1RCL = Measured channel percolation/evapotranspiration losses in reach 1

Notes:

- (1) Agricultural return flow water that originates from a riparian water source (riparian water diverted from Putah Creek or associated tributaries) is classified as riparian water and therefore can be lawfully diverted by other riparian water right claimants.

- iii) Riparian stream flows in second reach downstream of Putah Diversion Dam (505 Bridge to Stevenson Bridge):

$$2RRSF = 1RRSF - 1RD (+/-) 2RCL + 2RAG$$

Where: 2RRSF = Computed riparian stream flow in Reach 2  
 1RRSF = Computed riparian stream flow in Reach 1  
 2RCL = Combined sum of groundwater "gains", channel percolation/evapotranspiration losses in reach 2  
 2RAG = Ag return flow water in reach 2 originating from a riparian source  
 1RD = Riparian diversion in Reach 1

Notes:

- (1) There are no significant tributaries entering Putah Creek in this Reach .  
 (2) Due to the spatial and temporal variability of rising groundwater, portions of the so called "gaining reach" (generally the upstreammost third of the reach) frequently lose rather than gain water. Accordingly, there are instances when some of the riparian diverters within Reach 2 have access

to rising groundwater, while others do not. When necessary, Reach 2 will be broken into two sub reaches for the purpose of quantifying riparian stream flows.

- iv) Riparian stream flows in third reach downstream of Putah Diversion Dam (Stevenson Bridge to I-80):

$$3RRSF = 2RRSF - 2RD - 3RCL + 3RAG$$

Where: 3RRSF = Computed riparian stream flow in Reach 3  
 2RRSF = Computed riparian stream flow in Reach 2  
 2RD = Riparian diversions in Reach 2  
 3RCL = Measured channel percolation/evapotranspiration losses in reach 3  
 3RAG = Ag return flow water in reach 3 originating from a riparian source

- v) Riparian stream flows in fourth reach downstream of Putah Diversion Dam (I-80 to Mace Boulevard):

$$4RRSF = 3RRSF - 3RD - 4RCL + 4RAG$$

Where: 4RRSF = Computed riparian stream flow in Reach 4  
 3RRSF = Computed riparian stream flow in Reach 3  
 3RD = Riparian diversion in Reach 3  
 4RCL = Measured channel percolation/evapotranspiration losses in reach 4  
 4RAG = Ag return flow water in reach 4 originating from a riparian source

- vi) Riparian stream flows in fifth reach downstream of Putah Diversion Dam (Mace Boulevard to RM 0.0 aka Yolo Bypass):

$$5RRSF = 4RRSF - 4RD - 5RCL + 5RAG$$

Where: 5RRSF = Computed riparian stream flows in Reach 5  
 4RRSF = Computed riparian stream flows in Reach 4  
 4RD = Riparian diversions in Reach 4  
 5RCL = Measured channel percolation/evapotranspiration losses in reach 5  
 5RAG = Ag return flow water in reach 5 originating from a riparian source

Note: The above formulas will be adjusted as necessary to reflect changing conditions such as new or terminated diversions or discharges.



### **3.0 Methodology for Quantifying Illegal Riparian Diversion During Irrigation Season**

Note: Diversions in excess of the available riparian stream flow (i.e., diversion of water released from storage or other non riparian flow) are considered illegal.

A) Overview:

For each reach, calculate difference between daily riparian diversions and computed riparian streamflow. If riparian diversions exceed computed riparian streamflow, the difference is considered to be the result of illegal diversions.

B) Analytical Approach:

- i) Illegal riparian diversions in first through fifth reaches downstream of Putah Diversion Dam:

$$\text{If: } (i\text{th})RD > (i\text{th})RRSF$$

$$\text{Then: } (i\text{th})IRD = (i\text{th})RD - (i\text{th})RRSF$$

Where: (i)thRD = Riparian diversions in Reach 1, 2, 3, 4 or 5  
 (i)thRRSF = Computed riparian streamflow in Reach 1, 2, 3, 4 or 5  
 (i)thIRD = Computed illegal diversions in Reach 1, 2, 3, 4 or 5

The Solano County Water Agency is under no obligation to enforce against any illegal riparian diverters whose actions do not adversely affect the Agency's ability to comply with any contractual or legal obligation.

# Exhibit 3

1  
2  
3  
4 SUPERIOR COURT OF CALIFORNIA  
5 COUNTY OF SACRAMENTO  
6

7  
8 Coordination Proceeding Special Title  
9 (Rule 1550b)

JUDICIAL COUNCIL COORDINATION  
PROCEEDING NUMBER 2565

10 PUTAH CREEK WATER CASES

11 CITY OF DAVIS,

SOLANO COUNTY SUPERIOR COURT  
CASE NUMBER 108552

12 Cross-Complainant,

SECOND AMENDED JUDGMENT

13 v.

14 SOLANO IRRIGATION DISTRICT,  
15 SOLANO COUNTY WATER AGENCY,  
16 CITY OF FAIRFIELD, CITY OF  
17 VACAVILLE, CITY OF VALLEJO, CITY  
18 OF SUISUN and MAINE PRAIRIE WATER  
DISTRICT,

Cross-Defendants.

19 All causes of action of the cross-complaint of the City of Davis in Solano Irrigation  
20 District et. al. v. the Names of all Appropriative Water Rights Holders, et. al., Solano County  
21 Superior Court No. 108552, were regularly tried before the Court sitting without a jury. This  
22 trial occurred in coordination with the trials of the second cause of action of the cross-complaint  
23 filed by the Regents of the University of California in this action and Putah Creek Council v.  
24 Solano Irrigation District and Solano County Water Agency, Sacramento County Superior Court  
25 No. 515766. This Second Amended Judgment, however, is entered only in Solano Irrigation  
26 District et. al. v. the Names of all Appropriative Water Rights Holders, et. al., Solano County  
27 Superior Court No. 108552.  
28

1 The trial was held on March 4, 1996 through April 5, 1996. Appearing as attorneys for  
2 cross-complainant City of Davis was Law Offices of Martha H. Lennihan, by Martha H.  
3 Lennihan. Appearing as attorneys for cross-defendants Solano Irrigation District and Solano  
4 County Water Agency were Minasian, Minasian, Minasian, Spruance, Baber, Meith & Soares,  
5 by Tim O'Laughlin and William C. Paris, III.

6 Following the trial, the Court, having heard the testimony and considered the evidence,  
7 rendered its Judgment in this action. Judgment was entered on August 23, 1996. The cross-  
8 defendants appealed from the Judgment.

9 On December 19, 1996, the Court entered an Order Awarding Attorneys Fees, awarding  
10 fees and costs to the City of Davis and its experts. The cross-defendants appealed from that  
11 Order.

12 While the Judgment and Order were on appeal, and before any decision on the appeals,  
13 the parties reached a stipulated settlement of the issues raised in this action. Pursuant to the  
14 terms of the settlement, the Court of Appeal referred the action to this Court for the limited  
15 purpose of considering the proposed settlement and amended judgments.

16 By motion filed on August 28 , 2000, the parties jointly requested that the Court amend  
17 its Judgment in this action and its Order Awarding Attorneys Fees to conform to the terms of a  
18 settlement stipulated to among the parties. The Court considered the proposed amendments to  
19 the Judgment and the Order, and the briefs and evidence offered by the parties in support of the  
20 proposed amendments. The Court found that the proposed amendments to the Judgment and the  
21 Order were consistent with the requirements of Article X, Section 2 of the California  
22 Constitution, the public trust doctrine, and section 5937 of the California Fish and Game Code.  
23 Accordingly, the Court found that the Judgment and Order should be amended as requested, and  
24 entered the Amended Judgment requested and stipulated to by the parties on September 8, 2000.

25 By motion pursuant to Section VI of the Amended Judgment, the parties have jointly  
26 requested that the Court amend the Amended Judgment in this action to conform to the terms of  
27 an amended settlement stipulated to among the parties. The Court has considered the proposed  
28 amendments to the Amended Judgment, and the briefs and evidence offered by the parties in

1 support of the proposed amendments. The Court finds that the proposed amendments to the  
2 Amended Judgment are consistent with the requirements of Article X, Section 2 of the California  
3 Constitution, the public trust doctrine, and section 5937 of the California Fish and Game Code.  
4 Accordingly, the Court finds that the Amended Judgment should be amended as requested, and  
5 that the Second Amended Judgment requested and stipulated to by the parties should be entered.

6 WHEREFOR, the Amended Judgment entered in this action on September 8, 2000 is  
7 hereby AMENDED and superseded by this Second Amended Judgment, and the Court now  
8 ORDERS AND ADJUDGES AS FOLLOWS:

9 **I. PERMANENT INJUNCTION**

10 The Solano Irrigation District ("SID") and Solano County Water Agency ("SCWA")  
11 forthwith shall modify their operations of, and other conduct regarding, the Solano Project as  
12 specified in Exhibit "A" attached hereto and incorporated herein fully by reference.

13 **II. ENFORCEMENT ACTIONS**

14 If the Solano Project is operated to comply with the release and instream flow  
15 requirements specified in Exhibit "A" hereto, then the City of Davis shall not pursue an action or  
16 proceeding for contempt of this Second Amended Judgment based on a violation or violations of  
17 one or more of the minimum mean daily flow requirements established in Exhibit "A" section  
18 A.(2), B.(2), C.(1), C.(2), C.(3), C.(4) and D.(3), or one or more of the minimum instantaneous  
19 flow requirements established in Exhibit "A" section A.(2), B.(2), C.(1), C.(2), C.(3), and C.(4),  
20 so long as:

21 A. The failure to comply was solely the result of an unanticipated and unforeseeable  
22 increase in a diversion or diversions from, or reduction in an inflow or inflows into, Putah Creek  
23 downstream of the Putah Diversion Dam, by some person or entity besides SID or SCWA, and  
24 the increase or reduction occurred so rapidly that the Solano Project could not reasonably  
25 maintain compliance by increasing the releases from the Putah Diversion Dam into lower Putah  
26 Creek; and

27 B. The four-day running mean flow at the relevant compliance point equaled or  
28 exceeded the applicable minimum mean daily flow; and

1 C. The instantaneous flow at the relevant compliance point was not more than 5 cfs less  
2 than the applicable minimum mean daily flow if the violation occurred during the period from  
3 January through July, and was not more than 3 cfs less than the applicable minimum mean daily  
4 flow if the violation occurred during the period from August through December.

### 5 III. LOWER PUTAH CREEK COORDINATING COMMITTEE

6 A. The parties shall, within six months after the filing of the Amended Judgment,  
7 form a Lower Putah Creek Coordinating Committee ("LPCCC") to carry out the responsibilities  
8 assigned to the LPCCC under the Amended Judgment.

9 The LPCCC shall be organized and governed in a manner that, at a minimum,  
10 incorporates the following:

11 (1) Membership: The LPCCC shall consist of ten members with five  
12 members representing the Putah Creek Council, the City of Davis, and the Regents of the  
13 University of California (the "Yolo parties") and five members representing the Solano County  
14 Water Agency, the Solano Irrigation District, the Maine Prairie Water District, and the Cities of  
15 Vacaville, Fairfield, Vallejo and Suisun City (the "Solano parties"). The selection of the Yolo  
16 parties' representatives shall be undertaken in a manner to be determined by the Yolo parties; the  
17 selection of the Solano parties' representatives shall be undertaken in a manner to be determined  
18 by the Solano parties.

19 (2) Voting:

20 (a) Full LPCCC Membership: Matters before the LPCCC shall be  
21 deemed approved only if a majority of the Yolo members and a majority of the Solano members  
22 approve the action. A quorum shall be deemed present if a minimum of three members is present  
23 from each side. Alternates may be selected and shall have the voting rights of the regular  
24 members not in attendance.

25 (b) Rotation of Chairmanship: A chairman and vice-chairman shall  
26 be elected (or selected by agreement of all LPCCC members) to serve on an annual basis. If the  
27 first chairman elected (or selected) is a Solano party representative, then the first vice-chairman  
28 shall be a Yolo party representative, and conversely if the first chairman selected is a Yolo party

1 representative, then the first vice-chairman shall be a Solano party representative. Thereafter, the  
2 chairman and vice-chairman shall alternate between a Yolo party representative and a Solano  
3 party representative. The chairman and vice-chairman together shall constitute an executive  
4 committee. In situations where emergency actions must be taken before the LPCCC or the Core  
5 Group can be convened, either in person or by conference telephone call, the executive  
6 committee shall be authorized to act without the full LPCCC or the Core Group. In that event,  
7 the executive committee immediately shall report its actions to the full LPCCC by fax or e-mail,  
8 and shall obtain ratification or further directions from the full LPCCC.

9 (c) Core Group: A "Core Group" shall be formed. It shall be  
10 comprised of six members, of whom three shall be representatives of the three Yolo parties, and  
11 three shall be selected by the Solano parties' representatives.

12 At the discretion and written request of any member of the Core  
13 Group, a matter otherwise subject to vote by the full LPCCC shall be dealt with solely by the  
14 Core Group. Any action dealt with by the Core Group shall only be approved if at least two of  
15 the Core Group members representing the Yolo parties and two of the Core Group members  
16 representing the Solano parties shall have voted to approve the action.

17 (3) Scope of Authority: The LPCCC shall have the responsibility to  
18 undertake the following:

19 (a) To monitor implementation of the Putah Creek Settlement  
20 Agreement and to make an annual report to the Court and to the parties to the settlement  
21 agreement.

22 (b) Through the Streamkeeper and any other means that may be  
23 approved by the LPCCC, to monitor the condition of Putah Creek from Putah Diversion Dam to  
24 the Yolo Bypass ("lower Putah Creek") and to make recommendations to appropriate agencies  
25 about the condition of the waterway and actions appropriate to preserve and protect this stretch  
26 of Putah Creek.

27 (c) To undertake maintenance, restoration and enhancement  
28 measures with respect to lower Putah Creek resources and to support and coordinate the efforts

1 of public agencies, private property owners and non-profit associations in furtherance of such  
2 maintenance, restoration and enhancement.

3 (d) To serve as a forum for discussion and possible resolution of  
4 lower Putah Creek related concerns and issues. Provided, however, this provision shall not be  
5 construed to give the LPCCC any authority to amend this Second Amended Judgment.

6 (e) To coordinate with the Reclamation Board and the Department of  
7 Water Resources on flood control issues regarding Putah Creek.

8 (f) To develop a system to share data regarding lower Putah Creek.

9 (g) To develop an active public education/information program on  
10 Lower Putah Creek.

11 (h) To seek grants and funds where appropriate for projects in pursuit  
12 of the above goals.

13 (i) To oversee the Streamkeeper. The Streamkeeper shall be  
14 employed by SCWA except as otherwise determined by the LPCCC after entry of this Second  
15 Amended Judgment.

16 (j) To establish standing and ad hoc committees, including a  
17 Technical Committee, as may be necessary or appropriate to further the LPCCC's  
18 responsibilities.

19 (4) The LPCCC and any standing committees shall comply with the Ralph  
20 M. Brown Act, Government Code sections 54950—54962.

21 (5) SCWA shall provide administrative support for the LPCCC, any standing  
22 or ad hoc committees and the Streamkeeper.

23 (6) As part of the Parties' ongoing efforts to protect and enhance the instream  
24 values associated with lower Putah Creek, SCWA shall contribute, in coordination with the  
25 contributions and activities specified in Section III.H. hereof, the following amounts of money,  
26 which shall be utilized for the specified activities. Each specific expenditure of money shall be  
27 authorized in advance by the LPCCC, and the LPCCC shall supervise the specified activities.

28 (a) \$10,000 per year for native vegetation preservation and



1 enhancement, including the identification of areas along the lower Putah Creek dominated by  
2 non-native species, and their removal and replacement with native trees and grasses. This work  
3 will be coordinated with efforts by other individuals and entities involved in similar removal and  
4 replacement efforts.

5 (b) \$55,000 per year for the monitoring of wildlife, including birds,  
6 mammals, reptiles and amphibians which live in and around lower Putah Creek.

7 (c) Amounts, if any, to be determined by SCWA for acquisition of  
8 easements from voluntary, willing sellers, for the maintenance and enhancement of the biological  
9 resources of lower Putah Creek. These acquisitions shall be coordinated with the development of  
10 a long-term plan. The development of this plan shall be coordinated with other interested entities  
11 and individuals.

12 (d) \$55,000 per year for the monitoring of native fish in lower Putah  
13 Creek.

14 (e) \$40,000 per year for a Streamkeeper for lower Putah Creek,  
15 whose duties shall include, without limitation, preparing reports to the LPCCC regarding all  
16 aspects of lower Putah Creek, attending all LPCCC meetings, weekly monitoring and recording  
17 of flows at specified locations, weekly monitoring and recording of all diversions from lower  
18 Putah Creek, coordinating field trips and public projects to improve lower Putah Creek natural  
19 values, and identification and reporting to the LPCCC of any activities that are harmful to the  
20 health of lower Putah Creek.

21 (f) General grants totaling \$250,000 in the aggregate for the  
22 preservation and enhancement of the natural values of lower Putah Creek, which shall be  
23 allocated by the LPCCC.

24 (g) The amounts provided for in subsections (a), (b), (d) and (e) to  
25 the extent not allocated by the LPCCC in any given year shall not carry over to subsequent years.  
26 Amounts not expended on the matters enumerated above, however, as authorized by the LPCCC,  
27 may be expended for the following additional purposes:  
28

1 (i) For preservation and enhancement of birds, mammals,  
2 reptiles and amphibians that live in and around lower Putah Creek; and

3 (ii) For preservation and enhancement of native fish in lower  
4 Putah Creek.

5 (h) The contributions specified in subparagraphs (6)(a), (b), (d) and  
6 (e) shall be annually adjusted, up or down, in proportion to any changes in the first quarterly IPD  
7 published, in the relevant year, in the Survey of Current Business, by the United States  
8 Department of Commerce. If the IPD no longer is available, then the most comparable available  
9 index shall be used instead.

10 B. If the parties to this Second Amended Judgment have not reached agreement on  
11 the exact form and functions of the LPCCC within six months after the filing of the Amended  
12 Judgment, then the Court, exercising its reserved jurisdiction, shall mediate the development of a  
13 final agreement with respect to the form and functions of the LPCCC and, if the parties fail to  
14 agree during the mediation, shall have the authority to mandate the form and functions of the  
15 LPCCC after considering any arguments of the parties. If the LPCCC ever is unable to decide  
16 how to spend any of the moneys that are described in subsection III.A.(6) hereof, then the Court,  
17 exercising its reserved jurisdiction, shall mediate the development of an appropriate plan to  
18 spend such moneys, and, if the LPCCC fails to approve such a plan, then the Court shall have the  
19 authority to mandate an appropriate plan for the expenditure of such moneys.

20 C. The LPCCC shall specify the general duties and responsibilities of the  
21 Streamkeeper and shall review and evaluate the Streamkeeper's performance at least once each  
22 year. The Streamkeeper shall report directly to the Executive Committee of the LPCCC, and the  
23 Executive Committee of the LPCCC shall supervise the Streamkeeper's day-to-day duties and  
24 responsibilities.

25 D. The LPCCC shall determine the scopes of the work to be performed under  
26 subparagraphs A.(3)(a), (b), (c) and (d) of this Second Amended Judgment. No expenditures  
27 under subparagraphs A.(6)(a), (b), (c), (d), (e) and (f) of this Second Amended Judgment shall be  
28 made without the advance approval of the LPCCC.

1 E. The LPCCC shall pursue and support the following types of measures for  
2 anadromous fish, through the fish surveys and the Streamkeeper's work described in  
3 subparagraphs A.(6)(d) and (e) and other actions that may be taken by the LPCCC, including  
4 seeking additional funding where already identified sources are insufficient and coordinating  
5 with other applicable planning efforts:

6 (1) A survey and analysis of existing spawning gravels for anadromous fish  
7 in the reach of lower Putah Creek from the Putah Diversion Dam to Pedrick Road, and the  
8 potential for enhancement of these spawning gravels;

9 (2) A survey and analysis of any obstacles to anadromous fish passage in  
10 lower Putah Creek, includes for the purposes of this survey and analysis, the Putah Diversion  
11 Dam and any structures downstream therefrom;

12 (3) The development of a sedimentation management plan for lower Putah  
13 Creek that would prevent or mitigate for any damage to fish habitat that may be caused by  
14 releases of sediment at the Putah Diversion Dam;

15 (4) Monitoring of lower Putah Creek to determine the extent and timing of  
16 chinook salmon, steelhead trout and Pacific lamprey in lower Putah Creek;

17 (5) Provided, however, that if an HCP process has been initiated within one  
18 year of entry of the Amended Judgment and includes a proposed Safe Harbor provision with  
19 activities delineated in both the proposed Safe Harbor provision and subparagraphs III.E.(1)–(4),  
20 then the LPCCC shall not undertake the activities until either the HCP is finalized or five years  
21 have passed since entry of the Amended Judgment.

22 F. The Core Group may approve changes to any provision of this Section III,  
23 provided that such changes do not alter, and are not inconsistent with, any other provision of this  
24 Second Amended Judgment. The Core Group shall file any such changes and an explanation of  
25 the reasons for the change with the court, for filing with this Second Amended Judgment, within  
26 30 days after the Core Group approves the changes.

27 G. All data collected during any of the activities referenced in this Section III and  
28 all reports and other documents provided to the LPCCC shall be immediately made available for

1 inspection and copying by any party to this Second Amended Judgment or any interested  
2 member of the public during normal business hours. To the extent feasible and reasonable,  
3 SCWA shall post on its Internet website, or make available to the public by similar electronic  
4 means, all data and reports that must be made available for inspection and copying under the  
5 preceding sentence of this paragraph within 15 days after SCWA receives each set of such data  
6 and each such report.

7 H. The parties are encouraged to augment, to the degree permitted by applicable  
8 law, the sums of money herein committed by SCWA, in order to further the work outlined  
9 herein. The parties will provide notice to and coordinate with the LPCCC regarding actions that  
10 may affect the scope of the LPCCC's authority and responsibilities with respect to lower Putah  
11 Creek as is provided for in this Second Amended Judgment.

#### 12 IV. LIMIT ON AVERAGE ANNUAL ALLOCATIONS

13 Solano Project Contract Allocations are defined as the amount of all Solano Project  
14 Water delivered to Participating Agencies pursuant to the agreements between SCWA and the  
15 Participating Agencies. Solano Project Contract Allocations also include Solano Project Water  
16 not delivered during the allocation year and instead stored in Lake Berryessa pursuant to Article  
17 4(c) of the Contract Between the United States and Solano County Water Agency Providing For  
18 Water Service (Contract No. 14-06-200-4090R). Putah South Canal Conveyance losses (Canal  
19 inflows minus deliveries from Canal) are not included in Solano Project Contract Allocations.  
20 During each year, Solano Project Contract Allocations shall be limited such that there are never  
21 ten (10) successive years during which, over those ten years, the average Solano Project Contract  
22 Allocations exceed 192,350 af per year. The Parties acknowledge that the 10-year average  
23 amount of Solano Project Water delivered to Participating Agencies may exceed 192,350 af in  
24 certain years due to the delivery of the aforementioned stored water.

#### 25 V. AWARD OF FEES AND EXPENSES

26 SCWA and SID have paid to the City of Davis the amount of Five Hundred Fifty-  
27 Six Thousand Two Hundred Eighty-Seven Dollars (\$556,287.00).  
28

**VI. RESERVED JURISDICTION**

This Court reserves continuing jurisdiction over the parties to provide for the administration and enforcement of this Second Amended Judgment, including jurisdiction to modify this Second Amended Judgment in accordance with applicable law.

DATED: \_\_\_\_\_, 2002

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HONORABLE RICHARD A. PARK  
JUDGE OF THE SUPERIOR COURT

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**Exhibit "A"****Solano Project Releases and Instream Flows for Lower Putah Creek****A. Rearing Flows ((1), (2) & (3) all shall be maintained)**

(1) Solano Irrigation District ("SID") and Solano County Water Agency ("SCWA") shall, for each month as set forth below, maintain mean daily releases from the Putah Diversion Dam to Creek downstream of the Putah Diversion Dam (hereinafter "lower Putah Creek") that are equal to or in excess of the following rates, expressed in cubic feet per second ("cfs"):

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean Daily Release (cfs)	20	25	25	25	16	26	46	43	43	43	34	20

These mean daily releases shall be measured at the Putah Diversion Dam and made from the Putah Diversion Dam into lower Putah Creek immediately downstream of the Putah Diversion Dam. The instantaneous releases at the Putah Diversion Dam shall at all times equal or exceed ninety percent (90%) of the applicable mean daily release requirement.

(2) SID and SCWA shall, for each month as set forth below, release sufficient water from the Putah Diversion Dam into lower Putah Creek immediately downstream of the Putah Diversion Dam to maintain mean daily flows in lower Putah Creek that are equal to or in excess of the following rates, expressed in cubic feet per second ("cfs"):

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean Daily Flows (cfs)	5	10	10	15	15	25	30	20	15	15	10	5

These mean daily flows shall be maintained and measured at or in the near vicinity of the Interstate 80 Bridge. The instantaneous flow at the Interstate 80 Bridge shall at all times equal or exceed ninety percent (90%) of the applicable mean daily flow requirement.

(3) SID and SCWA shall at all times of the year release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a continuous flow of surface water in Putah Creek from the Old Davis Road Bridge to the western boundary of the Yolo Bypass, identified as River Mile 0.0 on trial exhibit number 41.

B. Spawning Flows ((1), (2) & (3) all shall be maintained)

(1) At a time between February 15 and March 31 of every calendar year, SID and SCWA shall release a three-consecutive-day pulse of water from the Putah Diversion Dam into lower Putah Creek equal to or in excess of the following rates:

- (a) 150 cfs for the first 24 hours;
- (b) 100 cfs for the second 24 hours; and
- (c) 80 cfs for the third 24 hours.

SID and SCWA may, in their discretion, time this pulse so as to utilize any uncontrolled flows that may provide some or all of the water needed to comply with this requirement.

(2) In every year, for the 30 days that follow the three-day pulse release described in paragraph B.(1), SID and SCWA shall release sufficient water from the Putah Diversion Dam into lower Putah Creek to maintain a mean daily flow equal to or in excess of 50 cfs at the Interstate 80 Bridge. During this period, the instantaneous flows at the Interstate 80 Bridge shall at all times equal or exceed 45 cfs.

(3) In every year, at the conclusion of the 30th day of the 50 cfs spawning flows described in subsection B.(2), SID and SCWA then shall ramp down the controlled releases from the Putah Diversion Dam gradually over a seven-day period until the flows are in compliance with the applicable requirements set forth in subsections A.(2), A.(3), C.(3) and C.(4) of this Exhibit "A".

C. Supplemental Flows ((1), (2), (3), & (4) all shall be maintained)

The requirements set forth thus far herein are intended to protect the aquatic and related resources found in lower Putah Creek. It has been agreed, however, that in addition to maintaining these resources, SID and SCWA shall provide supplemental flows in an attempt to enhance the aquatic and related resources of lower Putah Creek above that baseline. Accordingly:

(1) SID and SCWA shall, during the period from November 1 through December 15 of each calendar year, release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a mean daily flow of at least 5 cfs, and an instantaneous flow of at least 2 cfs, at the point where Putah Creek discharges into the Toe Drain on the eastern side of the Yolo Bypass (the "East Toe Drain").

(2) Beginning sometime between November 15 and December 15 of each calendar year, SID and SCWA shall release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a mean daily flow of at least 50 cfs, and an instantaneous flow of at least 45 cfs, for five consecutive days at the point where Putah Creek discharges into the East Toe Drain. If a flash board dam is present on Putah Creek near the East Toe Drain during that period, and if the flash boards are removed during that period, then to the extent feasible the first day of the 50 cfs pulse flow at the East Toe Drain shall follow the removal of the flash boards. The precise timing of the initiation of the 50 cfs pulse flow shall be set each year by the Lower Putah Creek Coordinating Committee established in accordance with section III of the Second Amended Judgment (the "LPCCC"). The objective of the LPCCC shall be to time the release so as to maximize the potential for such flows to attract anadromous fish into Putah Creek. If the exact date of releases has not been established or agreed upon by the LPCCC, then the releases dealt with in this subparagraph shall commence on December 1 of the affected calendar year.



(3) Beginning on the sixth day after initiation of the above described 50 cfs pulse flow, and continuing each day thereafter through March 31, SID and SCWA shall release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a mean daily flow of at least 19 cfs, and an instantaneous flow of at least 14 cfs, at I-80.

(4) Beginning on April 1 of each calendar year, and continuing each day thereafter through May 31, SID and SCWA shall release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a mean daily flow of at least 5 cfs, and an instantaneous flow of at least 2 cfs, at the point where Putah Creek discharges into the East Toe Drain.

**D. Drought Year Flows**

(1) During years when total storage in Lake Berryessa is less than 750,000 acre feet ("af") as of April 1 (a "Drought Year"), the release and instream flow requirements set forth in sections D.(2), D.(3) and D.(4) below ("Drought Year Requirements") shall apply instead of the release and instream flow requirements set forth in sections A., B. and C. above ("Non-Drought Year Requirements"). Provided, however, that if after April 1 the total storage in Lake Berryessa rises to 750,000 af or more, then the Non-Drought Year Requirements shall immediately take effect.

(2) During a Drought Year, releases of water from the Putah Diversion Dam into lower Putah Creek shall equal or exceed the following amounts (mean daily values, in cfs, with instantaneous releases always equal to or exceeding 90 % of the listed values):

Oct	Nov	Dec	Jan	Feb	Mar	Apr	Ma	Jun	Jul	Aug	Sep
15	25	25	25	16	26	46	33	33	33	26	15

(3) During a Drought Year, SID and SCWA shall release sufficient water from the Putah Diversion Dam to maintain a continuous flow of surface water in Putah Creek from

Putah Diversion Dam to the Interstate 80 Bridge, and further shall release sufficient water from the Putah Diversion Dam to maintain a minimum mean daily instream flow of 2 cfs at the Interstate 80 Bridge, with instantaneous flows always equal to or exceeding 1 cfs. Under these conditions, SID and SCWA shall not be required to maintain a continuous flow of surface water in the reach of Putah Creek below the Interstate 80 Bridge.

(4) Whenever the release and instream flow requirements set forth in sections D.(2) and D.(3) are in effect for two consecutive years, then during the next year thereafter the Non-Drought Year Requirements shall apply and shall remain in effect for an entire period from April 1 through March 31, unless total storage in Lake Berryessa on April 1 is less than 400,000 af. If the Drought Year Requirements are ever in effect for three or more consecutive years, then the Non-Drought Year Requirements shall apply and remain in effect for an entire period from April 1 through March 31 in the first subsequent year during which total storage in Lake Berryessa on April 1 exceeds 400,000 af.

(5) For the purposes of this section D, "total storage in Lake Berryessa" shall be the actual amount of water that physically is stored in Lake Berryessa (including all carryover storage) plus a Storage Adjustment. As of the date of entry of the Amended Judgment, the Storage Adjustment shall be zero. Thereafter, the amount of any controlled release of water from Lake Berryessa that is not for the purpose of (i) Solano Project Diversions, or (ii) maintaining the flows in lower Putah Creek that are required by the Amended Judgment shall be added to the Storage Adjustment. When Lake Berryessa spills, and all carryover storage has been spilled or otherwise eliminated, the Storage Adjustment shall be re-set to zero. The Storage Adjustment shall never be less than zero. "Solano Project Diversions," for the purpose of this paragraph, means water delivered to Solano Project Participating Agencies and Putah South Canal Conveyance losses (Canal inflows minus deliveries from canals).

(6) If Solano Project Water that is not within the scope of Solano Project Contract Allocations, as is defined in Section IV of the Second Amended Judgment, ever is stored in an offstream reservoir or reservoirs or underground storage, and, as a result, Lake Berryessa storage levels are reduced below the levels that would occur in the absence of such storage, then the 750,000 af amount in paragraph D.(1) and the 400,000 af amount in paragraph D.(4) shall be adjusted so that Drought Year Requirements will continue to occur at the same frequencies as they would have occurred in the absence of such storage.

E. Illegal Diversion Account

If there is any risk that illegal diversions may take place from lower Putah Creek to a degree that water released by the Solano Project for the purposes of maintaining the minimum flows set forth herein will be significantly depleted, then the procedures set forth in the attached Exhibit "A-1" shall be implemented.

F. Monitoring Requirements ((1), (2), (3), & (4) all shall be satisfied)

(1) SID and SCWA shall continuously measure and record releases from the Putah Diversion Dam to lower Putah Creek, and shall determine and record each day's mean daily release.

(2) SID and SCWA shall forthwith install and maintain flow measurement gauges capable of measuring instream flows on a continuous basis at the Interstate 80 Bridge and near the East Toe Drain. SID and SCWA shall collect and maintain the data recorded by each of these gauges as is necessary to demonstrate their compliance with the flow requirements imposed by this Second Amended Judgment. In addition, SID and SCWA shall make regular measurements of instream flows at Stevenson Road Bridge, Pedrick Road Bridge and Old Davis Road Bridge. If the instream flow measured at Stevenson Road Bridge, Pedrick Road Bridge, or at Old Davis Road Bridge, is less than the minimum instream flow requirements in section A.(2) above on more than an

infrequent basis, then the paragraph A.(2) flow requirements shall start to apply at such measurement point or points, in addition to still applying at the Interstate 80 Bridge. SID and SCWA shall install, maintain, repair, calibrate and operate gauging equipment at such compliance points as may be necessary to ensure and demonstrate their compliance with the provisions of this Exhibit "A". Gaging equipment shall be installed to provide a range of measurement from 0 cfs to at least 200 cfs.

(3) SID and SCWA shall monitor flows in the entire reach of lower Putah Creek from Old Davis Road Bridge to River Mile 0.0 with sufficient frequency and by sufficient means to ensure compliance with the requirement in part A.(3) of this Second Amended Judgment that continuous flow of surface water be maintained in this reach at all times of the year. All measurements and observations of this reach made for purposes of compliance with this requirement shall be recorded.

(4) SID and SCWA shall maintain records, in both paper and electronic format, of all release and flow measurements, all calculated mean daily releases and flows, and all observations required by this Second Amended Judgment. Promptly upon request, these records shall be made available for review and copying by any person during normal business hours at the offices of SID or SCWA.

**Exhibit "A-1"**

**Effects of Illegal Diversions of Water from Lower Putah Creek  
on Solano Project's Obligations to Maintain Exhibit A Instream Flow Requirements**

1. The Solano Project shall satisfy all of the release and instream flow requirements that are specified in Exhibit A at all times, whether or not any illegal diversions of water from lower Putah Creek are occurring, except to the extent that exceptions to the instream flow requirements are authorized by this Exhibit "A-1". These exceptions shall only be authorized during the irrigation season. "Irrigation season" shall mean the period from March 1 through October 31 of each year.

2. To determine the Solano Project's obligations to satisfy the instream flow requirements specified in Exhibit A during times when illegal diversions from lower Putah Creek are occurring, an Illegal Diversion Account shall be established. Starting at the beginning of the sixth irrigation season during which this Illegal Diversion Account is drawn upon, the balance in this account shall be set to 1,000 acre feet at the beginning of each irrigation season, regardless of the account's balance at the end of the prior irrigation season. Prior to the sixth irrigation season in which the Illegal Diversion Account is drawn upon, the balance in the Illegal Diversion Account at the beginning of each irrigation season shall be set to 2,000 acre feet. Any credits made pursuant to Paragraph 9 of this Exhibit "A-1" for any irrigation season shall be in addition to the initial balance. SCWA shall maintain an accurate accounting of all credits to and deductions from this account, and shall provide all members of the LPCCC with an updated accounting of the credits to and deductions from this account on at least a weekly basis whenever such credits or deductions are made.

3. At the beginning of each irrigation season, SCWA shall provide written notice to all riparian landowners of SCWA's projections of the time period during which such landowners legally may divert from each reach of lower Putah Creek during the irrigation season. This notice shall encourage each riparian landowner to provide SCWA with the dates and amounts of the landowner's planned diversions of water from lower Putah Creek during the irrigation season. SCWA may, in its discretion, provide additional notices, making updated SCWA projections of the amounts of water that such landowners legally may divert from lower Putah Creek, to these landowners as the irrigation season progresses. The calculations in these notices shall be based on the formulas and procedures described in Exhibit "A-2". SCWA shall provide a copy of one of each type of all such notices to all of the members of the LPCCC at the same time that SCWA provides such notices to any riparian landowners.

4. The term "illegal diversion" in this Exhibit "A-1" means a diversion that is illegal based on the formulas and procedures described in Exhibit "A-2". The sole purposes of this definition are for implementing the provisions of this Exhibit "A-1" regarding deductions from the Illegal Diversion Account pursuant to this paragraph 4 and modifying the Solano Project's release requirements pursuant to paragraph 6 of this Exhibit "A-1". If SCWA has filed, and is diligently pursuing, a court action against a landowner with an illegal diversion, and if SCWA has complied with all of the provisions of paragraph 3 of this Exhibit "A-1", and is complying with all of the provisions of paragraph 5 of this Exhibit "A-1", then deductions shall be made from the Illegal Diversion Account for any amounts of water that the Solano Project releases from the Putah Diversion Dam into lower Putah Creek during the irrigation season solely for the purpose of compensating for that illegal diversion

while maintaining the instream flows specified in Exhibit "A". "Diligently pursuing" means seeking, at the earliest possible opportunities, a temporary restraining order, a preliminary injunction and a permanent injunction stopping the illegal diversion, and a declaratory judgment regarding the illegality of the diversion. If there is more than one illegal diversion, then all of the provisions of this paragraph shall apply to each illegal diversion.

5. During any period during which deductions are being made from the Illegal Diversion Account, SCWA shall make streamflow measurements on a continuous basis at sufficient locations along lower Putah Creek to make the calculations and determinations described in Exhibit "A-2". During such periods, SCWA shall provide copies of all of the streamflow measurement data, the calculations and determinations described in Exhibit "A-2" and the accurate accounting of all credits to and deductions from the Illegal Diversions Account to all members of the LPCCC at least once each week, and shall post all such data, calculations and determinations on its Internet website, or make such information available to members of the LPCCC and the public by similar electronic means, and shall update such posted information at least once each day.

6. If the balance in the Illegal Diversion Account ever reaches zero, then, during the remainder of the irrigation season during which the Account balance reached zero and while SCWA continues to diligently pursue the court action described in the paragraph 4 above and continues to make available the data, calculations, determinations and reports described in paragraph 5 above, and while the court action is pending, the Solano Project shall not be required to fully comply with any instream flow requirement that is specified in Exhibit "A" for a point that is located downstream of any illegal diversion that is subject to the court action and that occurs after the Illegal Diversion Account balance reaches zero.

Instead, under these conditions, the Solano Project shall release from the Putah Diversion Dam into lower Putah Creek at least the amounts of water that would be sufficient to satisfy all of the instream flow requirements in Exhibit "A", if the illegal diversion that is subject to the court action were not occurring. Under these circumstances, the Solano Project's release obligations shall be adjusted as frequently as necessary to reflect changes in hydrological conditions or changes in the rate of the illegal diversion. Immediately upon the cessation of such illegal diversion, the conclusion, dismissal or cessation of diligent pursuit of the court action, or the end of the irrigation season, whichever occurs first, the Solano Project shall satisfy all of the instream flow requirements in Exhibit "A". If court actions regarding more than one illegal diversion are pending, then the provisions of this paragraph shall apply to all such illegal diversions.

7. Deductions from the Illegal Diversion Account for an illegal diversion may be made only for a maximum of two years after the court action described in paragraph 4 above is filed against the landowner with the illegal diversion. Even if a final judgment is not issued in such court action within two years after the action is filed, and even if such court action is dismissed for any reason, the Solano Project nevertheless thereafter shall be required to maintain all of the instream flows described in Exhibit "A", and no further deductions shall ever be made from the Illegal Diversion Account for any illegal diversion that is or was the subject of the court action. However, if a new illegal diversion with neither a point of diversion nor a place of use that is within the scope of the court action described in paragraph 4 above occurs, then the provisions of paragraphs 4, 5 and 6 above, and this paragraph, shall apply to the new illegal diversion. If there is more than one such new illegal



diversion, then the provisions of paragraphs 4, 5 and 6 above, and this paragraph, shall apply to each such new illegal diversion.

8. If a court of competent jurisdiction issues a final judgment specifying the legality or illegality of any particular diversion from lower Putah Creek, then SCWA shall adjust the formulas and calculations in Exhibit "A-2" to be consistent with the court's judgment, and the adjusted formulas and calculations shall be applied thereafter. Immediately upon making such adjustment, SCWA shall advise all members of the LPCCC of the adjustment. If any party to this Second Amended Judgment disagrees with SCWA's adjustment, then that party may ask the LPCCC to try to resolve the disagreement, or may ask the court that issued this Second Amended Judgment, by noticed motion, to determine what the appropriate adjustment should be.

9. If any adjustments to the formulas or calculations in Exhibit "A-2" are made pursuant to paragraph 8 of this Exhibit A-1, then appropriate adjustments shall be made to the Illegal Diversion Account, for example, credits shall be made for the total amount of all debits that previously were made from the Account for diversion that were treated by SCWA as illegal, but which would have been legal under the adjusted formulas and calculations. If SCWA ceases to diligently pursue any court action described in paragraph 4 of this Exhibit "A-1" before a final judgment is entered, then credits shall be made to the Illegal Diversion Account for the total amount of all debits that previously were made from the Account for the diversion that was the subject of the court action. The credits described in this paragraph shall be spread equally over the same number of irrigation seasons as the number of irrigation seasons during which debits from the Account were made. If the court issues its final judgment during an irrigation season, then the first year of such credits shall be made

[3/13/00]

immediately to the Account. If the court issues its final judgment not during an irrigation season, then the first year of such credits shall be made during the next irrigation season. Subsequent credits shall be made during the immediately following irrigation seasons.

**Exhibit "A-2"****Solano County Water Agency's Methodology for Monitoring  
and Quantifying the Availability and Use of  
Riparian Water in Lower Putah Creek**

This document provides the Solano County Water Agency's ("SCWA") explanation and basis for its methodology for monitoring and quantifying the availability and use of riparian water in Putah Creek, downstream of the Putah Diversion Dam. SCWA's methodology, hereafter referred to as the Lower Putah Creek Riparian Water Program ("PRWP"), will be used by SCWA to (1) differentiate between and quantify the availability of riparian versus non-riparian waters in Putah Creek, downstream of the Putah Diversion Dam, and (2) identify and quantify illegal water diversions, downstream of the Putah Diversion Dam. SCWA anticipates that implementation of the PRWP will increase the efficiency with which the instream flow requirements of the Solano Project, as specified by the Putah Creek Settlement Agreement, are satisfied, and facilitate the lawful diversion of riparian water downstream of the Putah Diversion Dam.

**1.0 OVERVIEW****1.1 Key Elements of Lower Putah Creek Riparian Water Program**

The PRWP consists of two components: Pre-irrigation season water availability forecasts, and real-time stream flow monitoring during the irrigation season, where "irrigation season" is defined as March 1 through October 31. Annual water availability

forecasts will be provided to riparian water users prior to the irrigation season, so they and other interested parties can plan and, if necessary, make other arrangements for obtaining irrigation water, before significant time and financial resources are committed to the cultivation of a given crop. Real-time monitoring will be conducted to: (1) determine, on a daily basis, the quantities of riparian water that are available to water users in Lower Putah Creek, and (2) differentiate and quantify, on a daily basis, legal versus illegal riparian diversions.

### **1.2 Definition of Riparian Water**

For the purposes of the PRWP, riparian stream flows are defined as any surface water derived from precipitation or rising groundwater that, given prevailing hydrologic conditions, would occur in Lower Putah Creek in the absence of the Solano Project. Non-riparian water, such as treated wastewater and agricultural return flows originating from a non-riparian source (e.g., pumped groundwater that would not otherwise be tributary to the creek) cannot, by definition, be diverted by riparian water right claimants and, therefore, is not included as a source of riparian water from Lower Putah Creek.

### **2.0 WATER AVAILABILITY FORECASTS**

SCWA's riparian water availability forecasts for Lower Putah Creek will be based on stream flow conditions observed in the Putah Creek drainage, upstream of the Putah Diversion Dam, in the prior (i.e., antecedent conditions) and current water year. Forecasts

will be made on January 1, March 1 and May 1. The January 1 and March 1 forecasts, which will be made before the current rainy season is over, will be based in part on projected stream flow conditions for the balance of the rainy season, while the May 1 forecast, the final forecast for the water year, will be based on actual runoff measured to date. Both the January 1 and March 1 forecasts will include three scenarios, based on the assumption that the balance of the rainy season will either be "wet" (25% exceedance), "normal" (50% exceedance) or "dry" (75% exceedance).

In order to address the differing sources and durations of riparian stream flows (surface stream flows from Putah Creek and/or tributaries to Putah Creek, or rising groundwater), Lower Putah Creek has been divided into five reaches. Water availability forecasts will be made for each reach. Stream reach designations and the analytic framework for making water availability forecasts are presented in "Attachment 1".

### **3.0 REAL-TIME MONITORING**

#### **3.1 Quantifying Available Riparian Water Supply**

Stream flows and the associated stream flow gains and losses will be monitored by reach, on a continuous basis, and the availability of riparian water and extent of illegal diversions will be determined daily, using a series of water mass balance equations to track the quantities of both riparian and non-riparian water entering and leaving each stream reach.

A summary of the equations used to define riparian water availability, by stream reach, is presented in Attachment 1.

Although the determination of net riparian flow is based on real-time stream flow measurements, there are situations where real-time stream flow measurements are not practical and therefore simplifying assumptions must be used, much as they are in the Condition 12 Settlement Agreement for the Upper Putah Creek drainage. For example, under existing conditions it is difficult to measure accurately real-time stream flow losses in the stream reach now inundated by Lake Solano. Consequently, a "fixed" loss figure previously adopted by the United States Bureau of Reclamation may be used in the water mass balance calculation for this reach. In all cases, the simplifying assumptions used to quantify the availability of riparian water are purposely conservative in the sense that they tend to overstate the availability of riparian stream flows. Overstating riparian water availability is preferred, since it presumably increases the enforceability of the PRWP and its acceptability to riparian water users.

### **3.1.1 Data Collection**

#### **3.1.1.1 Measurement of Riparian Diversions**

Riparian diversions will either be measured directly, using an appropriate meter and assuming landowner/operator permission is obtained, or indirectly, via measurement of creek stream flows in the vicinity of the diversion. Riparian diversions typically constitute a

readily measurable fraction of the total stream flow in any given reach (500-2,000 gallons per minute, or about 1-5 cubic feet per second), and are therefore easily detected by continuously measuring stream flows entering and leaving a given stream segment.

### **3.1.1.2 Measurement of Agricultural Return Flows and Wastewater Discharges**

The agricultural return flows entering Lower Putah Creek are for the most part non riparian water sources, as are the treated wastewater discharges from the University of California - Davis (U.C. Davis) water treatment facility, which enter Lower Putah Creek near Old Davis Road. Nevertheless, these water sources must be quantified for water mass balance accounting purposes. The University's treated wastewater discharges are measured and recorded by the treatment plant operators. Most of the agricultural return flows are too small and/or sporadic to warrant direct measurement, and will therefore be estimated, or if insignificant relative to the total creek stream flow, ignored. However, one notable exception is the Willow Canal, which discharges into Lower Putah Creek just upstream of Pedrick Road. Discharges from the Willow Canal, which is operated by the Yolo County Flood Control and Water Conservation District (YCFC&WCD), will be measured as necessary.

### **3.1.1.3 Measurement of Groundwater Seepage and Evapotranspiration**

The amounts of groundwater seepage (into or out of the creek) and water lost to open-water evaporation and transpiration by riparian vegetation vary gradually over time, in comparison to the fluctuating gains and losses associated with water diversions and

agricultural return flows. For the purposes of the PRWP, the net flow gain or loss from these factors (groundwater seepage, evaporation and transpiration) are combined into a single term that represents the natural or "background" net stream flow gain or loss rate within a given reach. Background gains and losses are most easily quantified as the difference in stream flow over a given reach ("top of reach" stream flow versus "bottom of reach" stream flow), in the absence of any diversions or "intra reach inflows."

Groundwater seepage along the reach from I-505 to Stevenson Bridge typically transitions from net loss (seepage out of the creek) to net gain (seepage into the creek). The location of the transition point and the total amount of influent seepage along the gaining stretch depend on the regional groundwater levels in the underlying groundwater basin. This reach will be subdivided into two sub-reaches when necessary to calculate riparian water availability. The upstream end of the gaining segment will be detected by periodic stream flow measurements and/or temperature changes in the creek.

#### **3.1.1.4 Special Situations**

##### **Pumping from Riparian Wells**

There is no clear boundary between wells that induce additional seepage from the creek and wells that pump regional groundwater; the percentage of pumped water that consists of induced seepage decreases gradually with depth and horizontal distance from the creek. A pragmatic approach adequate for the purpose of the PRWP is to include in the accounting the effects of a well if its effect on stream flow can be detected by the stream flow



monitoring program. The philosophy behind this approach is that well pumping does not matter if its effects on stream flow are not measurable; and if the effects are measurable, then the evidence and justification for including the well as a riparian diverter are already at hand. In practice, it is unlikely that wells more than about 500 feet from the creek or more than 100 feet deep will measurably affect stream flow.

#### Impoundments Below Mace Boulevard

Riparian water accounting is slightly more complicated at the downstream end of Putah Creek, between Mace Boulevard and the Toe Drain in the Yolo Bypass. Two impoundments are created in the creek channel each year to provide pumping pools for irrigation operations. The lower impoundment is a flashboard dam operated jointly by Los Rios Farms and the California Department of Fish and Game. Frequently, some of the water impounded behind this dam is water that is diverted from the Toe Drain of the Yolo Bypass at a pumping station about 1 mile north of the dam and conveyed to the impoundment by a canal. It may be necessary to gage the inflows from this canal into Putah Creek to determine the availability of Putah Creek riparian water in the impoundment. The issue may be moot, however, because the downstream compliance point for resident native fish flows is at river mile 0, which is upstream of the impoundment.

The upper impoundment is a temporary dirt berm across the channel that provides a crossing for farm vehicles in addition to creating a pumping pool. The berm is at about river mile 1.0 (aligned with country road 106B), and the impounded water derives entirely from Putah Creek. Irrigation return flows from adjacent fields may include water that originated

from Toe Drain diversions, and these return flows will be measured or estimated in the same manner as for return flows in other reaches of the creek.

#### Riparian Diversions from Pools in the Creekbed

Prior to construction of the Solano Project, landowners in a few locations were able to pump water from natural or constructed pools in the creekbed after live flow in the creek had ceased in summer. These pools were separate from the well-documented gaining reach above Stevenson Bridge, where groundwater seepage into the creekbed can create surface water stream flows in the absence of surface water inflows from upstream reaches. The accounting methodology described here does not encompass the water in isolated pools that would have been present in the absence of the Solano Project. The historical number of pools is thought to be small, and the pumping rates they could sustain also were probably small.

The possible availability of riparian water from isolated pools will be dealt with on a case-by-case basis. If a landowner can provide evidence that persistent pools existed on his or her property during periods of discontinuous streamflow prior to the Solano Project construction, then the sustained pumping yield of those pools will be estimated to quantify the amount of riparian water presently available to the landowner from that source. The yield will be estimated from the pool volume and the permeability of the surrounding streambed materials, which may release shallow groundwater when the pool level is lowered by pumping.

### New Diversions and Return Flows

As parcels change ownership or existing landowners modify their farming operations, some diversions and return flows may be added and others discontinued. Word of mouth and the annual riparian water forecast mailing should be sufficient to inform any newcomers that riparian diversions from Lower Putah Creek are monitored and regulated. The new users will be encouraged to join the cooperative effort to manage and utilize riparian water supplies. Any changes in discharges by U.C. Davis, YCFC&WCD, and other agencies or industries hopefully will also be communicated to the Solano County Water Agency to facilitate a smooth transition. Any unreported changes will eventually be detected by the stream flow monitoring program, periodic field surveys, neighboring landowners, or the streamkeeper.

### Uncooperative Riparian Diverters

It is hoped that all riparian diverters will cooperate with each other and with the Solano County Water Agency to make efficient use of the available riparian water supply without any illegal diversions. However, it is possible that some landowners will attempt to conceal their diversions or refuse to provide information about when and how much water they are diverting, or when and where return flows occur. Fortunately, all of this information can be obtained anyway. It would be impossible to conceal a significant diversion for very long because the pumping equipment and power supplies are large, visible, and make sound and because the effects of the diversion will be detected by the stream flow monitoring program. The pumping rate at any diversion can be measured fairly accurately by gaging the stream flow immediately upstream and downstream of the diversion. Return flows can

similarly be estimated by surveys of the field drainage patterns and the direct observation of the return flows.

### **3.2 Quantifying Illegal Diversions**

Any diversion in excess of the calculated net riparian flow is considered illegal. Illegal diversions, like net riparian flow, will be monitored and quantified by reach, and to the extent possible, by individual diverters. A summary of the equations used to quantify illegal diversions is presented in Attachment 1.

If total riparian diversions in any given reach exceed the available riparian supply and the diverters are unwilling to voluntarily reduce their total diversions to match the available supply, and these actions adversely affect the Solano County Water Agency, then the Agency may sue some or all of the active diverters and seek court orders addressing the illegal diversions. It is hoped that this type of enforcement action will not be necessary. The PRWP will provide all of the data needed on a real-time basis to enable the active riparian diverters to manage their activities and restrict the locations and rates of their diversions so that they remain within the legally available supply.

### **3.3 Public Access to Riparian Water Accounting Data and Calculations**

The Solano County Water Agency will conduct the data collection activities and complete the calculations necessary to generate the pre-irrigation season water availability

forecasts and the real-time riparian water availability determinations. All data collected for these purposes and all formulas and computer programs used in the calculations will be available on request to any interested agency, group or individual. The Solano County Water Agency will publish the data and results on its website and update the information approximately daily during the irrigation season.

The Solano County Water Agency will deliver the first (January) pre-season water availability forecast by mail to all riparian landowners along Lower Putah Creek. Landowners may at that time request that the subsequent forecasts (March and May) also be sent by mail if the landowner is unable to access the information by Internet. It would not be practical to disseminate the real-time monitoring data by mail because it will be updated daily during the irrigation season. Active diverters who need the daily information will be able to view it on the Solano County Water Agency's website or call the Agency to obtain the information by telephone.

**ATTACHMENT 1 TO EXHIBIT "A-2"****1.0 Pre-Irrigation Season Predictions****A) Objective:**

To estimate future availability of riparian stream flows, based on projected and/or prior hydrologic conditions in the Putah Creek drainage. For pre-irrigation season prediction purposes, assume riparian stream flows consist of surface runoff from precipitation and rising groundwater.

**B) Analytic Approach:**

- i) Divide Lower Putah Creek into the following reaches:
  - a) Putah Diversion Dam to Highway 505 Bridge (a "losing reach")
  - b) Highway 505 Bridge to Stevenson Bridge (a "gaining reach")
  - c) Stevenson Bridge to I-80 Bridge (a "losing reach")
  - d) I-80 Bridge to Mace Boulevard (a "losing reach")
  - e) Mace Boulevard to Yolo Bypass (a "losing reach")

(Reach designations based on hydrogeologic features, proximity of suitable stream flow gaging sites and existing riparian diversions. When necessary, reach "b" will be subdivided into two sub-reaches.)

- ii) Predict average monthly flow and date of zero flow for each of the above riparian water sources, in each of the five reaches:
  - a) Surface runoff: calculate using statistical relationships derived from historical data.
    - Stream flow recession curves derived from stream flow gaging data for "At Winters", "Near Winters" and "Near Davis" stream flow gaging stations.
    - Stream reach percolation/evapotranspiration loss estimating algorithms developed for the Solano County Water Agency's Lower Putah Creek stream flow model.
  - b) Rising groundwater: calculate using statistical relationships derived from historical data.
    - Stream reach groundwater gain/loss estimating algorithms developed for the Solano County Water Agency's Lower Putah Creek streamflow model.

**C) Timing of Pre-Irrigation Season Predictions:**

- i) January 1 – Predictions based on hydrology of water year to date and three scenarios for the remainder of the year's rainy season: "wet year" (25% Lake

Berryessa inflow exceedance), "normal year" (50% Lake Berryessa inflow exceedance) and "dry year" (75% Lake Berryessa inflow exceedance).

- ii) March 1 – Predictions based on hydrology of water year to date and projected 25%, 50% and 75% exceedance runoff rates for the remainder of the year's rainy season .
- iii) May 1 – Final prediction based on hydrology of the water year through April.

## 2.0 Methodology for Quantifying Riparian Streamflows During Irrigation Season

Note: Riparian stream flows are defined here as any surface water derived from precipitation or rising groundwater that, given prevailing hydrologic conditions, would occur in Lower Putah Creek in the absence of the Solano Project. Non riparian water, such as treated wastewater and agricultural return flows originating from a non riparian source (e.g., pumped groundwater) cannot, by definition, be diverted by riparian water right claimants and therefore, are not included as a source of riparian water from Lower Putah Creek.

### A) Overview:

- i) Calculate, on a daily basis, pre Solano Project stream flows (i.e., stream flow that would occur if there were no dams – no Solano Project) at the Putah Diversion Dam site .
- ii) Compare computed daily pre Solano Project stream flow (i.e., stream flow that would occur if there were no dams – no Solano Project) with current Putah Diversion Dam release – determine what fraction of the current release is stored water or any other non riparian water source, versus riparian stream flows .
- iii) Using real-time stream flow monitoring data to quantify prevailing percolation/evapotranspiration losses and any non riparian water sources, calculate riparian flows by stream reach. The total quantity of riparian water in any given reach is defined here as the sum of all riparian water sources less percolation/evapotranspiration losses.

### B) Analytical Approach:

- i) Riparian stream flows at Putah Diversion Dam site :  

$$\text{USRSF} = \text{LBI} + \text{IDTI} - \text{IDCL}$$

Where: USRSF = Riparian stream flow at Putah Diversion Dam

LBI = Computed/measured Lake Berryessa inflow  
 (less any associated non riparian flow)

IDTI = Inter Dam Reach tributary inflow  
 (less any associated non riparian flow)

IDCL = channel percolation/evapotranspiration losses that would occur in the Inter Dam Reach in the absence of Lake Solano

(A stream gage will be placed on Pleasants Creek to facilitate real-time estimation of inflow from inter-dam tributaries. For accounting purposes, seepage and evaporation losses from Lake Solano are assumed to be constant and will therefore be characterized by a fixed continuous loss rate term).

- ii) Riparian stream flows in first reach downstream of Putah Diversion Dam (Putah Diversion Dam to 505 Bridge):  

$$1RRSF = USRSF + TRSF + 1RAG - 1RCL$$

Where: 1RRSF = Computed riparian stream flow in Reach 1  
 USRSF = Computed riparian stream flow at Putah Diversion Dam  
 TRSF = Measured stream flow from tributaries (Dry Creek, McCune aka Pleasant Creek), less any associated non riparian flow  
 1RAG = Ag return flow water originating from a riparian source in reach 1  
 1RCL = Measured channel percolation/evapotranspiration losses in reach 1

Notes:

- (1) Agricultural return flow water that originates from a riparian water source (riparian water diverted from Putah Creek or associated tributaries) is classified as riparian water and therefore can be lawfully diverted by other riparian water right claimants.

- iii) Riparian stream flows in second reach downstream of Putah Diversion Dam (505 Bridge to Stevenson Bridge):  

$$2RRSF = 1RRSF - 1RD (+/-) 2RCL + 2RAG$$

Where: 2RRSF = Computed riparian stream flow in Reach 2  
 1RRSF = Computed riparian stream flow in Reach 1  
 2RCL = Combined sum of groundwater "gains", channel percolation/evapotranspiration losses in reach 2  
 2RAG = Ag return flow water in reach 2 originating from a riparian source  
 1RD = Riparian diversion in Reach 1

Notes:

- (1) There are no significant tributaries entering Putah Creek in this Reach .  
 (2) Due to the spatial and temporal variability of rising groundwater, portions of the so called "gaining reach" (generally the upstreammost third of the reach) frequently lose rather than gain water. Accordingly, there are instances when some of the riparian diverters within Reach 2 have access



to rising groundwater, while others do not. When necessary, Reach 2 will be broken into two sub reaches for the purpose of quantifying riparian stream flows.

- iv) Riparian stream flows in third reach downstream of Putah Diversion Dam (Stevenson Bridge to I-80):

$$3RRSF = 2RRSF - 2RD - 3RCL + 3RAG$$

Where: 3RRSF = Computed riparian stream flow in Reach 3

2RRSF = Computed riparian stream flow in Reach 2

2RD = Riparian diversions in Reach 2

3RCL = Measured channel percolation/evapotranspiration losses in reach 3

3RAG = Ag return flow water in reach 3 originating from a riparian source

- v) Riparian stream flows in fourth reach downstream of Putah Diversion Dam (I-80 to Mace Boulevard) :

$$4RRSF = 3RRSF - 3RD - 4RCL + 4RAG$$

Where: 4RRSF = Computed riparian stream flow in Reach 4

3RRSF = Computed riparian stream flow in Reach 3

3RD = Riparian diversion in Reach 3

4RCL = Measured channel percolation/evapotranspiration losses in reach 4

4RAG = Ag return flow water in reach 4 originating from a riparian source

- vi) Riparian stream flows in fifth reach downstream of Putah Diversion Dam (Mace Boulevard to RM 0.0 aka Yolo Bypass) :

$$5RRSF = 4RRSF - 4RD - 5RCL + 5RAG$$

Where: 5RRSF = Computed riparian stream flows in Reach 5

4RRSF = Computed riparian stream flows in Reach 4

4RD = Riparian diversions in Reach 4

5RCL = Measured channel percolation/evapotranspiration losses in reach 5

5RAG = Ag return flow water in reach 5 originating from a riparian source

Note: The above formulas will be adjusted as necessary to reflect changing conditions such as new or terminated diversions or discharges.

### **3.0 Methodology for Quantifying Illegal Riparian Diversion During Irrigation Season**

Note: Diversions in excess of the available riparian stream flow (i.e., diversion of water released from storage or other non riparian flow) are considered illegal.

#### A) Overview:

For each reach, calculate difference between daily riparian diversions and computed riparian streamflow. If riparian diversions exceed computed riparian streamflow, the difference is considered to be the result of illegal diversions.

#### B) Analytical Approach:

- i) Illegal riparian diversions in first through fifth reaches downstream of Putah Diversion Dam:

$$\text{If: } (ith)RD > (ith)RRSF$$

$$\text{Then: } (ith)IRD = (ith)RD - (ith)RRSF$$

Where: (ith)RD = Riparian diversions in Reach 1, 2, 3, 4 or 5  
 (ith)RRSF = Computed riparian streamflow in Reach 1, 2, 3, 4 or 5  
 (ith)IRD = Computed illegal diversions in Reach 1, 2, 3, 4 or 5

The Solano County Water Agency is under no obligation to enforce against any illegal riparian diverters whose actions do not adversely affect the Agency's ability to comply with any contractual or legal obligation.

# Exhibit 4

STIPULATION TO CHANGE AMENDED JUDGMENTS  
AND  
AMENDMENT TO  
STIPULATION AMONG SOLANO COUNTY WATER AGENCY  
SOLANO IRRIGATION DISTRICT,  
MAINE PRAIRIE WATER DISTRICT  
CITIES OF VACAVILLE, FAIRFIELD, VALLEJO AND SUISUN CITY  
AND  
PUTAH CREEK COUNCIL, CITY OF DAVIS  
AND THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

This Stipulation to Change Amended Judgments and Amendment to Stipulation ("Stipulation") is entered into as of June 18, 2002 among the PUTAH CREEK COUNCIL, the CITY OF DAVIS, THE REGENTS OF THE UNIVERSITY OF CALIFORNIA (collectively "Yolo Parties"), and SOLANO COUNTY WATER AGENCY ("Agency"), SOLANO IRRIGATION DISTRICT, MAINE PRAIRIE WATER DISTRICT and THE CITIES OF VACAVILLE, FAIRFIELD, VALLEJO, and SUISUN CITY.

RECITALS

A. The parties were involved in multi-year litigation to determine the minimum instream flow of water required pursuant to the causes of action asserted by the Yolo Parties in lower Putah Creek (the "Putah Creek Water Cases").<sup>1</sup> On August 23, 1996, three judgments, identical except for the identity of the Yolo Party in whose favor each was entered, the number of defendants, and whether they included declaratory relief, were entered ("Original Judgments").

B. While the Original Judgments were pending before the Court of Appeal of the State of California, Third Appellate District ("Appellate Court"), No. 3 Civil C025527, the parties reached a stipulated settlement of the issues raised in the Putah Creek Water Cases dated March 23, 2000 ("Original Settlement Agreement").

C. The Original Settlement Agreement was intended, among other things, to amend the Original Judgments to reflect the agreed upon flow regime, and to undertake actions to amend the Solano Project water right permits ("Water Rights") to conform to that flow regime. Amendment of the Water Rights would be accomplished by petition to the State Water Resources Control Board ("SWRCB") by the United States Bureau of

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<sup>1</sup> Solano County Superior Court No. 108552; Sacramento County Superior Court No. 515766; coordinated as the PUTAH CREEK WATER CASES Judicial Council Coordination Proceeding No. 2565 (the "Putah Creek Water Cases").

Reclamation ("USBR"). On September 8, 2000, Amended Judgments were entered in the litigation consistent with the Original Settlement Agreement ("Amended Judgments").

D. After over twelve months of implementing the Original Settlement Agreement and the Amended Judgments, the parties have determined that it would be appropriate to implement a minor change to the Original Settlement Agreement and the Amended Judgments, and to change the proposed petition of the USBR to the SWRCB to amend the Water Rights. The parties are entering into this Stipulation to implement both an amendment to the Original Settlement Agreement as well as a Stipulation to Change the Amended Judgments.

NOW, THEREFORE, the parties agree as follows:

1. Amended Judgments. The parties agree to jointly request that the Court amend the Amended Judgments by replacing Section II of each of the Amended Judgments with the language set forth in Exhibits 1, 2 and 3 attached hereto and incorporated herein by this reference. If the Court approves these changes, the parties agree to refer to the resulting judgments as the "Second Amended Judgments".

2. Conformance of Solano Project Water Rights. Within ten (10) days after the Court has approved the requested changes, the Agency will send this Stipulation to the USBR along with a formal request on behalf of all Solano Parties that the USBR promptly file a petition to the SWRCB to amend the Water Rights, requesting that the content of that petition be the same as the petition attached hereto as Exhibit "4" (the "Petition"). The Yolo Parties will provide written notification to the USBR that they support the Petition. All parties shall promptly inform the SWRCB in writing that they support amendment of the Water Rights to conform to the provisions of the Petition.

3. Amendment to Settlement Agreement.

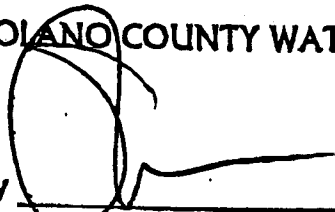
a. Exhibits B, C, and D. Section II of each of Exhibits B, C and D to the Original Settlement Agreement is hereby deleted and replaced in its entirety by Exhibits 1, 2 and 3 to this Stipulation, respectively.

b. Exhibit E. Exhibit E to the Original Settlement Agreement is hereby deleted and replaced in its entirety with Exhibit 4 to this Stipulation.

4. Continued Validity. Except as expressly changed by this Stipulation, the Original Settlement Agreement and the Amended Judgments shall continue to govern the parties in all respects. To the extent that the provisions of this Stipulation are in any way inconsistent with the provisions of the Original Settlement Agreement, the provisions of this Stipulation shall supercede.

5. Counterparts. This Stipulation may be executed simultaneously in one or more counterparts, each of which shall be an original, but all of which together shall constitute one and the same document.

**SOLANO COUNTY WATER AGENCY**

By   
Chairman

Attest:   
Secretary

**SOLANO IRRIGATION DISTRICT**

By \_\_\_\_\_  
President

Attest: \_\_\_\_\_  
Secretary

**MAINE PRAIRIE WATER DISTRICT**

By \_\_\_\_\_  
President

Attest: \_\_\_\_\_  
Secretary

**CITY OF FAIRFIELD**

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

**CITY OF VACAVILLE**

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

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**SOLANO COUNTY WATER AGENCY**

By \_\_\_\_\_  
Chairman

Attest: \_\_\_\_\_  
Secretary

**SOLANO IRRIGATION DISTRICT**

By   
President

Attest:   
Secretary

**MAINE PRAIRIE WATER DISTRICT**

By \_\_\_\_\_  
President

Attest: \_\_\_\_\_  
Secretary

**CITY OF FAIRFIELD**

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

**CITY OF VACAVILLE**

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

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**SOLANO COUNTY WATER AGENCY**

By \_\_\_\_\_  
Chairman

Attest: \_\_\_\_\_  
Secretary

**SOLANO IRRIGATION DISTRICT**

By \_\_\_\_\_  
President

Attest: \_\_\_\_\_  
Secretary

**MAINE PRAIRIE WATER DISTRICT**

By Milton Rayn  
President

Attest: William H. Adams  
Secretary

**CITY OF FAIRFIELD**

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

**CITY OF VACAVILLE**

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk



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**SOLANO COUNTY WATER AGENCY**

By \_\_\_\_\_  
Chairman

Attest: \_\_\_\_\_  
Secretary

**SOLANO IRRIGATION DISTRICT**

By \_\_\_\_\_  
President

Attest: \_\_\_\_\_  
Secretary

**MAINE PRAIRIE WATER DISTRICT**

By \_\_\_\_\_  
President

Attest: \_\_\_\_\_  
Secretary

**CITY OF FAIRFIELD**

By *Karin MacMillan*  
Mayor

Attest: *Gina M. Russell*  
Clerk

**CITY OF VACAVILLE**

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

5. Counterparts. This Stipulation may be executed simultaneously in one or more counterparts, each of which shall be an original, but all of which together shall constitute one and the same document.

**SOLANO COUNTY WATER AGENCY**

By \_\_\_\_\_  
Chairman

Attest: \_\_\_\_\_  
Secretary

**SOLANO IRRIGATION DISTRICT**

By \_\_\_\_\_  
President

Attest: \_\_\_\_\_  
Secretary

**MAINE PRAIRIE WATER DISTRICT**

By \_\_\_\_\_  
President

Attest: \_\_\_\_\_  
Secretary

**CITY OF FAIRFIELD**

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

**CITY OF VACAVILLE**

By *[Signature]*  
Mayor

Attest: *[Signature]*  
Clerk

CITY OF SUISUN CITY

By *[Signature]*  
Mayor

Attest: *[Signature]*  
Clerk

CITY OF VALLEJO

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

PUTAH CREEK COUNCIL

By \_\_\_\_\_

CITY OF DAVIS

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

By \_\_\_\_\_

ckp/a-mhl:puth:settle.rev

**CITY OF SUISUN CITY**

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

**CITY OF VALLEJO**

By \_\_\_\_\_  
City Manager

Attest: \_\_\_\_\_  
Clerk

**PUTAH CREEK COUNCIL**

By \_\_\_\_\_

**CITY OF DAVIS**

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

**THE REGENTS OF THE UNIVERSITY OF CALIFORNIA**

By \_\_\_\_\_

ckp/a-mhl:putah:settle.rev

CITY OF SUISUN CITY

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

CITY OF VALLEJO

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

PUTAH CREEK COUNCIL

By Joseph F. Krutz

CITY OF DAVIS

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

By \_\_\_\_\_

ckp/a-mhl:putahsettle.rev

CITY OF SUISUN CITY

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

CITY OF VALLEJO

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

PUTAH CREEK COUNCIL

By \_\_\_\_\_

CITY OF DAVIS

By *Susan Boyd*  
Mayor

Attest: *Pette E. Laiki*  
Clerk

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

By \_\_\_\_\_

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CITY OF SUISUN CITY

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

CITY OF VALLEJO

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

PUTAH CREEK COUNCIL

By \_\_\_\_\_

CITY OF DAVIS

By \_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
Clerk

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

By John F. Lundberg

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**EXHIBIT "1"**  
**Amendment to Judicial Council Coordination Proceeding No. 2565**  
**Solano County Superior Court No. 108522**  
**City of Davis v. Solano Irrigation District, et al.**

**II. ENFORCEMENT ACTIONS**

If the Solano Project is operated to comply with the release and instream flow requirements specified in Exhibit "A" hereto, then the City of Davis shall not pursue an action or proceeding for contempt of this Second Amended Judgment based on a violation or violations of one or more of the minimum mean daily flow requirements established in Exhibit "A" section A.(2), B.(2), C.(1), C.(2), C.(3), C.(4) and D.(3), or one or more of the minimum instantaneous flow requirements established in Exhibit "A" sections A.(2), B.(2), C.(1), C.(2), C.(3), and C.(4), so long as:

A. The failure to comply was solely the result of an unanticipated and unforeseeable increase in a diversion or diversions from, or reduction in an inflow or inflows into, Putah Creek downstream of the Putah Diversion Dam, by some person or entity besides SID or SCWA, and the increase or reduction occurred so rapidly that the Solano Project could not reasonably maintain compliance by increasing the releases from the Putah Diversion Dam into lower Putah Creek; and

B. The four-day running mean flow at the relevant compliance point equaled or exceeded the applicable minimum mean daily flow; and

C. The instantaneous flow at the relevant compliance point was not more than 5 cfs less than the applicable minimum mean daily flow if the violation occurred during the period from January through July, and was not more than 3 cfs less than the applicable minimum mean daily flow if the violation occurred during the period from August through December.



**EXHIBIT "2"**  
**Amendment to Judicial Council Coordination Proceeding No. 2565**  
**Sacramento County Superior Court No. 515766**  
**Putah Creek Council v. Solano Irrigation District, et al.**

**II. ENFORCEMENT ACTIONS**

If the Solano Project is operated to comply with the release and instream flow requirements specified in Exhibit "A" hereto, then the Putah Creek Council shall not pursue an action or proceeding for contempt of this Second Amended Judgment based on a violation or violations of one or more of the minimum mean daily flow requirements established in Exhibit "A" section A.(2), B.(2), C.(1), C.(2), C.(3), C.(4) and D.(3), or one or more of the minimum instantaneous flow requirements established in Exhibit "A" section A.(2), B.(2), C.(1), C.(2), C.(3), and C.(4), so long as:

A. The failure to comply was solely the result of an unanticipated and unforeseeable increase in a diversion or diversions from, or reduction in an inflow or inflows into, Putah Creek downstream of the Putah Diversion Dam, by some person or entity besides SID or SCWA, and the increase or reduction occurred so rapidly that the Solano Project could not reasonably maintain compliance by increasing the releases from the Putah Diversion Dam into lower Putah Creek; and

B. The four-day running mean flow at the relevant compliance point equaled or exceeded the applicable minimum mean daily flow; and

C. The instantaneous flow at the relevant compliance point was not more than 5 cfs less than the applicable minimum mean daily flow if the violation occurred during the period from January through July, and was not more than 3 cfs less than the applicable minimum mean daily flow if the violation occurred during the period from August through December.

**EXHIBIT "3"**  
**Amendment to Judicial Council Coordination Proceeding No. 2565**  
**Solano County Superior Court No. 108522**  
**Regents of the University of California v. Solano Irrigation District, et al.**

**II. ENFORCEMENT ACTIONS**

If the Solano Project is operated to comply with the release and instream flow requirements specified in Exhibit "A" hereto, the Regents of the University of California shall not pursue an action or proceeding for contempt of this Second Amended Judgment based on a violation or violations of one or more of the minimum mean daily flow requirements established in Exhibit "A" section A.(2), B.(2), C.(1), C.(2), C.(3), C.(4) and D.(3), or one or more of the minimum instantaneous flow requirements established in Exhibit "A" sections A.(2), B.(2), C.(1), C.(2), C.(3) and C.(4), so long as:

A. The failure to comply was solely the result of an unanticipated and unforeseeable increase in a diversion or diversions from, or reduction in an inflow or inflows into, Putah Creek downstream of the Putah Diversion Dam, by some person or entity besides SID or SCWA, and the increase or reduction occurred so rapidly that the Solano project could not reasonably maintain compliance by increasing the releases from the Putah Diversion Dam into lower Putah Creek; and

B. The four-day running mean flow at the relevant compliance point equaled or exceeded the applicable minimum mean daily flow; and

C. The instantaneous flow at the relevant compliance point was not more than 5 cfs less than the applicable minimum mean daily flow if the violation occurred during the period from January through July, and was not more than 3 cfs less than the applicable minimum mean daily flow if the violation occurred during the period from August through December.

## EXHIBIT "4"

### Water Code Section 1707 Petition for Changes Of Permit 10657 (Application 11199), Permit 10658 (Application 12578) and Permit 10659 (Application 12716)

Permits 10657, 10658 and 10659 comprise the water rights for the Solano Project (Solano Project Water Rights), a water development project constructed and owned by the United States Bureau of Reclamation (Reclamation). The Solano Project was constructed in the 1950s. The principal features of the Solano Project include Monticello Dam on Putah Creek, near the meeting of the boundaries of Napa, Solano and Yolo Counties; Lake Berryessa, which was created by Monticello Dam; the Putah Diversion Dam, located seven miles downstream of Monticello Dam; and the Putah South Canal, which delivers Solano Project water throughout Solano County and the University of California-Davis campus in Yolo County.

Over the past ten years the adequacy of bypasses and releases from the Putah Diversion Dam to Lower Putah Creek has been the subject of extensive litigation (Putah Creek Water Cases – Judicial Council Coordination Proceeding No. 2565). In 2000, the Putah Creek Water Cases were concluded by settlement and adoption of amended judgments, which were revised by stipulation of the parties and order of the court (Second Amended Judgments). The settlement, among other things, directs the parties to request Reclamation to petition the State Water Resources Control Board to modify pursuant to state law, including California Water Code Section 1707, the downstream release requirements governing the Solano Project Water Rights. This petition is made pursuant to that request.

A. Background of Condition 11. The Solano Project permits were originally granted by the SWRCB in 1957 in Decision 869. At page 12 of the Decision, the Board discussed downstream rights and determined that the natural flow of Putah Creek supplied water for both surface diversions and percolation to groundwater, and that to the extent groundwater used in Yolo and Solano Counties "originates in Putah Creek under natural condition, the water users are entitled to protection from depletion of the supply as a result of project operation." The order contained in that decision imposed an obligation to the groundwater basin through original Condition 11 to the permits:

11. Permittee shall release water into Putah Creek Channel from Monticello Reservoir and past the Putah Diversion Dam in such amounts and at such times and rates as will be sufficient, together with inflow from downstream tributary sources, to supply downstream diversions of the surface flow under vested prior rights to the extent water would have been available for such diversion from unregulated flow, and sufficient to maintain percolation of water from the stream Channel as such percolation would occur from unregulated flow, in order that operation of the project shall not reduce natural recharge of ground water from Putah Creek.

Condition 11 was amended numerous times as a result of additional board hearings and court proceedings. In 1984, in Order WR 84-7, the Board revised Condition 11 to its present form. This current condition contains the following release schedule:

11. Permittee shall release water into Putah Creek Channel from Monticello Reservoir and past the Putah Diversion Dam in accordance with the following schedule:

<u>Period</u>	<u>Normal Year (cfs)*</u>	<u>Dry Year (cfs)**</u>
November thru January	25	25
February	16	16
March	26	26
April	46	46
May thru July	43	33
August	34	26
September and October	20	15

\*Cubic Feet per Second

\*\*When inflow to Lake Berryessa is less than 1,50,000 acre-feet per annum

Permittee may reduce the above releases whenever there is both a continuous surface flow between the Putah Diversion Dam and the Davis Gage (mile 7.2) and a flow of not less than five cubic feet per second at the Davis Gage.

B. Condition 13. As the Solano Project permits were modified over the years, the protection for downstream prior rights and streambed percolation was specified in Condition 13 to the permits, which currently reads:

13. The State Water Resources Control Board reserves jurisdiction over the Permits to: (1) determine if the schedule of releases required by condition 11 herein provides adequate protection to downstream prior rights and provides percolation from the stream channel of Putah Creek to the extent that would occur in the absence of the Solano Project; (2) make further orders that may be necessary concerning proper releases of water, and (3) impose conditions providing for additional measurements or studies that may be necessary for a final determination to be made.

This §1707 Petition requests that the SWRCB replace Condition 11 with the release and instream flow requirements specified in the attached Exhibits "E-1", "E-2" and "E-3". This Petition does not, however, request that Condition 13 be changed. This §1707 Petition does not propose any change to the obligations of the Project to, or the rights of, downstream prior right holders, including those rights and obligations related to percolation.

The dedication of water to instream flow proposed by this petition is not intended to affect any obligation imposed pursuant to the existing water right permits for the Solano Project to provide protection to downstream prior rights and to provide percolation from the stream channel of Putah Creek to the extent that would occur in the absence of the Solano Project. Water required pursuant to the flow regime set forth in the attached Exhibit "E-1" over and above the amounts of water required to meet existing obligations for percolation and downstream prior rights is requested by this Petition to be dedicated to instream flows pursuant to Water Code Section 1707.

**C. Requested Change.** Reclamation is requesting that the stream flow release/minimum downstream flow requirements agreed to in the Putah Creek Accord and imposed by the Second Second Amended Judgments be substituted for the existing fixed release schedule currently imposed by Condition 11 of each of the Solano Project water right permits. Specifically, Reclamation is requesting that Condition 11 be modified to read as follows:

- a. Permittee shall operate the Solano Project to comply with the release and instream-flow requirements specified in the attached Exhibits E-1, E-2, and E-3. These requirements are the same as the release and instream-flow requirements specified in the Second Amended Judgments in the Putah Creek Water Cases, Judicial Council Coordination Proceeding No. 2565, Sacramento County Superior Court.

The State Water Resources Control Board shall not pursue an action or proceeding for enforcement or violation of this condition based on a violation or violations of one or more of the minimum mean daily flow requirements established in Exhibit E-1 section A.(2), B.(2), C.(1), C.(2), C.(3), C.(4) and D.(3), or one or more of the minimum instantaneous flow requirements established in Exhibit E-1 sections A.(2), B.(2), C.(1), C.(2), C.(3) and C.(4), provided that:

- i. The Solano Project was being operated to comply with the release and instream-flow requirements in Exhibits E-1, E-2 and E-3; and
- ii. The violation of the minimum mean daily flow requirement in Exhibit E-1, section A.(2), B.(2), C.(1), C.(2), C.(3), C.(4) or D.(3), or the minimum instantaneous flow requirement in Exhibit E-1, section A.(2), B.(2), C.(1), C.(2), C.(3), or C.(4) was solely the result of an unanticipated and unforeseeable increase in a diversion or diversions from, or reduction in an inflow or inflows into, Putah Creek downstream of the Putah Diversion Dam, by some person or entity besides permittee, the Solano County Water Agency or the Solano Irrigation District, and the increase or reduction occurred so rapidly that the Solano Project could not reasonably maintain compliance by increasing the releases from the Putah Diversion Dam into lower Putah Creek; and
- iii. The four-day running mean flow at the relevant compliance point equaled or exceeded the applicable minimum mean daily flow; and
- iv. The instantaneous flow at the relevant compliance point was not more than 5 cfs less than the applicable minimum mean daily flow if the violation occurred during the period from January through July, and was not more than 3 cfs less than the applicable minimum mean daily flow if the violation occurred during the period from August through December.

Pursuant to the referenced exhibits, the minimum stream flow releases at the Putah Diversion Dam will vary depending on prevailing hydrologic conditions. Unlike the stream flow release requirements in Order WR 84-7, which only specify minimum stream flow release criteria at the Putah Diversion Dam, the proposed permit conditions include minimum downstream flow requirements at several locations on Putah Creek downstream of the Putah Diversion Dam even if such requirements necessitate releases at the Putah Diversion Dam that exceed the releases required by Order WR 84-7.

Due in part to the timing of the settlement that resulted in the Judgments, there is some overlap between this § 1707 Petition and the accompanying Petition for Change in Purpose and Place of Use. In 1995, Reclamation and the Solano County Water Agency (Agency) initiated preparation of Petitions for Change regarding the Solano Project Water Rights. The petition contemplated in 1995 included a request for change in place of use, as well as a change in purpose of use to include, among other things fish and wildlife purposes.

D. CEQA Compliance. In preparation for submittal of the 1995 Petition for Change, the Agency adopted a Negative Declaration. Subsequent to this action, the parties to the Putah Creek Water Cases reached the settlement agreement that ultimately led to the Amended Judgments, and a further Second Amended Judgment, and the filing of this § 1707 Petition. The Petition for Change in Purpose and Place of Use in the Solano Project Water Rights contemplated in 1995 is now being submitted at the same time as this § 1707 Petition. Because CEQA documentation for the Petitions for Change in Purpose and Place of Use was already completed, separate CEQA documentation (a Notice of Exemption) was completed by the Agency for this § 1707 Petition for Change.

The Agency determined that the request to Reclamation requesting release changes was an action ordered by the Sacramento County Superior Court; and therefore, a ministerial project not subject to CEQA pursuant to 14 Cal Code Regs § 15060(c)(1) and § 15369; and was also exempt from CEQA under the "common sense exemption" set forth in 14 Cal Code Regs § 15061(b)(3) because "it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment". At a January 11, 2001 Agency Board meeting, the Agency adopted findings supporting an exemption under CEQA and authorized staff to file a Notice of Exemption. A copy of the findings and the Notice are enclosed.

The SWRCB can make its own independent determination that action on this § 1707 Petition is categorically exempt pursuant to 14 Cal Code Regs §§ 15307-15308. Actions by regulatory agencies authorized by state law or local ordinance to ensure the maintenance, restoration, enhancement or protection of a natural resource or the environment are categorically exempt when the regulatory process involves procedures for protection of the environment.

**Exhibit "E-1"****Solano Project Releases and Instream Flows for Lower Putah Creek****A. Rearing Flows (1), (2) & (3) all shall be maintained**

(1) Permittee shall, for each month as set forth below, maintain mean daily releases from the Putah Diversion Dam to Creek downstream of the Putah Diversion Dam (hereinafter "lower Putah Creek") that are equal to or in excess of the following rates, expressed in cubic feet per second ("cfs"):

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean Daily Release (cfs)	20	25	25	25	16	26	46	43	43	43	34	20

These mean daily releases shall be measured at the Putah Diversion Dam and made from the Putah Diversion Dam into lower Putah Creek immediately downstream of the Putah Diversion Dam. The instantaneous releases at the Putah Diversion Dam shall at all times equal or exceed ninety percent (90%) of the applicable mean daily release requirement.

(2) Permittee shall, for each month as set forth below, release sufficient water from the Putah Diversion Dam into lower Putah Creek immediately downstream of the Putah Diversion Dam to maintain mean daily flows in lower Putah Creek that are equal to or in excess of the following rates, expressed in cubic feet per second ("cfs"):

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean Daily Flows (cfs)	5	10	10	15	15	25	30	20	15	15	10	5

These mean daily flows shall be maintained and measured at or in the near vicinity of the Interstate 80 Bridge. The instantaneous flow at the Interstate 80 Bridge shall at all times equal or exceed ninety percent (90%) of the applicable mean daily flow requirement.

(3) Permittee shall at all times of the year release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a continuous flow of surface water in Putah Creek from the Old Davis Road Bridge to the western boundary of the Yolo Bypass, identified as River Mile 0.0 on trial exhibit number 41 in the *Putah Creek Water Cases*, Judicial Council Coordination Proceeding No. 2565.

B. Spawning Flows ((1), (2) & (3) all shall be maintained)

(1) At a time between February 15 and March 31 of every calendar year, Permittee shall release a three-consecutive-day pulse of water from the Putah Diversion Dam into lower Putah Creek equal to or in excess of the following rates:

- (a) 150 cfs for the first 24 hours;
- (b) 100 cfs for the second 24 hours; and
- (c) 80 cfs for the third 24 hours.

Permittee may, in its discretion, time this pulse so as to utilize any uncontrolled flows that may provide some or all of the water needed to comply with this requirement.

(2) In every year, for the 30 days that follow the three-day pulse release described in paragraph B.(1), Permittee shall release sufficient water from the Putah Diversion Dam into lower Putah Creek to maintain a mean daily flow equal to or in excess of 50 cfs at the Interstate 80 Bridge. During this period, the instantaneous flows at the Interstate 80 Bridge shall at all times equal or exceed 45 cfs.

(3) In every year, at the conclusion of the 30th day of the 50 cfs spawning flows described in subsection B.(2), Permittee then shall ramp down the controlled releases from the Putah Diversion Dam gradually over a seven-day period until the flows are in compliance with the applicable requirements set forth in subsections A.(2), A.(3), C.(3) and C.(4) of this Exhibit "E-1".

C. Supplemental Flows ((1), (2), (3) & (4) all shall be maintained)

The requirements set forth thus far herein are intended to protect the aquatic and related resources found in lower Putah Creek. In addition to maintaining these resources,



Permittee shall provide supplemental flows in an attempt to enhance the aquatic and related resources of lower Putah Creek above that baseline. Accordingly:

(1) Permittee shall, during the period from November 1 through December 15 of each calendar year, release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a mean daily flow of at least 5 cfs, and an instantaneous flow of at least 2 cfs, at the point where Putah Creek discharges into the Toe Drain on the eastern side of the Yolo Bypass (the "East Toe Drain").

(2) Beginning sometime between November 15 and December 15 of each calendar year, Permittee shall release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a mean daily flow of at least 50 cfs, and an instantaneous flow of at least 45 cfs, for five consecutive days at the point where Putah Creek discharges into the East Toe Drain. If a flash board dam is present on Putah Creek near the East Toe Drain during that period, and if the flash boards are removed during that period, then to the extent feasible the first day of the 50 cfs pulse flow at the East Toe Drain shall follow the removal of the flash boards. The precise timing of the initiation of the 50 cfs pulse flow shall be set each year by the Lower Putah Creek Coordinating Committee (the "LPCCC") established in accordance with section III of the Second Amended Judgments in the *Putah Creek Water Cases*, Judicial Council Coordination Proceeding No. 2565. The objective of the LPCCC shall be to time the release so as to maximize the potential for such flows to attract anadromous fish into Putah Creek. If the exact date of releases has not been established or agreed upon by the LPCCC, then the releases dealt with in this subparagraph shall commence on December 1 of the affected calendar year.

(3) Beginning on the sixth day after initiation of the above described 50 cfs pulse flow, and continuing each day thereafter through March 31, Permittee shall release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a mean daily flow of at least 19 cfs, and an instantaneous flow of at least 14 cfs, at I-80.

(4) Beginning on April 1 of each calendar year, and continuing each day thereafter through May 31, Permittee shall release sufficient water from Putah Diversion Dam to lower Putah Creek to maintain a mean daily flow of at least 5 cfs, and an instantaneous flow of at least 2 cfs, at the point where Putah Creek discharges into the East Toe Drain.

D. Drought Year Flows

(1) During years when total storage in Lake Berryessa is less than 750,000 acre feet ("af") as of April 1 (a "Drought Year"), the release and instream flow requirements set forth in sections D.(2), D.(3) and D.(4) below ("Drought Year Requirements") shall apply instead of the release and instream flow requirements set forth in sections A., B. and C. above ("Non-Drought Year Requirements"). Provided, however, that if after April 1 the total storage in Lake Berryessa rises to 750,000 af or more, then the Non-Drought Year Requirements shall immediately take effect.

(2) During a Drought Year, releases of water from the Putah Diversion Dam into lower Putah Creek shall equal or exceed the following amounts (mean daily values, in cfs, with instantaneous releases always equal to or exceeding 90 % of the listed values):

Oct	Nov	Dec	Jan	Feb	Mar	Apr	Ma	Jun	Jul	Aug	Sep
15	25	25	25	16	26	46	33	33	33	26	15

(3) During a Drought Year, Permittee shall release sufficient water from the Putah Diversion Dam to maintain a continuous flow of surface water in Putah Creek from Putah Diversion Dam to the Interstate 80 Bridge, and further shall release sufficient water from the Putah Diversion Dam to maintain a minimum mean daily instream flow of 2 cfs at the Interstate 80 Bridge, with instantaneous flows always equal to or exceeding 1 cfs. Under

these conditions, Permittee shall not be required to maintain a continuous flow of surface water in the reach of Putah Creek below the Interstate 80 Bridge.

(4) Whenever the release and instream flow requirements set forth in sections D.(2) and D.(3) are in effect for two consecutive years, then during the next year thereafter the Non-Drought Year Requirements shall apply and shall remain in effect for an entire period from April 1 through March 31, unless total storage in Lake Berryessa on April 1 is less than 400,000 af. If the Drought Year Requirements are ever in effect for three or more consecutive years, then the Non-Drought Year Requirements shall apply and remain in effect for an entire period from April 1 through March 31 in the first subsequent year during which total storage in Lake Berryessa on April 1 exceeds 400,000 af.

(5) For the purposes of this section D, "total storage in Lake Berryessa" shall be the actual amount of water that physically is stored in Lake Berryessa (including all carryover storage) plus a Storage Adjustment. As of the date of entry of the Amended Judgment, the Storage Adjustment shall be zero. Thereafter, the amount of any controlled release of water from Lake Berryessa that is not for the purpose of (i) Solano Project Diversions, or (ii) maintaining the flows in lower Putah Creek that are required by the Second Amended Judgment shall be added to the Storage Adjustment. When Lake Berryessa spills, and all carryover storage has been spilled or otherwise eliminated, the Storage Adjustment shall be re-set to zero. The Storage Adjustment shall never be less than zero. "Solano Project Diversions," for the purpose of this paragraph, means water delivered to Solano Project Participating Agencies and Putah South Canal Conveyance losses (Canal inflows minus deliveries from canals).

(6) If Solano Project Water that is not within the scope of Solano Project Contract Allocations, as is defined in Section IV of the Second Amended Judgments in the *Putah Creek Water Cases*, Judicial Council Coordination Proceeding No. 2565, ever is stored in an offstream reservoir or reservoirs or underground storage, and, as a result, Lake Berryessa storage levels are reduced below the levels that would occur in the absence of such storage, then the

750,000 af amount in paragraph D.(1) and the 400,000 af amount in paragraph D.(4) shall be adjusted so that Drought Year Requirements will continue to occur at the same frequencies as they would have occurred in the absence of such storage.

E. Illegal Diversion Account

If there is any risk that illegal diversions may take place from lower Putah Creek to a degree that water released by the Solano Project for the purposes of maintaining the minimum flows set forth herein will be significantly depleted, then the procedures set forth in the attached Exhibit "E-2" shall be implemented.

F. Monitoring Requirements ((1), (2), (3), & (4) all shall be satisfied)

(1) Permittee shall continuously measure and record releases from the Putah Diversion Dam to lower Putah Creek, and shall determine and record each day's mean daily release.

(2) Permittee shall forthwith install and maintain flow measurement gauges capable of measuring instream flows on a continuous basis at the Interstate 80 Bridge and near the East Toe Drain. Permittee shall collect and maintain the data recorded by each of these gauges as is necessary to demonstrate their compliance with the flow requirements imposed by the Second Amended Judgment. In addition, Permittee shall make regular measurements of instream flows at Stevenson Road Bridge, Pedrick Road Bridge and Old Davis Road Bridge. If the instream flow measured at Stevenson Road Bridge, Pedrick Road Bridge, or at Old Davis Road Bridge, is less than the minimum instream flow requirements in section A.(2) above on more than an infrequent basis, then the paragraph A.(2) flow requirements shall start to apply at such measurement point or points, in addition to still applying at the Interstate 80 Bridge. Permittee shall install, maintain,

repair, calibrate and operate gauging equipment at such compliance points as may be necessary to ensure and demonstrate their compliance with the provisions of this Exhibit "E-1". Gaging equipment shall be installed to provide a range of measurement from 0 cfs to at least 200 cfs.

(3) Permittee shall monitor flows in the entire reach of lower Putah Creek from Old Davis Road Bridge to River Mile 0.0 with sufficient frequency and by sufficient means to ensure compliance with the requirement in part A.(3) of the Second Amended Judgment that continuous flow of surface water be maintained in this reach at all times of the year. All measurements and observations of this reach made for purposes of compliance with this requirement shall be recorded.

(4) Permittee shall maintain records, in both paper and electronic format, of all release and flow measurements, all calculated mean daily releases and flows, and all observations required by the Second Amended Judgment. Promptly upon request, these records shall be made available for review and copying by any person during normal business hours at the offices of Permittee or its designee.

## **Exhibit "E-2"**

### **Effects of Illegal Diversions of Water from Lower Putah Creek on Solano Project's Obligations to Maintain Exhibit E-1 Instream Flow Requirements**

1. The Solano Project shall satisfy all of the release and instream flow requirements that are specified in Exhibit "E-1" at all times, whether or not any illegal diversions of water from lower Putah Creek are occurring, except to the extent that exceptions to the instream flow requirements are authorized by this Exhibit "E-2". These exceptions shall only be authorized during the irrigation season. "Irrigation season" shall mean the period from March 1 through October 31 of each year.
2. To determine the Solano Project's obligations to satisfy the instream flow requirements specified in Exhibit "E-1" during times when illegal diversions from lower Putah Creek are occurring, an Illegal Diversion Account shall be established. Starting at the beginning of the sixth irrigation season during which this Illegal Diversion Account is drawn upon, the balance in this account shall be set to 1,000 acre feet at the beginning of each irrigation season, regardless of the account's balance at the end of the prior irrigation season. Prior to the sixth irrigation season in which the Illegal Diversion Account is drawn upon, the balance in the Illegal Diversion Account at the beginning of each irrigation season shall be set to 2,000 acre feet. Any credits made pursuant to Paragraph 9 of this Exhibit "E-2" for any irrigation season shall be in addition to the initial balance. Permittee or, at Permittee's election, the Solano County Water Agency ("SCWA") shall maintain an accurate accounting of all credits to and deductions from this account.
3. At the beginning of each irrigation season, Permittee or SCWA shall provide written notice to all riparian landowners of Permittee's or SCWA's projections of the time

period during which such landowners legally may divert from each reach of lower Putah Creek during the irrigation season. This notice shall encourage each riparian landowner to provide Permittee or SCWA with the dates and amounts of the landowner's planned diversions of water from lower Putah Creek during the irrigation season. Permittee or SCWA may, in its discretion, provide additional notices, making updated projections of the amounts of water that such landowners legally may divert from lower Putah Creek, to these landowners as the irrigation season progresses. The calculations in these notices shall be based on the formulas and procedures described in Exhibit "E-3".

4. The term "illegal diversion" in this Exhibit "E-2" means a diversion that is illegal based on the formulas and procedures described in Exhibit "E-3". The sole purposes of this definition are for implementing the provisions of this Exhibit "E-2" regarding deductions from the Illegal Diversion Account pursuant to this paragraph 4 and modifying the Solano Project's release requirements pursuant to paragraph 6 of this Exhibit "E-2". If Permittee or SCWA has filed, and is diligently pursuing, a court action against a landowner with an illegal diversion, and if Permittee or SCWA has complied with all of the provisions of paragraph 3 of this Exhibit "E-2", and is complying with all of the provisions of paragraph 5 of this Exhibit "E-2", then deductions shall be made from the Illegal Diversion Account for any amounts of water that the Solano Project releases from the Putah Diversion Dam into lower Putah Creek during the irrigation season solely for the purpose of compensating for that illegal diversion while maintaining the instream flows specified in Exhibit "E-1". "Diligently pursuing" means seeking, at the earliest possible opportunities, a temporary restraining order, a preliminary injunction and a permanent injunction stopping the illegal diversion, and a declaratory judgment regarding the illegality of the diversion. If there

is more than one illegal diversion, then all of the provisions of this paragraph shall apply to each illegal diversion.

5. During any period during which deductions are being made from the Illegal Diversion Account, Permittee or SCWA shall make streamflow measurements on a continuous basis at sufficient locations along lower Putah Creek to make the calculations and determinations described in Exhibit "E-3". During such periods, Permittee or SCWA shall post all such data, calculations and determinations on its Internet website, or make such information available to members of the public by similar electronic means, and shall update such posted information at least once each day.

6. If the balance in the Illegal Diversion Account ever reaches zero, then, during the remainder of the irrigation season during which the Account balance reached zero and while Permittee or SCWA continues to diligently pursue the court action described in the paragraph 4 above and continues to make available the data, calculations, determinations and reports described in paragraph 5 above, and while the court action is pending, the Solano Project shall not be required to fully comply with any instream flow requirement that is specified in Exhibit "E-1" for a point that is located downstream of any illegal diversion that is subject to the court action and that occurs after the Illegal Diversion Account balance reaches zero. Instead, under these conditions, the Solano Project shall release from the Putah Diversion Dam into lower Putah Creek at least the amounts of water that would be sufficient to satisfy all of the instream flow requirements in Exhibit "E-1", if the illegal diversion that is subject to the court action were not occurring. Under these circumstances, the Solano Project's release obligations shall be adjusted as frequently as necessary to reflect changes in hydrological conditions or changes in the rate of the illegal diversion. Immediately upon the



cessation of such illegal diversion, the conclusion, dismissal or cessation of diligent pursuit of the court action, or the end of the irrigation season, whichever occurs first, the Solano Project shall satisfy all of the instream flow requirements in Exhibit "E-1". If court actions regarding more than one illegal diversion are pending, then the provisions of this paragraph shall apply to all such illegal diversions.

7. Deductions from the Illegal Diversion Account for an illegal diversion may be made only for a maximum of two years after the court action described in paragraph 4 above is filed against the landowner with the illegal diversion. Even if a final judgment is not issued in such court action within two years after the action is filed, and even if such court action is dismissed for any reason, the Solano Project nevertheless thereafter shall be required to maintain all of the instream flows described in Exhibit "E-1", and no further deductions shall ever be made from the Illegal Diversion Account for any illegal diversion that is or was the subject of the court action. However, if a new illegal diversion with neither a point of diversion nor a place of use that is within the scope of the court action described in paragraph 4 above occurs, then the provisions of paragraphs 4, 5 and 6 above, and this paragraph, shall apply to the new illegal diversion. If there is more than one such new illegal diversion, then the provisions of paragraphs 4, 5 and 6 above, and this paragraph, shall apply to each such new illegal diversion.

8. If a court of competent jurisdiction issues a final judgment specifying the legality or illegality of any particular diversion from lower Putah Creek, then Permittee or SCWA shall adjust the formulas and calculations in Exhibit "E-3" to be consistent with the court's judgment, and the adjusted formulas and calculations shall be applied thereafter. If

any interested party disagrees with Permittee's or SCWA's adjustment, then that party may ask the SWRCB, by noticed motion, to determine what the appropriate adjustment should be.

9. If any adjustments to the formulas or calculations in Exhibit "E-3" are made pursuant to paragraph 8 of this Exhibit "E-2", then appropriate adjustments shall be made to the Illegal Diversion Account, for example, credits shall be made for the total amount of all debits that previously were made from the Account for diversions that were treated by Permittee or SCWA as illegal, but which would have been legal under the adjusted formulas and calculations. If Permittee or SCWA ceases to diligently pursue any court action described in paragraph 4 of this Exhibit "E-2" before a final judgment is entered, then credits shall be made to the Illegal Diversion Account for the total amount of all debits that previously were made from the Account for the diversion that was the subject of the court action. The credits described in this paragraph shall be spread equally over the same number of irrigation seasons as the number of irrigation seasons during which debits from the Account were made. If the court issues its final judgment during an irrigation season, then the first year of such credits shall be made immediately to the Account. If the court issues its final judgment not during an irrigation season, then the first year of such credits shall be made during the next irrigation season. Subsequent credits shall be made during the immediately following irrigation seasons.

**Exhibit "E-3"****Permittee's Methodology for Monitoring  
and Quantifying the Availability and Use of  
Riparian Water in Lower Putah Creek**

This document provides Permittee's explanation and basis for its methodology for monitoring and quantifying the availability and use of riparian water in Putah Creek, downstream of the Putah Diversion Dam. Permittee's methodology, hereafter referred to as the Lower Putah Creek Riparian Water Program ("PRWP"), will be used by Permittee or, at Permittee's election, by the Solano County Water Agency ("SCWA"), to (1) differentiate between and quantify the availability of riparian versus non-riparian waters in Putah Creek, downstream of the Putah Diversion Dam, and (2) identify and quantify illegal water diversions, downstream of the Putah Diversion Dam. Permittee anticipates that implementation of the PRWP will increase the efficiency with which the instream flow requirements of the Solano Project, as specified by this petition, are satisfied, and facilitate the lawful diversion of riparian water downstream of the Putah Diversion Dam.

**1.0 OVERVIEW****1.1 Key Elements of Lower Putah Creek Riparian Water Program**

The PRWP consists of two components: Pre-irrigation season water availability forecasts, and real-time stream flow monitoring during the irrigation season, where "irrigation season" is defined as March 1 through October 31. Annual water availability

forecasts will be provided to riparian water users prior to the irrigation season, so they and other interested parties can plan and, if necessary, make other arrangements for obtaining irrigation water, before significant time and financial resources are committed to the cultivation of a given crop. Real-time monitoring will be conducted to: (1) determine, on a daily basis, the quantities of riparian water that are available to water users in Lower Putah Creek, and (2) differentiate and quantify, on a daily basis, legal versus illegal riparian diversions.

### **1.2 Definition of Riparian Water**

For the purposes of the PRWP, riparian stream flows are defined as any surface water derived from precipitation or rising groundwater that, given prevailing hydrologic conditions, would occur in Lower Putah Creek in the absence of the Solano Project. Non-riparian water, such as treated wastewater and agricultural return flows originating from a non-riparian source (e.g., pumped groundwater that would not otherwise be tributary to the creek) cannot, by definition, be diverted by riparian water right claimants and, therefore, is not included as a source of riparian water from Lower Putah Creek.

### **2.0 WATER AVAILABILITY FORECASTS**

Permittee's riparian water availability forecasts for Lower Putah Creek will be based on stream flow conditions observed in the Putah Creek drainage, upstream of the Putah Diversion Dam, in the prior (i.e., antecedent conditions) and current water year. Forecasts

will be made on January 1, March 1 and May 1. The January 1 and March 1 forecasts, which will be made before the current rainy season is over, will be based in part on projected stream flow conditions for the balance of the rainy season, while the May 1 forecast, the final forecast for the water year, will be based on actual runoff measured to date. Both the January 1 and March 1 forecasts will include three scenarios, based on the assumption that the balance of the rainy season will either be "wet" (25% exceedance), "normal" (50% exceedance) or "dry" (75% exceedance).

In order to address the differing sources and durations of riparian stream flows (surface stream flows from Putah Creek and/or tributaries to Putah Creek, or rising groundwater), Lower Putah Creek has been divided into five reaches. Water availability forecasts will be made for each reach. Stream reach designations and the analytic framework for making water availability forecasts are presented in "Attachment 1".

### **3.0 REAL-TIME MONITORING**

#### **3.1 Quantifying Available Riparian Water Supply**

Stream flows and the associated stream flow gains and losses will be monitored by reach, on a continuous basis, and the availability of riparian water and extent of illegal diversions will be determined daily, using a series of water mass balance equations to track the quantities of both riparian and non-riparian water entering and leaving each stream reach.

A summary of the equations used to define riparian water availability, by stream reach, is presented in Attachment 1.

Although the determination of net riparian flow is based on real-time stream flow measurements, there are situations where real-time stream flow measurements are not practical and therefore simplifying assumptions must be used, much as they are in the Condition 12 Settlement Agreement for the Upper Putah Creek drainage. For example, under existing conditions it is difficult to measure accurately real-time stream flow losses in the stream reach now inundated by Lake Solano. Consequently, a "fixed" loss figure previously adopted by the United States Bureau of Reclamation may be used in the water mass balance calculation for this reach. In all cases, the simplifying assumptions used to quantify the availability of riparian water are purposely conservative in the sense that they tend to overstate the availability of riparian stream flows. Overstating riparian water availability is preferred, since it presumably increases the enforceability of the PRWP and its acceptability to riparian water users.

### **3.1.1 Data Collection**

#### **3.1.1.1 Measurement of Riparian Diversions**

Riparian diversions will either be measured directly, using an appropriate meter and assuming landowner/operator permission is obtained, or indirectly, via measurement of creek stream flows in the vicinity of the diversion. Riparian diversions typically constitute a

readily measurable fraction of the total stream flow in any given reach (500-2,000 gallons per minute, or about 1-5 cubic feet per second), and are therefore easily detected by continuously measuring stream flows entering and leaving a given stream segment.

### **3.1.1.2 Measurement of Agricultural Return Flows and Wastewater Discharges**

The agricultural return flows entering Lower Putah Creek are for the most part non riparian water sources, as are the treated wastewater discharges from the University of California - Davis (U.C. Davis) water treatment facility, which enter Lower Putah Creek near Old Davis Road. Nevertheless, these water sources must be quantified for water mass balance accounting purposes. The University's treated wastewater discharges are measured and recorded by the treatment plant operators. Most of the agricultural return flows are too small and/or sporadic to warrant direct measurement, and will therefore be estimated, or if insignificant relative to the total creek stream flow, ignored. However, one notable exception is the Willow Canal, which discharges into Lower Putah Creek just upstream of Pedrick Road. Discharges from the Willow Canal, which is operated by the Yolo County Flood Control and Water Conservation District (YCFC&WCD), will be measured as necessary.

### **3.1.1.3 Measurement of Groundwater Seepage and Evapotranspiration**

The amounts of groundwater seepage (into or out of the creek) and water lost to open-water evaporation and transpiration by riparian vegetation vary gradually over time, in comparison to the fluctuating gains and losses associated with water diversions and

agricultural return flows. For the purposes of the PRWP, the net flow gain or loss from these factors (groundwater seepage, evaporation and transpiration) are combined into a single term that represents the natural or "background" net stream flow gain or loss rate within a given reach. Background gains and losses are most easily quantified as the difference in stream flow over a given reach ("top of reach" stream flow versus "bottom of reach" stream flow), in the absence of any diversions or "intra reach inflows."

Groundwater seepage along the reach from I-505 to Stevenson Bridge typically transitions from net loss (seepage out of the creek) to net gain (seepage into the creek). The location of the transition point and the total amount of influent seepage along the gaining stretch depend on the regional groundwater levels in the underlying groundwater basin. This reach will be subdivided into two sub-reaches when necessary to calculate riparian water availability. The upstream end of the gaining segment will be detected by periodic stream flow measurements and/or temperature changes in the creek.

#### **3.1.1.4 Special Situations**

##### **Pumping from Riparian Wells**

There is no clear boundary between wells that induce additional seepage from the creek and wells that pump regional groundwater; the percentage of pumped water that consists of induced seepage decreases gradually with depth and horizontal distance from the creek. A pragmatic approach adequate for the purpose of the PRWP is to include in the accounting the effects of a well if its effect on stream flow can be detected by the stream flow



monitoring program. The philosophy behind this approach is that well pumping does not matter if its effects on stream flow are not measurable; and if the effects are measurable, then the evidence and justification for including the well as a riparian diverter are already at hand. In practice, it is unlikely that wells more than about 500 feet from the creek or more than 100 feet deep will measurably affect stream flow.

#### Impoundments Below Mace Boulevard

Riparian water accounting is slightly more complicated at the downstream end of Putah Creek, between Mace Boulevard and the Toe Drain in the Yolo Bypass. Two impoundments are created in the creek channel each year to provide pumping pools for irrigation operations. The lower impoundment is a flashboard dam operated jointly by Los Rios Farms and the California Department of Fish and Game. Frequently, some of the water impounded behind this dam is water that is diverted from the Toe Drain of the Yolo Bypass at a pumping station about 1 mile north of the dam and conveyed to the impoundment by a canal. It may be necessary to gage the inflows from this canal into Putah Creek to determine the availability of Putah Creek riparian water in the impoundment. The issue may be moot, however, because the downstream compliance point for resident native fish flows is at river mile 0, which is upstream of the impoundment.

The upper impoundment is a temporary dirt berm across the channel that provides a crossing for farm vehicles in addition to creating a pumping pool. The berm is at about river mile 1.0 (aligned with country road 106B), and the impounded water derives entirely from Putah Creek. Irrigation return flows from adjacent fields may include water that originated

from Toe Drain diversions, and these return flows will be measured or estimated in the same manner as for return flows in other reaches of the creek.

#### Riparian Diversions from Pools in the Creekbed

Prior to construction of the Solano Project, landowners in a few locations were able to pump water from natural or constructed pools in the creekbed after live flow in the creek had ceased in summer. These pools were separate from the well-documented gaining reach above Stevenson Bridge, where groundwater seepage into the creekbed can create surface water stream flows in the absence of surface water inflows from upstream reaches. The accounting methodology described here does not encompass the water in isolated pools that would have been present in the absence of the Solano Project. The historical number of pools is thought to be small, and the pumping rates they could sustain also were probably small.

The possible availability of riparian water from isolated pools will be dealt with on a case-by-case basis. If a landowner can provide evidence that persistent pools existed on his or her property during periods of discontinuous streamflow prior to the Solano Project construction, then the sustained pumping yield of those pools will be estimated to quantify the amount of riparian water presently available to the landowner from that source. The yield will be estimated from the pool volume and the permeability of the surrounding streambed materials, which may release shallow groundwater when the pool level is lowered by pumping.

### New Diversions and Return Flows

As parcels change ownership or existing landowners modify their farming operations, some diversions and return flows may be added and others discontinued. Word of mouth and the annual riparian water forecast mailing should be sufficient to inform any newcomers that riparian diversions from Lower Putah Creek are monitored and regulated. The new users will be encouraged to join the cooperative effort to manage and utilize riparian water supplies. Any changes in discharges by U.C. Davis, YCFC&WCD, and other agencies or industries hopefully will also be communicated to the Solano County Water Agency to facilitate a smooth transition. Any unreported changes will eventually be detected by the stream flow monitoring program, periodic field surveys, neighboring landowners, or the streamkeeper.

### Uncooperative Riparian Diverters

It is hoped that all riparian diverters will cooperate with each other and with the Solano County Water Agency to make efficient use of the available riparian water supply without any illegal diversions. However, it is possible that some landowners will attempt to conceal their diversions or refuse to provide information about when and how much water they are diverting, or when and where return flows occur. Fortunately, all of this information can be obtained anyway. It would be impossible to conceal a significant diversion for very long because the pumping equipment and power supplies are large, visible, and make sound and because the effects of the diversion will be detected by the stream flow monitoring program. The pumping rate at any diversion can be measured fairly accurately by gaging the stream flow immediately upstream and downstream of the diversion. Return flows can

similarly be estimated by surveys of the field drainage patterns and the direct observation of the return flows.

### **3.2 Quantifying Illegal Diversions**

Any diversion in excess of the calculated net riparian flow is considered illegal. Illegal diversions, like net riparian flow, will be monitored and quantified by reach, and to the extent possible, by individual diverters. A summary of the equations used to quantify illegal diversions is presented in Attachment 1.

If total riparian diversions in any given reach exceed the available riparian supply and the diverters are unwilling to voluntarily reduce their total diversions to match the available supply, and these actions adversely affect the Solano County Water Agency, then the Agency may sue some or all of the active diverters and seek court orders addressing the illegal diversions. It is hoped that this type of enforcement action will not be necessary. The PRWP will provide all of the data needed on a real-time basis to enable the active riparian diverters to manage their activities and restrict the locations and rates of their diversions so that they remain within the legally available supply.

### **3.3 Public Access to Riparian Water Accounting Data and Calculations**

The Solano County Water Agency will conduct the data collection activities and complete the calculations necessary to generate the pre-irrigation season water availability

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forecasts and the real-time riparian water availability determinations. All data collected for these purposes and all formulas and computer programs used in the calculations will be available on request to any interested agency, group or individual. The Solano County Water Agency will publish the data and results on its website and update the information approximately daily during the irrigation season.

The Solano County Water Agency will deliver the first (January) pre-season water availability forecast by mail to all riparian landowners along Lower Putah Creek. Landowners may at that time request that the subsequent forecasts (March and May) also be sent by mail if the landowner is unable to access the information by Internet. It would not be practical to disseminate the real-time monitoring data by mail because it will be updated daily during the irrigation season. Active diverters who need the daily information will be able to view it on the Solano County Water Agency's website or call the Agency to obtain the information by telephone.

**ATTACHMENT 1 TO EXHIBIT "E-3"**

**1.0 Pre-Irrigation Season Predictions**

**A) Objective:**

To estimate future availability of riparian stream flows, based on projected and/or prior hydrologic conditions in the Putah Creek drainage. For pre-irrigation season prediction purposes, assume riparian stream flows consist of surface runoff from precipitation and rising groundwater.

**B) Analytic Approach:**

- i) Divide Lower Putah Creek into the following reaches:
- a) Putah Diversion Dam to Highway 505 Bridge (a "losing reach")
  - b) Highway 505 Bridge to Stevenson Bridge (a "gaining reach")
  - c) Stevenson Bridge to I-80 Bridge (a "losing reach")
  - d) I-80 Bridge to Mace Boulevard (a "losing reach")
  - e) Mace Boulevard to Yolo Bypass (a "losing reach")

(Reach designations based on hydrogeologic features, proximity of suitable stream flow gaging sites and existing riparian diversions. When necessary, reach "b" will be subdivided into two sub-reaches.)

- ii) Predict average monthly flow and date of zero flow for each of the above riparian water sources, in each of the five reaches:
- a) Surface runoff: calculate using statistical relationships derived from historical data.
    - Stream flow recession curves derived from stream flow gaging data for "At Winters", "Near Winters" and "Near Davis" stream flow gaging stations.
    - Stream reach percolation/evapotranspiration loss estimating algorithms developed for the Solano County Water Agency's Lower Putah Creek stream flow model.
  - b) Rising groundwater: calculate using statistical relationships derived from historical data.
    - Stream reach groundwater gain/loss estimating algorithms developed for the Solano County Water Agency's Lower Putah Creek streamflow model.

**C) Timing of Pre-Irrigation Season Predictions:**

- i) January 1 – Predictions based on hydrology of water year to date and three scenarios for the remainder of the year's rainy season: "wet year" (25% Lake

Berryessa inflow exceedance), "normal year" (50% Lake Berryessa inflow exceedance) and "dry year" (75% Lake Berryessa inflow exceedance).

- ii) March 1 – Predictions based on hydrology of water year to date and projected 25%, 50% and 75% exceedance runoff rates for the remainder of the year's rainy season.
- iii) May 1 – Final prediction based on hydrology of the water year through April.

## 2.0 Methodology for Quantifying Riparian Streamflows During Irrigation Season

Note: Riparian stream flows are defined here as any surface water derived from precipitation or rising groundwater that, given prevailing hydrologic conditions, would occur in Lower Putah Creek in the absence of the Solano Project. Non riparian water, such as treated wastewater and agricultural return flows originating from a non riparian source (e.g., pumped groundwater) cannot, by definition, be diverted by riparian water right claimants and therefore, are not included as a source of riparian water from Lower Putah Creek.

### A) Overview:

- i) Calculate, on a daily basis, pre Solano Project stream flows (i.e., stream flow that would occur if there were no dams – no Solano Project) at the Putah Diversion Dam site.
- ii) Compare computed daily pre Solano Project stream flow (i.e., stream flow that would occur if there were no dams – no Solano Project) with current Putah Diversion Dam release – determine what fraction of the current release is stored water or any other non riparian water source, versus riparian stream flows.
- iii) Using real-time stream flow monitoring data to quantify prevailing percolation/evapotranspiration losses and any non riparian water sources, calculate riparian flows by stream reach. The total quantity of riparian water in any given reach is defined here as the sum of all riparian water sources less percolation/evapotranspiration losses.

### B) Analytical Approach:

- i) Riparian stream flows at Putah Diversion Dam site:  

$$USRSF = LBI + IDTI - IDCL$$

Where: USRSF = Riparian stream flow at Putah Diversion Dam

LBI = Computed/measured Lake Berryessa inflow  
 (less any associated non riparian flow)

IDTI = Inter Dam Reach tributary inflow  
 (less any associated non riparian flow)

IDCL = channel percolation/evapotranspiration losses that would occur in the Inter Dam Reach in the absence of Lake Solano

(A stream gage will be placed on Pleasants Creek to facilitate real-time estimation of inflow from inter-dam tributaries. For accounting purposes, seepage and evaporation losses from Lake Solano are assumed to be constant and will therefore be characterized by a fixed continuous loss rate term).

- ii) Riparian stream flows in first reach downstream of Putah Diversion Dam (Putah Diversion Dam to 505 Bridge):

$$1RRSF = USRSF + TRSF + 1RAG - 1RCL$$

Where: 1RRSF = Computed riparian stream flow in Reach 1  
 USRSF = Computed riparian stream flow at Putah Diversion Dam  
 TRSF = Measured stream flow from tributaries (Dry Creek, McCune aka Pleasant Creek), less any associated non riparian flow  
 1RAG = Ag return flow water originating from a riparian source in reach 1  
 1RCL = Measured channel percolation/evapotranspiration losses in reach 1

Notes:

- (1) Agricultural return flow water that originates from a riparian water source (riparian water diverted from Putah Creek or associated tributaries) is classified as riparian water and therefore can be lawfully diverted by other riparian water right claimants.

- iii) Riparian stream flows in second reach downstream of Putah Diversion Dam (505 Bridge to Stevenson Bridge):

$$2RRSF = 1RRSF - 1RD (+/-) 2RCL + 2RAG$$

Where: 2RRSF = Computed riparian stream flow in Reach 2  
 1RRSF = Computed riparian stream flow in Reach 1  
 2RCL = Combined sum of groundwater "gains", channel percolation/evapotranspiration losses in reach 2  
 2RAG = Ag return flow water in reach 2 originating from a riparian source  
 1RD = Riparian diversion in Reach 1

Notes:

- (1) There are no significant tributaries entering Putah Creek in this Reach .
- (2) Due to the spatial and temporal variability of rising groundwater, portions of the so called "gaining reach" (generally the upstreammost third of the reach) frequently lose rather than gain water. Accordingly, there are instances when some of the riparian diverters within Reach 2 have access



to rising groundwater, while others do not. When necessary, Reach 2 will be broken into two sub reaches for the purpose of quantifying riparian stream flows.

- iv) Riparian stream flows in third reach downstream of Putah Diversion Dam (Stevenson Bridge to I-80):

$$3RRSF = 2RRSF - 2RD - 3RCL + 3RAG$$

Where: 3RRSF = Computed riparian stream flow in Reach 3  
 2RRSF = Computed riparian stream flow in Reach 2  
 2RD = Riparian diversions in Reach 2  
 3RCL = Measured channel percolation/evapotranspiration losses in reach 3  
 3RAG = Ag return flow water in reach 3 originating from a riparian source

- v) Riparian stream flows in fourth reach downstream of Putah Diversion Dam (I-80 to Mace Boulevard):

$$4RRSF = 3RRSF - 3RD - 4RCL + 4RAG$$

Where: 4RRSF = Computed riparian stream flow in Reach 4  
 3RRSF = Computed riparian stream flow in Reach 3  
 3RD = Riparian diversion in Reach 3  
 4RCL = Measured channel percolation/evapotranspiration losses in reach 4  
 4RAG = Ag return flow water in reach 4 originating from a riparian source

- vi) Riparian stream flows in fifth reach downstream of Putah Diversion Dam (Mace Boulevard to RM 0.0 aka Yolo Bypass):

$$5RRSF = 4RRSF - 4RD - 5RCL + 5RAG$$

Where: 5RRSF = Computed riparian stream flows in Reach 5  
 4RRSF = Computed riparian stream flows in Reach 4  
 4RD = Riparian diversions in Reach 4  
 5RCL = Measured channel percolation/evapotranspiration losses in reach 5  
 5RAG = Ag return flow water in reach 5 originating from a riparian source

Note: The above formulas will be adjusted as necessary to reflect changing conditions such as new or terminated diversions or discharges.

### **3.0 Methodology for Quantifying Illegal Riparian Diversion During Irrigation Season**

Note: Diversions in excess of the available riparian stream flow (i.e., diversion of water released from storage or other non riparian flow) are considered illegal.

A) Overview:

For each reach, calculate difference between daily riparian diversions and computed riparian streamflow. If riparian diversions exceed computed riparian streamflow, the difference is considered to be the result of illegal diversions.

B) Analytical Approach:

- i) Illegal riparian diversions in first through fifth reaches downstream of Putah Diversion Dam:

If:  $(ith)RD > (ith)RRSF$

Then:  $(ithIRD) = (ithRD) - (ithRRSF)$

Where:  $(ith)RD$  = Riparian diversions in Reach 1, 2, 3, 4 or 5

$(ith)RRSF$  = Computed riparian streamflow in Reach 1, 2, 3, 4 or 5

$(ithIRD)$  = Computed illegal diversions in Reach 1, 2, 3, 4 or 5

The Solano County Water Agency is under no obligation to enforce against any illegal riparian diverters whose actions do not adversely affect the Agency's ability to comply with any contractual or legal obligation.