

SOLANO COUNTY WATER AGENCY



BOARD OF DIRECTORS MEETING

BOARD OF DIRECTORS:

Chair:

Supervisor Jim Spering
Solano County District 3

Vice Chair:

Mayor Ron Rowlett
City of Vacaville

Mayor Steve Young
City of Benicia

Mayor Steve Bird
City of Dixon

Mayor Harry Price
City of Fairfield

Director Sean Favero
Maine Prairie Water District

Director Dale Crossley
Reclamation District No. 2068

Mayor Ron Kott
City of Rio Vista

Supervisor Erin Hannigan
Solano County District 1

Supervisor Monica Brown
Solano County District 2

Supervisor John Vasquez
Solano County District 4

Supervisor Mitch Mashburn
Solano County District 5

Director J.D. Kluge
Solano Irrigation District

Mayor Lori Wilson
City of Suisun City

Mayor Robert McConnell
City of Vallejo

GENERAL MANAGER:

Roland Sanford
Solano County Water Agency

DATE: Thursday, May 12, 2022

TIME: 6:30 P.M.

PLACE: Virtual Meeting – Zoom Meeting

Join Zoom Meeting:

<https://us02web.zoom.us/j/83191863504?pwd=UWhPZEVVbHU1bzRTWEliQkhFRGljQT09>

Meeting ID: 831 9186 3504/Passcode: 932913

One tap mobile: +16699009128,,83191863504#,,,932913#

Dial by your location: +1 669 900 9128 US

1. OPTION FOR REMOTE MEETING

In Compliance with Government Code Section 54953(e) added by Assembly Bill 361, and consistent with the findings made by the Solano County Water Agency Board of Directors in accordance therewith, members of the Solano County Water Agency Board and members of the public may participate in this meeting by teleconference. Per AB 361, the Board is to reconsider the circumstances of the state of emergency and determine that: (i) the state of emergency continues to directly impact the ability of the members to meet safely in person; and/or (ii) State or local officials continue to impose or recommend measures to promote social distancing.

2. CALL TO ORDER

3. PLEDGE OF ALLEGIANCE

4. APPROVAL OF AGENDA

5. PUBLIC COMMENT

If you wish to make a Public Comment, please contact the Secretary at: cleee@scwa2.com to expedite the process, thank you. Public Comments may still be made during the virtual meeting without prior notice.



6. **CONSENT ITEMS** *(estimated time: 5 minutes)*

- (A) **Minutes:** Approval of the Minutes of the Board of Directors meeting of April 14, 2022.
- (B) **Expenditure Approvals:** Approval of the April 2022 checking account register.

7. **BOARD MEMBER REPORTS** *(estimated time: 5 minutes)*

RECOMMENDATION: For information only.

8. **GENERAL MANAGER'S REPORT** *(estimated time: 5 minutes)*

RECOMMENDATION: For information only.

9. **SOLANO WATER ADVISORY COMMISSION REPORT** *(estimated time: 5 minutes)*

RECOMMENDATION: For information only.

10. **SOLANO ECONOMIC DEVELOPMENT CORPORATION MEMBERSHIP** *(estimated time: 10 minutes)*

RECOMMENDATION: Join Solano Economic Development Corporation (Solano EDC) at “Executive Stakeholder” membership level and appoint Water Agency Board member to serve on Solano EDC Executive Committee and Board of Directors.

11. **LEGISLATIVE UPDATES** *(estimated time: 10 minutes)*

RECOMMENDATIONS:

- 1. Hear report from Committee Chair on activities of the SCWA Legislative Committee.
- 2. Hear report from Bob Reeb of Reeb Government Relations, LLC.

12. **WATER POLICY UPDATES** *(estimated time: 10 minutes)*

RECOMMENDATIONS:

- 1. Hear report from staff on current and emerging Delta and Water Policy issues and provide direction.
- 2. Hear status report from Committee Chair on activities of the SCWA Water Policy Committee.
- 3. Hear report from Supervisors Vasquez and Mashburn on activities of the Delta Counties Coalition, Delta Protection Commission, and Delta Conservancy.

4. Hear report from Elizabeth Patterson on activities of the North Bay Watershed Association (see <https://www.nbwatershed.org> for additional information).

13. TIME AND PLACE OF NEXT MEETING

Thursday, June 9, 2022 at 6:30 p.m. at the SCWA offices.

The Full Board of Directors packet with background materials for each agenda item can be viewed on the Agency's website at <https://www.scwa2.com/governance/board-meetings-agendas-minutes/>

Any materials related to items on this agenda distributed to the Board of Directors of Solano County Water Agency less than 72 hours before the public meeting are available for public inspection at the Agency's offices located at the following address: 810 Vaca Valley Parkway, Suite 203, Vacaville, CA 95688. Upon request, these materials may be made available in an alternative format to persons with disabilities.

May.2022.BOD.Agnda

CONSENT ITEMS

**SOLANO COUNTY WATER AGENCY
BOARD OF DIRECTORS MEETING MINUTES
MEETING DATE: April 14, 2022**

The Solano County Water Agency Board of Directors met this evening in a “hybrid meeting format”, with some Board members participating via Zoom teleconferencing and others present in the Board Room located at the Water Agency office in Vacaville. Attending were:

Mayor Steve Young, City of Benicia
Mayor Steve Bird, City of Dixon
Mayor Harry Price, City of Fairfield
Mayor Ronald Kott, City of Rio Vista
Mayor Ron Rowlett, City of Vacaville
Mayor Pro Tem Alma Hernandez, City of Suisun City
Mayor Robert McConnell, City of Vallejo
Supervisor Erin Hannigan, Solano County District 1
Supervisor Monica Brown, Solano County District 2
Supervisor Jim Spering, Solano County District 3
Supervisor John Vasquez, Solano County District 4
Supervisor Mitch Mashburn, Solano County District 5
Director Sean Favero, Main Prairie Water District
Director Dale Crossley, Reclamation District N. 2068
Director Derrick Lum, Solano Irrigation District

CALL TO ORDER

The meeting was called to order by Chair Spering at 6:30 p.m.

REMOTE MEETING

In compliance with Government Code 54953(e) added by Assembly Bill 361, and consistent with the findings made by the Solano County Water Agency Board of Directors in accordance therewith, members of the Solano County Water Agency Board of Directors and members of the public will participate in this meeting by teleconference. Per AB 361, the Board is to reconsider the circumstances of the state of emergency and determine that: (i) the state of emergency continues to directly impact the ability of the members to meet safely in person; and (ii) State or local officials continue to impose or recommend measures to promote social distancing.

On a motion by Supervisor Vasquez and a second by Supervisor Mashburn the Board unanimously approved - by roll call vote - that both (i) and (ii) to no longer be true and therefore to proceed with an in-person meeting, with the option of also participating via Zoom teleconferencing.

APPROVAL OF AGENDA

On a motion by Mayor Young and a second by Supervisor Mashburn the Board unanimously approved - by roll call vote - the agenda.

PUBLIC COMMENT

There were no public comments.

CONSENT ITEMS

On a motion by Mayor Rowlett and a second by Supervisor Vasquez the Board unanimously approved-by roll call vote-the following consent items:

- (A) Minutes
- (B) Expenditure Approvals
- (C) Quarterly Financial Reports
- (D) Contract Amendment with Putah Creek Council
- (E) Contract Amendment with Ag Innovations

- (F) Contract Amendment with Solano RCD
- (G) CACRCD Block Grant Pass Through

BOARD MEMBER REPORTS

Chair Sperring welcomed Mayor Pro Tem Hernandez to the meeting.

GENERAL MANAGERS REPORT

General Manager Sanford asked Supervising Water Resources Specialist Sabrina Snyder to introduce Assistant Water Resources Specialist Elise Shtayyeh to the Board of Directors. Ms. Shtayyeh distributed a one-page “infographic” summarizing the Water Agency’s water conservation programs and activities in 2021, and briefly discussed the various water conservation rebate programs the Water Agency offers to Solano County residents.

SOLANO WATER ADVISORY COMMISSION REPORT

There were no additions to the Solano Water Advisory Commission meeting notes in the Board agenda packet.

SCWA FISCAL YEAR 2020-2021 AUDIT

General Manager Roland Sanford reported that Badawi & Associates recently completed the Fiscal Year 2020-2021 audit and have concluded that the Water Agency’s financial statements for fiscal year 2020-2021 are free from material misstatement and are represented fairly in accordance with Generally Accepted Accounting Principles. Mr. Sanford noted that no accounting deficiencies were observed by Badawi and Associates and that in layperson’s terms, it was a “clean audit”.

On a motion by Supervisor Vasquez and a second by Mayor Bird, the Board unanimously approved - by roll call vote – acceptance of the Fiscal Year 2020-2021 audit report.

DROUGHT UPDATE

Mr. Sanford, who was joined by Mr. Kyle Ochenduszkowski, chair of the Solano Water Advisory Commission, discussed the status of the Solano Project and North Bay Aqueduct water supplies, and actions the Water Agency’s partner organizations are taking to not only address immediate water supply conditions but also conditions that may prevail in 2023, if 2023 is yet another dry or critically dry year. Mr. Sanford observed that despite just a 15 percent North Bay Aqueduct water supply allocation in 2022, Solano County’s water supply situation is better than most regions of the State, due in large part to the Solano Project, which will provide full water supply allocations in 2022, and barring an exceptionally dry start to the 2023 rainy season, full water supply allocations in 2023. Mr. Ochenduszkowski described ongoing efforts by the Solano Water Advisory Commission members to coordinate water conservation messaging and address water supply shortfalls. Staff’s drought update was for informational purposes, the Board took no action on this agenda item.

EMERGENCY PREPAREDNESS PLANNING

General Manager Roland Sanford observed that the recently adopted “Solano County Multi-Jurisdictional Hazard Mitigation Plan and Solano County Water Agency Annex” (Hazard Mitigation Plan) - a document that identifies a series of projects and actions the Water Agency can implement to minimize damage to infrastructure and loss of life due to flooding, droughts, earthquakes, fire and other natural events - represents a significant step forward by the County and Water Agency with respect to hazard mitigation/emergency preparedness. But that the Hazard Mitigation Plan, while focusing on specific actions the Water Agency can take to protect water infrastructure managed by the Water Agency – such as improvements to the Putah South Canal – is relatively silent with respect to how the Water Agency’s emergency preparedness actions are integrated with the emergency preparedness actions to be taken by other water purveyors in Solano County.

Mr. Sanford explained that in certain situations, such as an earthquake that renders the Putah South Canal inoperable for multiple months, the appropriate emergency response would likely require close cooperation with other water purveyors and potentially the use of their infrastructure to address the immediate water supply needs of the County as a whole. Mr. Sanford noted that preparation of an integrated emergency preparedness plan would complement the recently adopted Hazard Mitigation Plan and provide an opportunity to identify the need for new infrastructure that could possibly be funded through some of the recently established State and Federal infrastructure funding programs.

On a motion by Director Favero and a second by Supervisor Mashburn, the Board unanimously approved - by roll call vote – authorization for staff to develop a work plan for creating an integrated emergency water supply preparedness plan in cooperation with other municipal and agricultural water purveyors in Solano County.

SCWA OFFICE EXPANSION

General Manager Sanford reported that pursuant to Board direction at the February 10, 2022 Board meeting, the Board’s Executive Committee recently met with staff to discuss whether the SCWA office expansion project should proceed using a traditional contracting approach, whereby design and construction are accomplished by separate contractors; versus the somewhat newer “design build”, and more specifically, the “Construction Management at Risk” (CM at Risk) contracting approach, where a contractor is responsible for at least certain elements of project design and construction – an approach that has been successfully used by the Solano Irrigation District, Vacaville Unified School District, and Davis Joint Unified School District.

Mr. Sanford explained that the Executive Committee is recommending the SCWA office expansion project proceed using the CM Risk contracting approach and that in accordance with the Executive Committee’s recommendation, both the proposed Pre-Construction Agreement and the Architectural Services Agreement with Brereton Architects have been structured within the CM Risk contracting framework.

On a motion by Mayor Rowlett and a second by Director Crossley, the Board approved - by roll call vote – authorization for the General Manager to proceed with a Pre-Construction Agreement under the Water Agency’s existing Procurement Policy and to execute an Agreement with Bretherton Architects for Architectural Services. Mayor Young voted no.

LEGISLATIVE UPDATES

Bob Reeb of Reeb Government Relations reported that the State Legislature is on spring break until April 18th. He noted that Ms. Lori Wilson, former mayor of Suisun City and now a State Assemblymember, was sworn into office on April 6th and has been appointed to the Accountability and Administrative Review, Appropriations, Banking and Finance, and Privacy and Consumer Protection committees.

Mr. Reeb observed that the Governor’s May budget revision will be released shortly and that while there are currently significant budget surpluses, the Legislative Office (LAO) has concluded that the State is potentially facing budget deficits as soon as next fiscal year and growing to perhaps \$40 billion dollars by Fiscal Year 2025-2026.

WATER POLICY UPDATES

There were no updates from staff on current and emerging Delta and Water Policy issues.

Director Crossley, the Water Policy Committee Chair, stated that the Committee most recently discussed the need for integrated emergency preparedness planning and that at the next meeting the Committee will be discussing Napa County’s desire to obtain emergency water supplies from the Solano Project.

Supervisor Mashburn reported that the Delta Counties Coalition hosted a tour of the Delta for key legislators and their staff. The purpose of the tour was to educate participants on various issues, such as abandoned watercraft and invasive species impact the Delta ecosystem.

Ms. Elizabeth Patterson briefed the Board on recent activities of the North Bay Watershed Association and the OneBay virtual conference she attended.

TIME AND PLACE OF NEXT MEETING

Thursday, May 12, 2022, at 6:30 p.m. at the SCWA offices.

ADJOURNMENT

The meeting of the Solano County Water Agency Board of Directors was adjourned at 7:46 p.m.

Roland Sanford
General Manager & Secretary to the
Solano County Water Agency

ACTION OF
SOLANO COUNTY WATER AGENCY

DATE: May 12, 2022
SUBJECT: Expenditures Approval

RECOMMENDATIONS:


Approve expenditures from the Water Agency checking accounts for April 2022.

FINANCIAL IMPACT:

All expenditures are within previously approved budget amounts.

BACKGROUND:

The Water Agency auditor has recommended that the Board of Directors approve all expenditures (in arrears). Attached is a summary of expenditures from the Water Agency’s checking accounts for April 2022. Additional backup information is available upon request.

Recommended: 
Roland Sanford, General Manager

<input type="checkbox"/>	Approved as Recommended	<input type="checkbox"/>	Other (see below)	<input type="checkbox"/>	Continued on next page
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Modification to Recommendation and/or other actions:

I, Roland Sanford, General Manager and Secretary to the Solano County Water Agency, do hereby certify that the foregoing action was regularly introduced, passed, and adopted by said Board of Directors at a regular meeting thereof held on May 12, 2022, by the following vote:

Ayes:

Noes:

Abstain:

Absent:

Roland Sanford
General Manager & Secretary to the
Solano County Water Agency

SOLANO COUNTY WATER AGENCY

Cash Disbursements Journal

For the Period From Apr 1, 2022 to Apr 30, 2022

Filter Criteria includes: Report order is by Check Number. Report is printed in Detail Format.

Date	Check #	Account ID	Line Description	Debit Amount	Credit Amount
4/19/22	10213	2020WC	Invoice: 22-01-3868	2,695.00	
		2020WC	Invoice: 22-02-3868	2,573.85	
		1020SC	MBK ENGINEERS		5,268.85
4/5/22	37332	2020SC	Invoice: 14350	105.00	
		2020SC	Invoice: 14351	105.00	
		1020SC	ZACHARIAH WILKERSON		210.00
4/5/22	37333	2020SC	Invoice: 0684713	2,444.31	
		1020SC	ACWA JOINT POWERS INSURANCE AUTHORITY		2,444.31
4/5/22	37334	2020WC	Invoice: 4220	1,840.96	
		2020WC	Invoice: 4237	3,798.33	
		1020SC	ADVANCED O3 TECHNOLOGIES		5,639.29
4/5/22	37335	2020SC	Invoice: 3874302	682.95	
		1020SC	AMERICAN TOWER CORPORATION		682.95
4/5/22	37336	2020SC	Invoice: SF01051	252.00	
		1020SC	BSK ASSOCIATES		252.00
4/5/22	37337	2020SC	Invoice: 1292A	6,695.00	
		2020SC	Invoice: 1292C	6,695.00	
		2020SC	Invoice: 1292	6,945.00	
		2020SC	Invoice: 1292D	4,215.50	
		1020SC	CORE EQUIPMENT LEASING, LLC		24,550.50
4/5/22	37338	2020SC	Invoice: 1612531	113.43	
		2020SC	Invoice: 1974622	540.46	
		2020SC	Invoice: 9974751	194.86	
		2020SC	Invoice: 8014250	128.67	
		2020SC	Invoice: 7021598	228.00	
		2020SC	Invoice: 4021901	132.62	
		2020SC	Invoice: 0015387	176.09	
		1020SC	HOME DEPOT CREDIT SERVICE		1,514.13
4/5/22	37339	2020SC	Invoice: 1029	304.99	
		1020SC	KONA METRIX INC.		304.99
4/5/22	37340	2020SC	Invoice: 292325	84.00	
		2020SC	Invoice: MAR 2022	51.00	
		1020SC	MILLENNIUM TERMITE & PEST		135.00
4/5/22	37341	2020SC	Invoice: NAPA WHOLE 21/22	312,000.00	
		1020SC	COUNTY OF NAPA		312,000.00
4/5/22	37342	2020SC	Invoice: NBWA2022-03	500.00	
		1020SC	NORTH BAY WATERSHED ASSOCIATION		500.00
4/5/22	37343	2020SC	Invoice: 2/18/22-3/21/22	40.85	
		1020SC	PACIFIC GAS & ELECTRIC CO,		40.85
4/5/22	37344	2020SC	Invoice: JAN- MAR	15,269.98	
		2022NURSERY			
		1020SC	PUTAH CREEK COUNCIL		15,269.98
4/5/22	37345	2020SC	Invoice: 033122130	1,507.50	
		1020SC	SHANDAM INC.		1,507.50
4/19/22	37345V	2020SC	Invoice: 033122130		1,507.50
		1020SC	SHANDAM INC.	1,507.50	
4/5/22	37346	2020SC	Invoice: 5521487	17.18	
		1020SC	SHELDON(Energy Services)		17.18

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4/5/22	37347	2020SC 1020SC	Invoice: BAWMRP#47 THINKING GREEN CONSULTANTS	500.00	500.00
4/5/22	37348	2020SC 2020SC 2020SC 1020SC	Invoice: 270 Invoice: 271 Invoice: 274 KATHLEEN A SALMUNOVICH	4,125.00 2,500.00 9,339.88	15,964.88
4/5/22	37349	2020SC 1020SC	Invoice: KELLEY BAYER KELLEY BAYER	592.00	592.00
4/5/22	37350	2020SC 1020SC	Invoice: LAUREL BENGHAUSER LAUREL BENGHAUSER	771.00	771.00
4/5/22	37351	2020SC 1020SC	Invoice: TERRIE CAMARA TERRIE CAMARA	556.00	556.00
4/5/22	37352	2020SC 1020SC	Invoice: CASEY COLLINS CASEY COLLINS	1,000.00	1,000.00
4/5/22	37353	2020SC 1020SC	Invoice: VILLA DEL MAR HOA SOLANO COUNTY VILLA DEL MAR HOA	5,000.00	5,000.00
4/5/22	37354	2020SC 1020SC	Invoice: TIM MCNAMARA TIM MCNAMARA	599.00	599.00
4/5/22	37355	2020SC 1020SC	Invoice: NICOLE NORTIER NICOLE NORTIER	1,000.00	1,000.00
4/5/22	37356	2020SC 1020SC	Invoice: VICTORIA OLSON VICTORIA OLSON	1,000.00	1,000.00
4/5/22	37357	2020SC 1020SC	Invoice: CAROL OXFORD CAROL LYNN OXFORD	735.00	735.00
4/5/22	37358	2020SC 1020SC	Invoice: 9902805874 VERIZON WIRELESS	1,948.51	1,948.51
4/5/22	37359	2020SC 2020SC 1020SC	Invoice: 8-B Invoice: 9-B VICTOR PAUL CLAASSEN	12,697.10 3,935.10	16,632.20
4/12/22	37360	2020SC 2020SC 2020SC 2020SC 1020SC	Invoice: 14124 Invoice: 14117 Invoice: 14354 Invoice: 14352 ZACHARIAH WILKERSON	17,344.86 13,670.00 105.00 105.00	31,224.86
4/12/22	37361	2020SC 1020SC	Invoice: 202203 BELIA MARTINEZ	640.00	640.00
4/12/22	37362	2020SC 1020SC	Invoice: WC 01/01/22-03/31/22 ACWA JOINT POWERS INSURANCE AUTHORITY	4,954.44	4,954.44
4/12/22	37363	2020SC 2020SC 1020SC	Invoice: EXP REIM FEB 2022 Invoice: EXP REIM MARCH 2022 JEFF BARICH	25.00 25.00	50.00
4/12/22	37364	2020SC 2020SC 1020SC	Invoice: 110355 Invoice: 110358 CENTRAL AUTO PARTS	322.86 22.43	345.29
4/12/22	37365	2020SC 1020SC	Invoice: 5103234170 CINTAS CORPORATION	118.62	118.62
4/12/22	37366	2020SC 2020SC	Invoice: 21-225-U APR2022 Invoice: 22-284-U	156,454.20 211,700.58	

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		1020SC	DEPARTMENT OF WATER RESOURCES		368,154.78
4/12/22	37367	2020SC 1020SC	Invoice: MARCH 2022 JAMES B. DEROSE	5,520.55	5,520.55
4/12/22	37368	2020SC 1020SC	Invoice: 5355 EYASCO, INC.	49,635.00	49,635.00
4/12/22	37369	2020SC 1020SC	Invoice: APRIL 2022 MARK E. GRISMER PHD PE	2,000.00	2,000.00
4/12/22	37370	2020SC 1020SC	Invoice: CL16066 INTERSTATE OIL COMPANY	1,025.33	1,025.33
4/12/22	37371	2020SC 1020SC	Invoice: 1062 JERAH FRYE	19,000.00	19,000.00
4/12/22	37372	2020SC 2020SC 1020SC	Invoice: FEB 2022 COVID Invoice: MARCH 2022 COVID LEE, CHRISTOPHER R.	75.00 75.00	150.00
4/12/22	37373	2020SC 1020SC	Invoice: 38282 LUHDORFF & SCALMANINI	55,357.00	55,357.00
4/12/22	37374	2020SC 1020SC	Invoice: 583645 M&M SANITARY LLC	160.00	160.00
4/12/22	37375	2020SC 1020SC	Invoice: JAN - MAR 2022 PUTAH CREEK COUNCIL	55,933.33	55,933.33
4/12/22	37376	2020SC 1020SC	Invoice: 1378 RW EQUIPMENT REPAIR	193.50	193.50
4/12/22	37377	2020SC 2020SC 2020SC 1020SC	Invoice: 8556053ED0139SXMZ Invoice: 8556053EW00ZJMAJ8 Invoice: 8556053EW00ZKFVL7 SAM'S CLUB	237.05 173.90 128.71	539.66
4/12/22	37378	2020SC 1020SC	Invoice: 5475582 SHELDON(Energy Services)	844.53	844.53
4/12/22	37379	2020U 1020SC	Invoice: MARCH 2022 SOLANO COUNTY FLEET MANAGEMENT	2,114.70	2,114.70
4/12/22	37380	2020SC 2020SC 1020SC	Invoice: 1740 Invoice: 1767 SOLANO RESOURCE CONSERVATION DISTRICT	5,954.13 7,183.82	13,137.95
4/12/22	37381	2020SC 1020SC	Invoice: 2022.01 MICHAEL A. MELANSON	10,250.00	10,250.00
4/12/22	37382	2020SC 2020SC 2020SC 2020SC 2020SC 2020SC 1020SC	Invoice: 74557 Invoice: 74600 Invoice: 74617 Invoice: 74805 Invoice: 74806 Invoice: 74850 SUISUN VALLEY FRUIT GROWERS AS	136.12 53.99 306.39 24.42 15.55 63.79	600.26
4/12/22	37383	2020SC 1020SC	Invoice: 01-64658921 THE REGENTS OF THE UNIVERSITY OF CA	1,942.50	1,942.50
4/12/22	37384	2020SC 2020SC 1020SC	Invoice: 100181312 Invoice: 300520280 TRACTOR SUPPLY CREDIT PLAN	389.71 485.15	874.86

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4/19/22	37385	2020SC 1020SC	Invoice: 14411 ZACHARIAH WILKERSON	105.00	105.00
4/19/22	37386	2020SC 2020SC 2020SC 1020SC	Invoice: 563431-7 Invoice: 562496-7 Invoice: 551895-9 ALPHA MEDIA LLC	3,000.00 3,000.00 3,000.00	9,000.00
4/19/22	37387	2020SC 2020SC 2020SC 1020SC	Invoice: 000018055935 Invoice: 000018054442 Invoice: 000018054487 CALNET3	838.74 289.80 167.08	1,295.62
4/19/22	37388	2020SC 2020SC 1020SC	Invoice: SCFY19/20-61-2203 Invoice: SCFY19/20-61-2112 CALIFORNIA WATER EFFICIENCY PARTNERSHIP	29,500.00 19,000.00	48,500.00
4/19/22	37389	2020SC 1020SC	Invoice: 28423291 CANON FINANCIAL SERVICES, INC.	908.04	908.04
4/19/22	37390	2020N 1020SC	Invoice: 3218824/1 DODGE CHRYSLER JEEP OF VACAVILLE	2,460.46	2,460.46
4/19/22	37391	2020SC 1020SC	Invoice: 7-725-20020 FEDEX EXPRESS	41.99	41.99
4/19/22	37392	2020SC 1020SC	Invoice: 151804 FM GRAPHICS, INC.	1,415.36	1,415.36
4/19/22	37393	2020SC 1020SC	Invoice: 380-0011734 GHD, INC.	12,262.77	12,262.77
4/19/22	37394	2020SC 2020SC 2020SC 2020SC 2020SC 1020SC	Invoice: 102627 Invoice: 102626 Invoice: 102625 Invoice: 102624 Invoice: 102623 HERUM/ CRABTREE/ SUNTAG	51.00 4,947.00 3,264.00 693.60 81.60	9,037.20
4/19/22	37395	2020SC 1020SC	Invoice: 002045627 MT. DIABLO RESOURCE RECOVERY	1,173.80	1,173.80
4/19/22	37396	2020SC 1020SC	Invoice: 8482541 OVIVO USA, LLC.	9,082.50	9,082.50
4/19/22	37397	2020SC 2020SC 1020SC	Invoice: 49308265 Invoice: 49307135 RECOLOGY VACAVILLE SOLANO	105.07 277.28	382.35
4/19/22	37398	2020SC 1020SC	Invoice: 034-MAY-2022 REEB GOVERNMENT RELATIONS, LLC	9,500.00	9,500.00
4/19/22	37399	2020SC 1020SC	Invoice: 13308 REGIONAL GOVERNMENT SERVICES AUTHORITY	3,590.26	3,590.26
4/19/22	37400	2020SC 1020SC	Invoice: 1532 DOUG NOLAN	1,250.00	1,250.00
4/19/22	37401	2020SC 1020SC	Invoice: 0331222111 SHANDAM INC.	5,550.00	5,550.00
4/19/22	37402	2020SC 2020SC 2020SC	Invoice: 0031596 Invoice: 0031682 Invoice: 0031682	16,974.50 365.69	2.37

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Date	Check #	Account ID	Line Description	Debit Amount	Credit Amount
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4/19/22	37403	2020SC	Invoice: 006492990046MAY 2022	2,330.03	
		1020SC	STANDARD INSURANCE COMPANY		2,330.03
4/19/22	37404	2020SC	Invoice: 211662	560.52	
		2020SC	Invoice: 211663		592.92
		1020SC	STERLING MAY EQUIPMENT CO.	32.40	
4/19/22	37404V	2020SC	Invoice: 211662		560.52
		2020SC	Invoice: 211663	592.92	
		1020SC	STERLING MAY EQUIPMENT CO.		32.40
4/19/22	37405	2020SC	Invoice: 2022-4-SCWA	16,099.30	
		1020SC	SUSTAINABLE SOLANO		16,099.30
4/19/22	37406	2020SC	Invoice: 2022-01232	1,280.40	
		1020SC	TERRA REALTY ADVISORS, INC.		1,280.40
4/19/22	37407	2020SC	Invoice: ARDAGH METAL	5,000.00	
		1020SC	ARDAGH METAL BEVERAGE USA		5,000.00
4/19/22	37408	2020SC	Invoice: SHAREEN CHOY	510.00	
		1020SC	SHAREEN CHOY		510.00
4/19/22	37409	2020SC	Invoice: ASIA DAVANTES	1,000.00	
		1020SC	ASIA DAVANTES		1,000.00
4/19/22	37410	2020SC	Invoice: LANEIA HARDY	452.00	
		1020SC	LANEIA HARDY		452.00
4/19/22	37411	2020SC	Invoice: BRENDA HUNT	1,000.00	
		1020SC	BRENDA HUNT		1,000.00
4/19/22	37412	2020SC	Invoice: GARY REESE	1,000.00	
		1020SC	GARY REESE		1,000.00
4/19/22	37413	2020SC	Invoice: ERIC RUCHAMES	522.00	
		1020SC	ERIC RUCHAMES		522.00
4/19/22	37414	2020SC	Invoice: JERICO TING	1,000.00	
		1020SC	JERICO TING		1,000.00
4/19/22	37415	2020SC	Invoice: WILLIAM WHITNEY	530.00	
		1020SC	WILLIAM WHITNEY		530.00
4/19/22	37416	2020SC	Invoice: OSV000002733164	285.00	
		1020SC	VERIZON CONNECT		285.00
4/19/22	37417	2020SC	Invoice: 9903454714	1,229.85	
		1020SC	VERIZON WIRELESS		1,229.85
4/19/22	37418	2020SC	Invoice: 10-B	12,302.00	
		2020SC	Invoice: 11-B	4,246.40	
		1020SC	VICTOR PAUL CLAASSEN		16,548.40
4/19/22	37419	2020SC	Invoice: 1540	3,500.00	
		1020SC	WILSON PUBLIC AFFAIRS		3,500.00
4/19/22	37420	2020SC	Invoice: 40048	595.00	
		1020SC	CAL.NET INC. (WAS WINTERS BROADBAND)		595.00
4/19/22	37421	2020SC	Invoice: 93114314	29,174.00	
		1020SC	YELLOW SPRINGS		29,174.00

SOLANO COUNTY WATER AGENCY

Cash Disbursements Journal

For the Period From Apr 1, 2022 to Apr 30, 2022

Filter Criteria includes: Report order is by Check Number. Report is printed in Detail Format.

Date	Check #	Account ID	Line Description	Debit Amount	Credit Amount
			INSTRUMENT CO.		
4/20/22	37422	2020SC 1020SC	Invoice: 22145 CALIFORNIA TRAILERS	26,460.25	26,460.25
4/26/22	37424	2020SC 1020SC	Invoice: 14429 ZACHARIAH WILKERSON	21,918.89	21,918.89
4/26/22	37425	2020SC 1020SC	Invoice: 202204 BELIA MARTINEZ	640.00	640.00
4/26/22	37426	2020SC 1020SC	Invoice: APR 2022 BOD MTG STEVEN BIRD	100.00	100.00
4/26/22	37427	2020SC 2020SC 1020SC	Invoice: APR 2022 BOD MTG Invoice: APR 2022 LEG MTG DALE CROSSLEY	100.00 100.00	200.00
4/26/22	37428	2020SC 1020SC	Invoice: JAN-MAR 2022 COVID MARCIE FEHRENKAMP	172.23	172.23
4/26/22	37429	2020SC 1020SC	Invoice: CL17506 INTERSTATE OIL COMPANY	1,256.46	1,256.46
4/26/22	37430	2020SC 1020SC	Invoice: 5649 J.T. MARTIN	375.00	375.00
4/26/22	37431	2020SC 1020SC	Invoice: APR 2022 LEG MTG JOHN D. KLUGE	100.00	100.00
4/26/22	37432	2020SC 2020SC 1020SC	Invoice: 182291 Invoice: 182288 LSA ASSOCIATES, INC.	21,078.32 7,838.29	28,916.61
4/26/22	37433	2020SC 1020SC	Invoice: APR 2022 BOD MTG MITCH MASHBURN	100.00	100.00
4/26/22	37434	2020SC 2020SC 1020SC	Invoice: APR 2022 BOD MTG Invoice: APR 2022 WAT POL ROBERT MCCONNELL	100.00 100.00	200.00
4/26/22	37435	2020SC 1020SC	Invoice: 6844 PAT DAVIS DESIGN GROUP, INC	1,140.00	1,140.00
4/26/22	37436	2020SC 2020SC 2020SC 2020SC 2020SC 2020SC 2020SC 2020SC 2020SC 2020SC 2020SC 2020SC 2020SC 2020SC 1020SC	Invoice: 939803 Invoice: 939887 Invoice: 940389 Invoice: 941024 Invoice: 941856 Invoice: 942274 Invoice: 942273 Invoice: 942369 Invoice: 942488 Invoice: 942487 Invoice: 942559 Invoice: 942560 BOB PISANI & SON	8.37 201.18 60.11 140.95 226.39 71.85 28.95 107.24 37.53 23.58 189.80 10.71	1,106.66
4/26/22	37437	2020SC 2020SC 1020SC	Invoice: APR 2022 EXEC MTG Invoice: APR 2022 BOD MTG RON ROWLETT	100.00 100.00	200.00
4/26/22	37438	2020SC 2020SC 1020SC	Invoice: 0031678 Invoice: 0031679 SOLANO IRRIGATION DISTRICT	65,968.36 165,646.91	231,615.27
4/26/22	37439	2020SC 1020SC	Invoice: 2-B SOLANO RESOURCE CONSERVATION DISTRICT	11,019.19	11,019.19

SOLANO COUNTY WATER AGENCY

Cash Disbursements Journal

For the Period From Apr 1, 2022 to Apr 30, 2022

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Date	Check #	Account ID	Line Description	Debit Amount	Credit Amount
4/26/22	37440	2020SC 1020SC	Invoice: 3013255 SOMACH, SIMMONS & DUNN	251.10	251.10
4/26/22	37441	2020SC 2020SC 1020SC	Invoice: APR 2022 EXEC MTG Invoice: APR 2022 BOD MTG JAMES SPERING	100.00 100.00	200.00
4/26/22	37442	2020SC 2020SC 2020SC 2020SC 2020SC 2020SC 2020SC 1020SC	Invoice: 211662 Invoice: 211663 Invoice: 211632 Invoice: 212211 Invoice: 212341 Invoice: 212340 Invoice: 212343 STERLING MAY EQUIPMENT CO.	560.52 592.92 560.52 30.00 30.00 205.26	592.92 1,386.30
4/26/22	37443	2020SC 2020SC 2020SC 2020SC 2020SC 2020SC 2020SC 2020SC 1020SC	Invoice: 20961-49 Invoice: 20961-50 Invoice: 63709714 Invoice: 20902-65 Invoice: 20902-63 Invoice: 20902-59 Invoice: 20961-48 Invoice: 20961-51 THE REGENTS OF THE UNIVERSITY OF CA	8,870.40 48,692.14 121,548.55 71,635.01 28,868.14 207.04 61,010.74 98,789.45	439,621.47
4/26/22	37444	2020SC 2020SC 2020SC 1020SC	Invoice: 1106685 Invoice: 1106683 Invoice: 1107242 GROW WEST	75.58 179.98 163.70	419.26
4/26/22	37445	2020SC 2020SC 1020SC	Invoice: APR 2022 BOD MTG Invoice: APR 2022 LEG MTG JOHN VASQUEZ	100.00 100.00	200.00
4/26/22	37446	2020SC 2020SC 2020SC 1020SC	Invoice: DAVIS_FY2021-22-6 Invoice: DAVIS_FY2021-22-7 Invoice: DAVIS_FY2021-22-8 KEN W. DAVIS	10,661.82 10,222.66 14,761.64	35,646.12
4/26/22	37447	2020SC 1020SC	Invoice: 34 YOLO COUNTY RCD	22,912.25	22,912.25
4/26/22	37448	2020SC 1020SC	Invoice: APR 2022 BOD MTG STEVE YOUNG	139.78	139.78
4/26/22	37449	2020SC 1020SC	Invoice: 12002 GWYNNE CROPSEY	3,750.00	3,750.00
4/25/22	COLIAS MAR 20	2020SC 1020SC	Invoice: COLIAS MAR 2022 UMPQUA BANK	230.98	230.98
4/25/22	CUETARA MAR	2020SC 1020SC	Invoice: CUETARA MAR 2022 UMPQUA BANK	895.20	895.20
4/1/22	EFT	2020SC 1020SC	Invoice: APRIL 2022 HEALTH CALPERS	24,181.59	24,181.59
4/8/22	EFT	2020SC 1020SC	Invoice: 65003 ONEPOINT HUMAN CAPITAL MANAGEMENT LLC	541.10	541.10
4/8/22	EFT	2020SC 2020SC 2020SC 1020SC	Invoice: PPE 04.02.2022 Invoice: SIP PPE 04.02.2022 Invoice: PEPRA PPE 04.02.2022 CALPERS	10,664.58 8,398.77 5,963.21	25,026.56
4/12/22	EFT	2020SC 1020SC	Invoice: 80162286 WEX BANK 16	1,453.52	1,453.52

SOLANO COUNTY WATER AGENCY

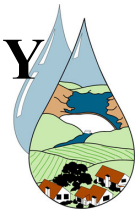
Cash Disbursements Journal

For the Period From Apr 1, 2022 to Apr 30, 2022

Filter Criteria includes: Report order is by Check Number. Report is printed in Detail Format.

Date	Check #	Account ID	Line Description	Debit Amount	Credit Amount
4/15/22	EFT	2020SC 1020SC	Invoice: 24990254 PAYCHEX	130.00	130.00
4/22/22	EFT	2020SC 1020SC	Invoice: 65431 ONEPOINT HUMAN CAPITAL MANAGEMENT LLC	95.20	95.20
4/20/22	EFT	2020SC 2020SC 2020SC 1020SC	Invoice: PPE 04.16.2022 Invoice: PEPRA PPE 04.16.2022 Invoice: SIP PPE 04.16.2022 CALPERS	10,214.34 5,981.10 8,445.50	24,640.94
4/2/22	EFT 04.02.2022	6012AC 2024AC 1020SC	EMPLOYER LIABILITIES PPE 4.2.2022 EMPLOYEE LIABILITIES PPE 4.2.2022 PAYROLL TAXES	1,546.89 21,194.08	22,740.97
4/22/22	EFT 04.16.2022	6012AC 2024AC 1020SC	EMPLOYER LIABILITIES PPE 4.16.2022 EMPLOYEE LIABILITIES PPE 4.16.2022 PAYROLL TAXES	1,746.65 27,153.90	28,900.55
4/25/22	FEHRENKAMP	2020SC 1020SC	Invoice: FEHRENKAMP MAR 2022 UMPQUA BANK	1,943.10	1,943.10
4/25/22	FLORENDO MA	2020SC 1020SC	Invoice: FLORENDO MAR 2022 UMPQUA BANK	73.22	73.22
4/25/22	FOWLER MAR 2	2020SC 1020SC	Invoice: FOWLER MAR 2022 UMPQUA BANK	518.57	518.57
4/25/22	HYER MAR 2022	2020SC 1020SC	Invoice: HYER MAR 2022 UMPQUA BANK	347.51	347.51
4/25/22	JONES MAR 202	2020SC 1020SC	Invoice: JONES MAR 2022 UMPQUA BANK	120.99	120.99
4/25/22	LEE MAR 2022	2020SC 1020SC	Invoice: LEE MAR 2022 UMPQUA BANK	1,613.38	1,613.38
4/25/22	MORRIS MAR 2	2020SC 1020SC	Invoice: MORRIS MAR 2022 UMPQUA BANK	1,029.00	1,029.00
4/25/22	PASCUAL MAR	2020SC 1020SC	Invoice: PASCUAL MAR 2022 UMPQUA BANK	564.46	564.46
4/25/22	POORE MAR 202	2020SC 1020SC	Invoice: POORE MAR 2022 UMPQUA BANK	102.44	102.44
4/25/22	SHTAYYEH MA	2020SC 1020SC	Invoice: SHTAYYEH MAR 2022 UMPQUA BANK	792.06	792.06
4/25/22	STEVENSON M	2020SC 1020SC	Invoice: STEVENSON MAR 2022 UMPQUA BANK	909.55	909.55
4/25/22	WILLINGMYRE	2020SC 1020SC	Invoice: WILLINGMYRE MAR 2022 UMPQUA BANK	512.99	512.99
Total				2,227,051.78	2,227,051.78

SOLANO COUNTY WATER AGENCY



MEMORANDUM

TO: Board of Directors

FROM: Roland Sanford, General Manager

DATE: May 5, 2022

SUBJECT: May General Manager's Report

Water Supply Outlook

The water supply outlook for 2022 remains unchanged from the prior month. The Solano Project remains on course to provide full deliveries, the North Bay Aqueduct 15 percent of the full "Table A" contractual amounts. As of this writing Lake Berryessa storage is just shy of 995,000 acre-feet.

63 years ago

This May marks the 63rd anniversary of the first Solano Project water deliveries – May 15, 1959 to be precise. Safe to say that construction of the Solano Project has had, and I suspect will continue to have, a profound impact on Solano County. While the decision to pursue construction may now appear to have been a "no brainer", it's worth remembering that in the late 1940's and early 1950's it was considered by many to be an audacious undertaking, particularly in view of the County's modest population at that time. Perhaps it was an audacious undertaking. The idea of a dam on Putah Creek had been explored off and on by various parties since the early 1900's. Ultimately, the proverbial stars achieved a rare alignment, and the Solano Project was built.



**REPORT OF CONSTRUCTION CHANGE ORDERS AND
CONTRACTS APPROVED BY GENERAL MANAGER UNDER
DELEGATED AUTHORITY**

Construction Contract Change Orders (15% of original project costs or \$50,000, whichever is less) - None

Construction Contracts (\$45,000 and less) – None

Professional Service Agreements (\$45,000 and less) –

Morton's Urban Pest Management – Lake Berryessa Mussel Prevention Inspection and Decontamination - \$20,000

Non-Professional Service Agreements (\$45,000 and less) – None

Construction contracts resulting from informal bids authorized by SCWA Ordinance- None

Note: Cumulative change orders or amendments resulting in exceeding the dollar limit need Board approval.

NEWS ARTICLES

The Putah Creek Fish Kill: Learning from a Local Disaster

Posted on [April 24, 2022](#) by [andrewrypel](#)

By Alex Rabidoux, Max Stevenson, Peter B. Moyle, Mackenzie C. Miner, Lauren G. Hitt, Dennis E. Cocherell, Nann A. Fangue, and Andrew L. Rypel

Putah Creek is a small stream located in the Central Valley that has been extensively modified to suit urban and agricultural water needs. Following ratification of the Putah Creek Accord in 2000, however, the creek has also been proactively managed for restoration of native fishes, including fall-run Chinook salmon. The Accord stipulates that pulse flows be supplied to the lower creek during fall and spring to mimic a natural flow regime. A result from these environmental flows has been salmon spawning in the creek since 2003 (Yolo Bypass Wildlife Area Land Management Plan, 2008). Unfortunately, the future of Putah Creek salmon is not yet secure.

In November 2021, salmon entering Putah Creek were part of a large fish kill in the lower creek. The event took everyone familiar with the creek by surprise and prevented successful migration of the creek's fall salmon. Only 4 or 5 adult Chinook salmon made it upstream to suitable spawning habitat. The result was particularly tragic as it followed on the heels of the restoration of a salmon run in the creek, as well as habitat for other fishes. Salmon spawning in the creek has produced 10s of thousands of out-migrating juveniles. The return of salmon is an important, highly visible symbol for why Putah Creek is often regarded as a role model for effective water management and environmental stewardship (Davis Enterprise, 5/24/2020).

In this blog, we describe the conditions that led to the fish kill in lower Putah Creek and the response to the kill by scientists and others monitoring the creek. Although the kill was a disaster for salmon and other fishes in the creek, it also demonstrated how representatives of diverse agencies could work together, without finger pointing, to find out what happened in order to prevent it from happening again. The response showed how the Putah Creek Accord is still working. The authors of this blog combined their collective experiences to conduct an autopsy, and in doing so, paint a detailed picture here of what happened.

Salmon in the creek

The fall of 2021 started well for the creek, as the creek was prepared to receive its annual salmon run. In early October, the Solano County Water Agency (SCWA) and soon to retire Putah Creek Streamkeeper, Rich Marovich, celebrated the removal of a longstanding low dam that caused formation of undesirable habitat upstream in what might otherwise have been spawning grounds for salmon. After years of failed negotiation and lack of regulatory enforcement, a unique relationship was formed with the help of UC Davis's Dr. Peter Moyle, Water Audit, and SCWA that resulted in removal of the debris dam in the cool-water region of Putah Creek (Figure 1). This allowed for subsequent restoration activity to revitalize the stream bed in the area for salmon spawning. Similar restoration activities have been performed throughout the creek since 2016.





Figure 1. Left: Putah Creek debris dam, comprised of installed rocks and concrete chunks which snared logs and debris, greatly reducing passage for migratory fish. Right: Putah Creek following removal of the obstacle. Notice how shallowing of water, increased velocity, and diversity of rock sizes, greatly improved potential Salmonid habitat in this reach (Photo Credit: Ken Davis).

In early October, UC Davis researchers were gearing up for the annual sampling of fall-run Chinook salmon carcasses in the creek. As part of this effort, crews from UC Davis and SCWA canoed and inspected all 26-miles of Lower Putah Creek. The survey examined possible impediments to fish passage that could prevent upstream movement of adult salmon. This routine sampling has been in place since 2016 and salmon have been observed returning to spawn successfully in Putah Creek every year over this time frame.

The success of spawning is most evident in the spring when their juvenile salmon (smolts) begin out-migrating in droves, headed for the ocean. In 2018, over 30,000 juvenile salmon were captured and released from a rotary screw trap, highlighting the productive capacity and potential of the system. Researchers and agency staff alike had high expectations that 2021 would bring another large return of salmon. 2021 might also mark one of the first years in which natal-origin Putah Creek salmon (some of those 30,000 juveniles from 2018) could return to spawn in Putah Creek. With salmon populations struggling throughout the Central Valley, Putah Creek represents one of few locations where numbers are on the rise ([California Water Blog, 5/13/2018](#)).

In the months leading up to the annual adult salmon migration, SCWA worked closely with a multitude of regional partners including the Putah Creek Council, UC Davis, California Department of Fish & Wildlife (CDFW), and Los Rios Farms on timing of fall pulse flows and removal of the check dam at the base of the creek. The fall pulse flows have the intended purpose of attracting salmon to Putah Creek, but timing of the pulse is a balancing act of salmon migration patterns, flooding of waterfowl habitat, mosquito risks and water availability in the Yolo Bypass. Therefore, after close coordination with the regional partners, the fall pulse flow was scheduled to begin on November 2.

Atmospheric river rain event

On October 24, one-week before the scheduled pulse flow, a large atmospheric river event dropped 6-8 inches of rain on the Putah Creek and Cache Creek watersheds. The event was atypically early, providing 25-30% of the region's annual average rainfall in just 24 hours. The large rainfall, in conjunction with the burn scar from the 2020 LNU Fire (which burnt over 90% of the Interdam Reach of Putah Creek), prevented most of the rainwater from soaking into the ground, and instead inundated Putah Creek with nutrient rich runoff. The rain event was so large, >1,500-cfs of creek water was released through the Putah Creek Diversion Dam for several hours during evening and early morning hours after the storm event. While the event was a natural pulse flow for salmon, several fish passage barriers were still in place, preventing salmon from migrating into Putah Creek on the

coattails of the rain-driven pulse. These barriers include an earthen road crossing (Rd 106A, Figure 2, left picture) and an agricultural impoundment dam (the Los Rios check dam, Figure 2, middle and right pictures). In a typical year, both structures are removed to permit upstream passage of adult salmon and timed to coincide with the pulse flow.



Figure 2. (Left) Putah Creek at Road 106A crossing on 10/25/2021. The road crossing had not yet been removed, but flows were large enough to overtop the road. Lower flows enter culverts in the background which do not support fish passage. (Photo Credit: SCWA). (Middle) Putah Creek at the DFW Los Rios Check Dam on 10/25/2021. All of the flash boards are fully installed, so there is no connectivity between Putah Creek and the Yolo Bypass Toe Drain. The Dam does not allow for fish passage. (Right) Putah Creek upstream of the Los Rios Check Dam on 10/25/2021. Notice the abundant aquatic weeds, which are present throughout the Yolo Bypass and the lower 2-miles of Putah Creek in and adjacent to the Yolo Bypass (All Photos: SCWA).

The fish kill

Following the storm, on November 1, the two remaining fish passage barriers, the road 106A crossing and the Los Rios check dam, were removed. At Los Rios Check Dam, several salmon were observed swimming upstream after the flashboards were removed. Presumably, salmon had moved up the Toe Drain and into the very lowest reaches

of Putah Creek following the pulse from the storm. SCWA's consulting wildlife biologist, Ken Davis, noticed a total of 6 moribund salmon, a prelude of what was to come.



Figure 3. Carcasses of Chinook salmon from lower Putah Creek at the CDFW Los Rios check dam (Photo Credit: UC Davis).

On November 2, the scheduled salmon attraction flows began (November 3rd through the 8th). At that time, UC Davis researchers observed a large-scale fish kill in Putah Creek near the Los Rios check dam. The kill included not only salmon, but Sacramento sucker, a variety of sunfishes, striped bass, largemouth bass, common carp, and mosquitofish; these fishes represented a wide range of sizes and diverse ecological niches. All dead fish were found within one mile of the check dam.

During the field investigation, UC Davis researchers observed black, nutrient-rich water, entering Putah Creek just upstream of the Los Rios check dam. The researchers then noted that water with low dissolved oxygen (DO) concentrations was being pumped from the Toe Drain into the CDFW Wildlife Refuge. They also noted and that water draining from the refuge ponds was re-entering Putah Creek, causing a DO sag near the check dam. UC Davis researchers notified SCWA, CDFW, and DWR of their findings, and asphyxiation was noted as the cause of death of fish in Lower Putah Creek.

Despite being tolerant of low oxygen for short periods of time, adult Chinook salmon are very large fish, which have greater oxygen requirements than smaller fish, so adult salmon were likely among the first individuals to perish. But also killed, were much smaller fish, such as sunfish and mosquitofish, which are more capable of surviving low-oxygen conditions. Unfortunately, dissolved oxygen concentrations as low as 1-2 mg/L were reported in the Toe Drain, the typical threshold for sufficiently oxygenated water for salmon is approximately

7mg/L. The sag in dissolved oxygen observed in late October through early November is the largest dissolved oxygen dip recorded in the past several years. All female salmon examined perished before spawning, as indicated by presence of fully-developed eggs still in their ovaries (Figure 3).

Aftermath



Figure 4. (Left) Map showing tailwater from the DFW waterfowl ponds, containing very low DO, entering Putah Creek just upstream of the Los Rios Check Dam (Photo Credit: UC Davis). (Right) Map showing source of water pumped from the Toe Drain (with low DO) that moved across the CDFW Wildlife Refuge to flood waterfowl ponds (blue arrow). Some water re-entered Putah Creek just upstream of the Los Rios Check Dam (Photo Credit: UC Davis).

UC Davis researchers continued to conduct weekly surveys of Putah Creek through January, to monitor any upstream movement of salmon. Based upon their initial findings, SCWA began to work closely with the CDFW Wildlife Refuge to identify specific fields and drains impacting Putah Creek. In short order, CDFW and their operating partners from Los Rios Farms, were able to eliminate any further tailwater leakage into Putah Creek by modifying a single culvert. SCWA staff then began periodic water quality sampling of lower Putah Creek within the Yolo Bypass, as well as the confluence with the Toe Drain. Water quality sampling was extended to encompass over 17-miles of the Toe Drain from northern Liberty Island in the Delta, down to the Sacramento Weir just north of Interstate 80. Results of sampling, as well as data from the Department of Water Resources' (DWR) real-time water quality stations, showed over 13-miles of water with critically low DO in the Toe Drain both upstream and downstream of the Putah Creek confluence. SCWA staff quickly realized that the DO issue and corresponding fish-kill were far beyond the capability of SCWA to monitor alone. And Putah Creek alone was not the only part of the system at risk. Additional partners and creative solutions would be needed to resolve extent and cause of the poor water quality.

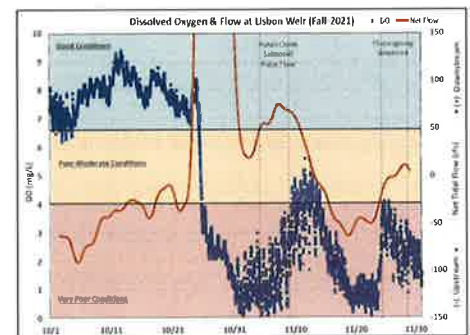


Figure 5: Net tidal flow and DO at Lisbon Weir at the Toe Drain (3-miles downstream of Putah Creek). Notice the large flow corresponding to the 10/24 storm event and corresponding DO sag during and after the storm.

On December 8, 2021, reports from UC Davis and SCWA were shared with key stakeholders in the Yolo Bypass, including DWR, CDFW, State Water Contractors, Reclamation District (RD) 108, and the Northern California Water Association. In subsequent discussions with RD 108 and DWR, there appeared to be a novel capacity to convey either agricultural drainage water from the Colusa Basin Drain or Sacramento River water from the

Knights Landing Outfall Gates to potentially flush the Yolo Bypass Toe Drain and push out remaining low DO water in favor of replenishing it with less affected water.

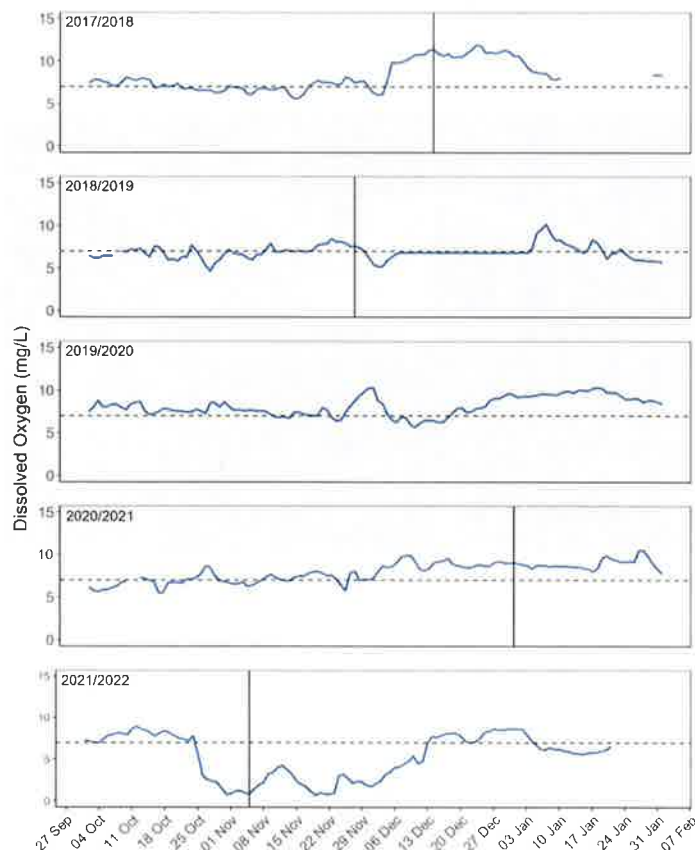


Figure 6. Mean daily dissolved oxygen at Lisbon Weir in the Yolo Bypass

from 1 October to 1 February in each year, 2017-2021. All water quality data

collected from: <https://cdec.water.ca.gov/dynamicapp/wsSensorData>.

Dashed line indicates 7mg/L threshold, solid vertical line is peak daily carcass count in each year.

Based on water quality and fish concerns by CDFW and DWR staff, SCWA staff removed debris that had accumulated north of the I-80 in the Yolo Bypass to further facilitate fish passage and water conveyance. SCWA also continued water quality monitoring in the Colusa Basin Drain. One week later the region again received a series of atmospheric storm events that subsequently flushed the Toe Drain and restored DO to more suitable levels. Unfortunately, the low DO conditions had persisted for too long, and no additional salmon were observed migrating into Putah Creek. In total, UC Davis researchers identified 81 Chinook salmon carcasses within the last 2.25 kilometers of Lower Putah Creek, and 1 live salmon in the upstream reaches of Putah Creek, although a few (4-5) additional salmon apparently made it up to the Diversion Dam (observations of staff). Recent snorkeling surveys below diversion dam detected juvenile salmon, indicating successful spawning by the survivors of the fish kill (T. Salamunovich, April 2022).

Lessons learned

While the event was tragic, it provided several key lessons for the Lower Putah Creek and Yolo Bypass community:

- *Organic matter and low DO are on-going problems.* Initial findings by the USGS (Stumpner, 12/15/2021) and others, indicate that the large DO sag in the Toe Drain and associated parts of the Delta was largely due to a rapid increase in flow (precipitation and run off) following the large rain event at the end of October. This flow pushed out accumulated organic matter in the creek and ditches, presumably from deposition of dead aquatic vegetation. In the Yolo Bypass, the Toe Drain, and related water conveyance canals, invasive aquatic vegetation is pervasive. The last 2-miles of Putah Creek (within the Yolo Bypass and DFW Wildlife Refuge) also support an abundance of aquatic vegetation throughout the main channel. When widespread in such quantities, decaying aquatic vegetation can lead to diminished dissolved oxygen concentrations.
- *Climate change requires building more resilient systems.* Large atypical storms, such as the one that occurred on October 24 may become more common, and will require planning outside of previous bounds of environmental variability, in order to build management systems capable of adapting to changing conditions quickly.
- *Regional partnerships are increasingly important.* The event emphasized the importance of regional partners, including resource agencies (CDFW, DWR), local public agencies (SCWA, RD 108), scientific experts

(UC Davis), and local landowners. Most of the lands in Yolo Bypass and along lower Putah Creek watershed are privately owned, so cooperation among landowners is truly essential.

- *Scientific support is essential.* Ongoing long-term research conducted by UC Davis continues to provide pivotal and timely data helping to protect and restore Putah Creek. Without the observations of UC Davis scientists in November, the Water Agency and other stakeholders would not have been aware of the magnitude and causation of the fish kill on Putah Creek, until much later. Scientists are also collaborating directly with managers in near real time to improve conservation; thus Putah Creek represents a critical example of real time resource management in California and the Delta.
- *Fish passage barriers need to be modified or removed.* Modification of existing fish passage barriers in Putah Creek and in the Yolo Bypass, including the Road 106A Crossing, Los Rios Check Dam and the Lisbon Weir, should be high priority for resource agencies. DWR and CDFW oversee most of these facilities.

Alex Rabidoux is a Principal Water Resources Engineer with Solano County Water Agency. Max Stevenson is a Streamkeeper with Solano County Water Agency. [Peter B. Moyle](#) is a Distinguished Professor Emeritus at the University of California, Davis and is Associate Director of the Center for Watershed Sciences. [Mackenzie C. Miner](#) is a MS student at the University of California, Davis. [Lauren G. Hitt](#) is a PhD student at the University of California, Davis. [Dennis E. Cocherell](#) is a Lab Manager and Staff Research Associate in Wildlife, Fish, and Conservation Biology at the University of California, Davis. [Nann Fangué](#) is a professor and Chair of the Department of Wildlife, Fish & Conservation Biology at University of California, Davis. [Andrew L. Rypel](#) is a professor of Wildlife, Fish, and Conservation Biology and Co-Director of the Center for Watershed Sciences at the University of California, Davis.

Further Reading:

<https://www.davisenterprise.com/news/local/ag-environment/putah-creek-accord-now-20-remains-key-to-habitat-restoration-water-flows/>

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Kiernan, J.D., P.B. Moyle, and P.K. Crain. 2012. [Restoring native fish assemblages to a regulated California stream using the natural flow regime concept](#). *Ecological Applications* 22: 1472-1482.

Marchetti, M.P., and P.B. Moyle. 1995. [The case of Putah Creek: conflicting values complicate stream protection](#). *California Agriculture* 49: 73-78.

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U.S. Geological Survey, 2022. USGS water data for the Nation: U.S. Geological Survey National Water Information System database, accessed November 17, 2021 <http://dx.doi.org/10.5066/F7P55KJN>

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Willmes, A. Steel, L. Lewis, P.B. Moyle, and A.L. Rypel. 2020. New insights into Putah Creek salmon. <https://californiawaterblog.com/2020/10/18/new-insights-into-putah-creek-salmon/>



About andrewrypel

Andrew Rypel is an Associate Professor and the Peter B. Moyle and California Trout Chair of coldwater fish ecology at the University of California, Davis. He is a faculty member in the Department of Wildlife, Fish & Conservation Biology and Co-Director of the Center for Watershed Sciences.

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4 Responses to *The Putah Creek Fish Kill: Learning from a Local Disaster*



Joseph Rizzi says:

April 24, 2022 at 9:20 am

Tesla one way valve makes a great fish dam bypass — Check it out.

Loading...

[Reply](#)

halibutboy says:

April 24, 2022 at 4:28 pm

Any word on removal of the extensive beaver dam approx 100 tds upstream from the lowest check dam? It was present in March 2022.

Loading...

[Reply](#)

Gail Sredanovic says:

April 24, 2022 at 6:17 pm

want more resilient systems and protection for salmon? Check the abundant science and field reports and use beaver dam analogs or -gasp- allow beaver to do their work.

Of course dumping of toxic fluids is hard to overcome even for our very efficient beaver engineers

Loading...

[Reply](#)

jaylund says:

April 25, 2022 at 6:09 am

Effective long-term stream restoration will require adaptable local institutions with regular funding to both assess conditions and respond in timely and effective ways. Putah Creek is a great story of restoration success, and this tragic episode shows both the need and potential for responsive local environmental management institutions.

Loading...

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WATER ADVISORY COMMISSION UPDATES

Solano Water Advisory Commission
Meeting Minutes
March 23, 2022

Present: Roland Sanford, Thomas Pate, Chris Lee, Andy Florendo, and Jeff Barich, SCWA; Michael Hether, Fairfield; Curtis Paxton and Justen Cole, Vacaville; Melissa Cansdale and Beth Schoenberger, Vallejo; Kelly Huff, Dixon RCD; Kyle Ochendusko, Benicia; Talyon Sortor, FSSD; Misty Kaltreider, Solano County; Bryan Busch, RD 2068; Deborah Barr, Dixon.

The meeting was called to order at 12:33PM.

1. Approval of Minutes

The minutes of the February 23, 2022 meeting were approved.

2. Emerging Issues

There was a discussion of changing the schedule of the Commission meeting. Many folks brought up other conflicts. Making the Commission meetings hybrid, virtual and in-person might make sense moving forward. Water Agency staff will work on making this happen, if hybrid doesn't work, we will explore a different meeting time/day.

Roland informed the Commission that at the last Board meeting, there was some interest in looking at recycled water. The Board brought up that other Counties have programs in place. It is worth noting that SCWA has no authority over each cities' wastewater. A white paper will be produced on the feasibility and viability of water reuse and will be run through the Commission before being taken to the SCWA Board of Directors. Fairfield brought up that they do not control their wastewater, and instead it is the responsibility of the Fairfield Suisun Sewer District (FSSD). The Water Agency will put together a county-wide white paper on who manages the wastewater systems in the region and where does that water go, with help from the Advisory Commission members.

Benicia brought up that unified drought messaging is important since Solano County is in a unique situation. Roland commented that it seems highly likely that California will issue mandatory conservation measures soon. We have done well over the past years on conserving water and using water efficiently, and it is important to show/tell this. Vacaville asked if anyone is limiting construction water, which no one indicated that it is being limited yet. Benicia suggested putting together a schedule of messages and outreach methods for the rest of the year. SCWA may be a good central messenger for everyone else to "piggy back" onto. Andy and the Urban Water Conservation Committee will put together a calendar, they meet the same day as the SCWA Board. The goal is to have this calendar/plan finalized by the end of April. SCWA will distribute a draft to the Commission. On the ag side, efficiency is the key word since crop yield is still very important.

On emerging SWP issues, the NBA allocation was cut back to 15%. When the NBA comes back online on 3/25 after the scheduled outage there will be a 60-cfs curtailment due to the detection of longfin smelt, through 3/31.

3. SCWA General Manager's Report

Hazard mitigation and planning has been a big topic of the Board. Staff is doing a presentation on our efforts and plan for mitigating hazards and concerns and what SCWA has in place to manage these types of issues.

On Delta planning issues, the Sacramento Valley voluntary agreements are moving forward, and an additional 6,000 AF down Putah Creek would be our contribution, as well as the habitat restoration that we have done and are doing on Lower Putah Creek.

In regard to regional and state issues, Napa approached SCWA about an emergency intertie between the NBA and Solano Project. When this issue was brought up a few months ago, no Solano agencies had extra water they were willing to sell, which continues to be the case.

4. Groundwater Planning

The Groundwater Sustainability Plan (GSP) has been submitted and now looking for funding to perform the action and activities being proposed in the Solano Subbasin plan.

5. Solano County Report

A county-wide utility study is in the works. Staff are not sure what it will look like, but the conversation will be starting soon. The study is designed to help guide the process of growth and reduce flooding. More info can be obtained by reaching out to Misty.

6. PSC/NBA Maintenance

The NBA annual outage is on schedule and will be completed and back online 3/25.

7. Legislative/Initiative/Court Decision Issues Not Discussed Above

Will add an agenda item to the Commission agenda for a report from the Legislative Committee.

8. New Business

None.

9. Public Comments

None.

The next meeting will be April 27, 2022 at 12:30 PM. The meeting will be a hybrid meeting format.

The meeting adjourned at 1:55 PM.

ACTION OF
SOLANO COUNTY WATER AGENCY

DATE: May 12, 2022

SUBJECT: Solano Economic Development Corporation Membership

RECOMMENDATION:

Join Solano Economic Development Corporation (Solano EDC) at the “Executive Stakeholder” membership level and appoint Water Agency Board member to serve on Solano EDC Executive Committee and Board of Directors.


FINANCIAL IMPACT:

Annual Membership fee of \$10,000. Sufficient funding is available in the FY 2021-2022 budget.

BACKGROUND:

The Solano EDC is a public-private, nonprofit organization, dedicated to the economic growth of Solano County. The organization’s mission is to “...positively impact the economic growth of Solano County by maintaining and enhancing a competitive location for businesses to expand and locate, providing direct service to scale local traded sector industries, attracting new jobs and investment, and connecting businesses with resources to meet their needs”.

Reliable water supplies play a key role in a region’s economic development. Fortunately for Solano County, the water supply investments made in previous decades, most notably the Solano Project and North Bay Aqueduct, have given Solano County a competitive economic advantage over many other regions of California – at least with respect to water. Maintaining that competitive advantage in the face of climate change and increasing water scarcity will be challenging in future years and will require broad community support. Solano EDC membership provides a pathway for the Water Agency to engage the business community on issues such as the proposed North Bay Aqueduct Alternate Intake Project (aka Water+), and other matters pertaining to the maintenance if not enhancement of Solano County’s municipal and agricultural water supplies. Additional information about Solano EDC can be found at www.solanoedc.org

Recommended: 
Roland Sanford, General Manager

<input type="checkbox"/>	Approved as Recommended	<input type="checkbox"/>	Other (see below)	<input checked="" type="checkbox"/>	Continued on next page
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Modification to Recommendation and/or other actions:

I, Roland Sanford, General Manager and Secretary to the Solano County Water Agency, do hereby certify that the foregoing action was regularly introduced, passed, and adopted by said Board of Directors at a regular meeting thereof held on May 12, 2022 by the following vote:

Ayes:

Noes:

Abstain:

Absent:

Roland Sanford
General Manager & Secretary to the
Solano County Water Agency

RELEVANCE TO 2016-2025 SCWA STRATEGIC PLAN:

Joining the Solano EDC is consistent with Goal #4 (*Water Resource Resiliency*) of the 2016-2025 SCWA Strategic Plan.



EDC INVESTOR LEVELS AND BENEFITS

The Legacy Circle – \$25,000+

- Investors receive the highest level of recognition for demonstrating superior commitment to the community, including a seat on the Executive Committee and Board of Directors
- Title sponsor of key events
- Complimentary tickets for eight to key events
- Premier recognition on website, social media and in other publications; website link to your business
- Recognition at all events hosted by Solano EDC

Chair's Circle – \$15,000

- A seat on Executive Committee and Board of Directors
- Major sponsor of key events
- Complimentary tickets for four to key events
- Recognition on website, social media, and in newsletters; website link to your business

Executive Stakeholder – \$10,000

- A seat on Executive Committee and Board of Directors
- Sponsor of key events
- Complimentary tickets for two to key events
- Recognition on website and in newsletters; website link to your business

Corporate Investor – \$7,500

- Eligibility for seat on the Board of Directors
- Recognition at Solano EDC key events
- Complimentary tickets for two to key events
- Recognition on website with link to your business

Premier Investor – \$3,000

- Eligibility for election to Board of Directors
- Complimentary admission for two to key events
- Recognition on website with link to your business

Investor – \$1,500

- Eligibility to serve on Board Committees and other Solano EDC work groups
- Access to events promoting Solano County promoted or presented by Solano EDC

Non-Profit – \$1,000

- Eligibility to serve on Board Committees and other Solano EDC work groups
- Access to events promoting Solano County promoted or presented by Solano EDC

INVESTORLEVELS2019