Irrigators Meeting Summary

Meeting Overview

Meeting Details

Meeting Date: Tuesday, February 20, 9:30 - 11:30 AM
Meeting Location: In-person at Nut Tree Airport, 301 County Airport Rd, Vacaville, CA 95688
Total Participant Count: 11 Attendees

Meeting Objectives

- A shared understanding of Putah Creek challenges
- Learn LPCCC & SCWA roles and responsibilities
- Identify farmers' creek water management issues
- Agree on how to increase information
- Identify possible solutions to explore

Meeting Agenda

9:30 - 9:50	Welcome & Meeting Overview
9:50 - 10:10	Introductions & Putah Creek Water Trends
10:10 - 10:20	Putah Creek Water Management Overview
10:20 - 11:20	Gathering Input
11:20 - 11:30	Next Steps

Meeting Materials

View the Irrigators Meeting Presentation here

Meeting Notes

Meeting Highlights

Creek Management & Measurement Strategies
The check dam near the Yolo Bypass Wildlife Refuge is a pivotal water management point. Pulse flows can be disruptive to water users if they are earlier in the year. But early in the fall, they may help salmon in the area. Managing compliance at the Toe Drain is complex due to constant flow changes, invasive species management, and challenges in accurately measuring flows. Ideas generated include a permanent structure to monitor flow more effectively. Another idea is a channel beside Putah Creek to mitigate disruptions to various water users while creating a safe avenue for fish to swim through the creek.

Irrigation and Water Use along the Creek
Growers on the east end of Putah Creek do not use surface water for irrigation because it is complex to shift irrigation sources. They may use groundwater for irrigation. Participants wondered if shifting to more efficient irrigation affected the amount of water in Putah Creek. Also, growers may have changed from crops to rangeland ranching. Participants would like more information on irrigation changes and agricultural tailwater. People also urged better coordination between the Yolo Bypass Wildlife Refuge area and SCWA for pulse flow timing.

Creek Communication and Coordination
Everyone agreed that developing a better communication system with irrigators and water users on Putah Creek was essential. Communication should be consistent and include the amount of water, cut-off times, and scheduled pulse flows. The participants agreed that protecting salmon and balancing agriculture and wildlife habitat was crucial. Participants agreed to discuss a 2024 water management proposal in March.

Meeting Summary

Introductions & Putah Creek Water Trends
Managing Facilitator Juliana Birkhoff welcomed participants and introduced herself, Ag Innovations, and the meeting agenda and objectives. Alex Rabidoux, Manager of Engineering at Solano County Water Agency (SCWA), introduced the Lower Putah Creek Coordinating Committee (LPCCC). The mission of the LPCCC is to protect, monitor, and enhance the resources of Lower Putah Creek within the framework of the Accord while respecting property rights, serving as a forum for dialogue about issues, and promoting synergy among stakeholders in the Creek community.

The LPCCC includes representatives from the cities of Davis, Fairfield, Suisun City, Vacaville, Vallejo, and Winters, the Counties of Solano and Yolo, Solano and Yolo Riparian Landowners, Maine Prairie Water District, SCWA, Solano Irrigation District, Putah Creek Council, and UC Davis. The LPCCC was established because of the 2000 Accord, the Putah Creek Streamkeeper position, and additional base and environmental flow requirements.

Rabidoux explained that there have been impressive successes in improving Putah Creek since the Accord began. In the Winters Putah Creek Nature Park, thousands of salmon have started spawning. There has been a total of $25 million in Restoration Projects. This success has been accomplished by a community that works together. However, challenges remain, including landowner turnover and changing water trends. The LPCCC thought it was time to bring Creek users together again to discuss Creek water management. Over the last year, there have been interviews with Putah Creek water users to discover their concerns. Ag Innovations interviewed over 20 people with various perspectives. They found that people are concerned about diminishing water quantity, uncertain water predictability, fair Creek use, and regulatory compliance. Additionally, this past November 2023, during the mid-salmon run, the creek between I80 and the Toe Drain reached low water flows, as depicted in Graphic A.

Putah Creek Water Management Overview

PCWM's objective is to identify strategies to address Putah Creek challenges informed by stakeholder engagement, technical and scientific information, and laws and regulations.
There are four primary goals of PCWM: 1) Supporting Agriculture's needs for water information to plan their operations, 2) Fair Creek management, 3) Complying with water regulations, and 4) Maintaining environmental flow.

Graphic A shows the Compliance Locations map. The 2000 Accord mandates SCWA to measure compliance. Graphic A shows the flow compliance locations along Putah Creek. There are three compliance points, which include locations at the Putah Diversion Dam, I-80, and Toe Drain. Upstream to I-80, SCWA has had reasonable compliance rates for the past 20-25 years. However, there have been many compliance violations at the Toe Drain.

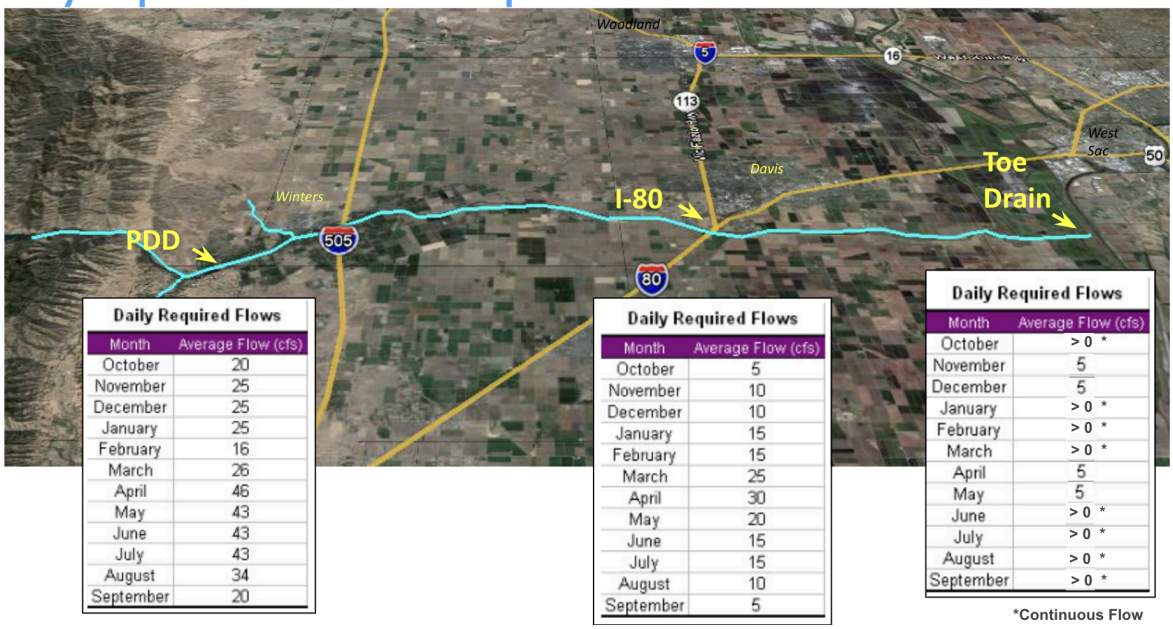
Graphic A: 2000 Accord: Flow Compliance Locations

Flow Compliance Locations

Graphic B shows the Daily Required Flows at the Compliance points mandated in the Accord. At the Putah Diversion Dam compliance point, the daily required flows range from 20 - 43 average Cubic Feet per Second (CFS) flow. At the I-80 compliance point, the daily required flows range from 5 - 30 average CFS flow. At the Toe Drain compliance point, the daily required flows range from >0 (continuous flow) to 5 (average CFS flow).

Graphic: B: Daily Required Flows at the Compliance Points

Daily Required Flows at the Compliance Points



Daily Required Flows

Month	Average Flow (cfs)
October	20
November	25
December	25
January	25
February	16
March	26
April	46
May	43
June	43
July	43
August	34
September	20

Daily Required Flows

Month	Average Flow (cfs)
October	5
November	10
December	10
January	15
February	15
March	25
April	30
May	20
June	15
July	15
August	10
September	5

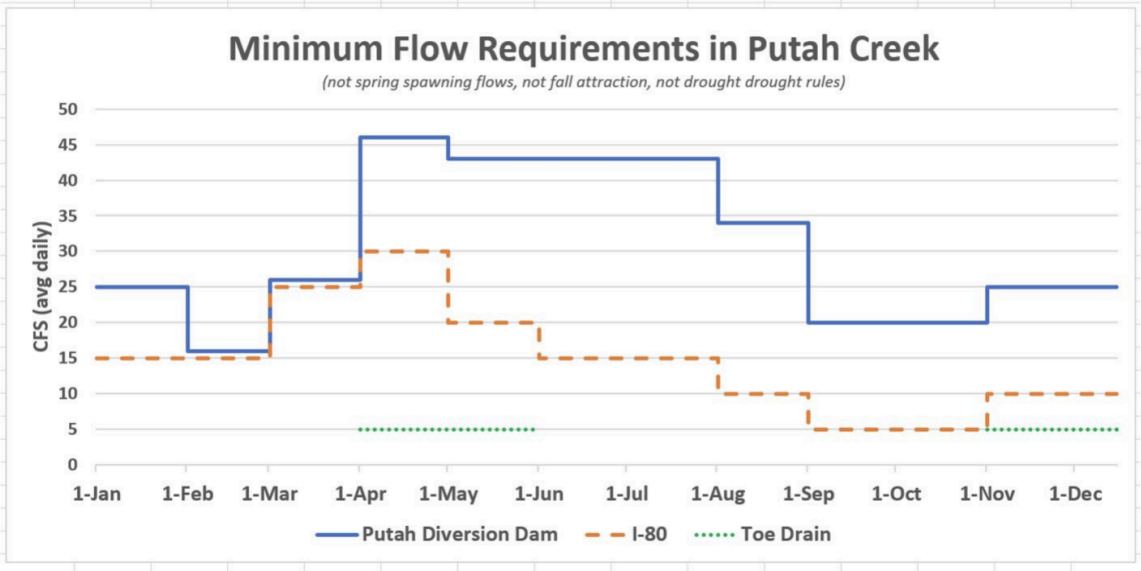
Daily Required Flows

Month	Average Flow (cfs)
October	> 0 *
November	5
December	5
January	> 0 *
February	> 0 *
March	> 0 *
April	5
May	5
June	> 0 *
July	> 0 *
August	> 0 *
September	> 0 *

*Continuous Flow

Graphic C shows the minimum flow requirements in Putah Creek. This chart shows the average daily CFS monthly in a calendar year. The blue line indicates what must be released from the Putah Creek diversion into the Creek as a minimum flow. The orange dotted line reports the required minimum flows at the I80 compliance point. The green dotted line displays the required minimum flows at the Toe Drain compliance point. The Accord states there must be 5 CFS for April-June and 5 CFS in November and December at the Toe Drain. SCWA only sometimes complies with the toe drain requirement.

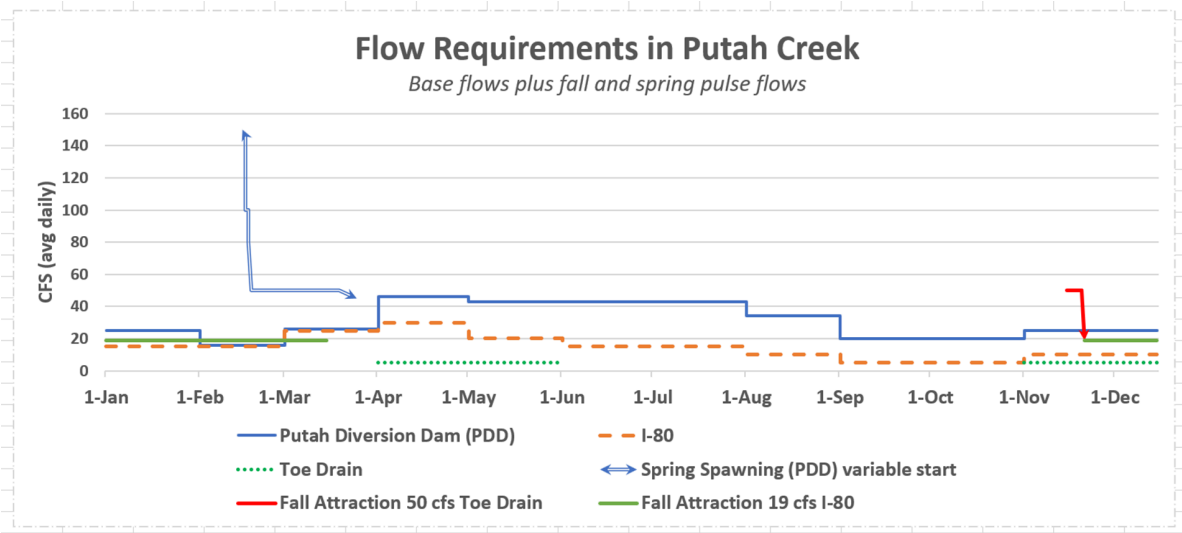
Graphic C: Minimum Flow Requirements in Putah Creek



To comply with the 2000

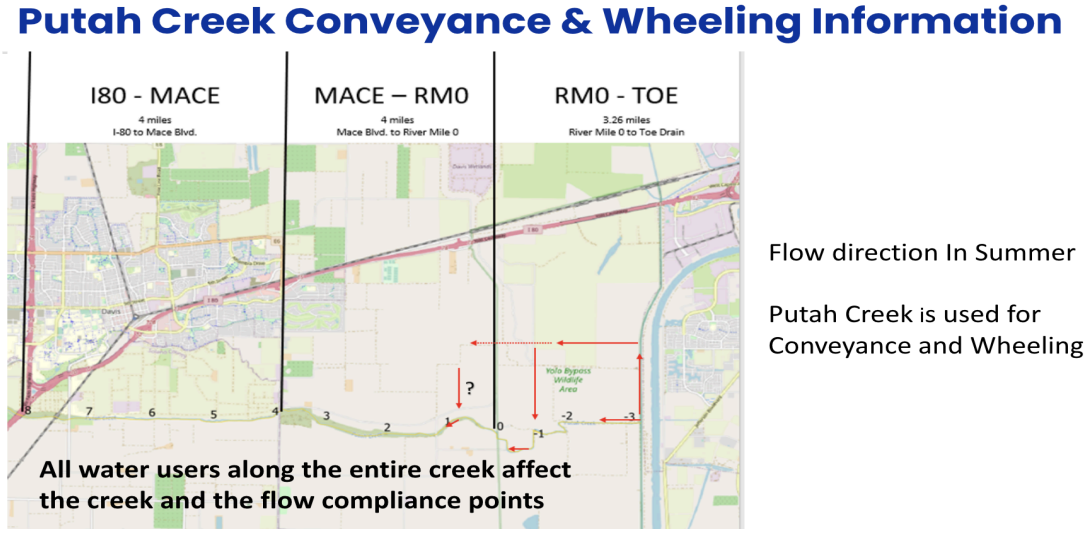
Accord, SCWA releases water, Pulse Flows, for the salmon in the fall and spring. Graphic D shows the Base Flows plus Fall and Spring Pulse Flows. This chart shows the average daily CFS at the three compliance points monthly in a calendar year. It also shows an additional red and green line for fall pulse flows, and a double blue line for spring pulse flows. SCWA is required to release anywhere from 150 CFS in the spring to 50 CFS in the fall. These pulse flow requirements are variable timed, not fixed, which means they change depending on spawning activity. One of the biggest drivers of flow in the Creek is drought. If there is a drought, the groundwater levels are lower, and there are fewer gains along the Creek from groundwater.

Graphic D: Flow Requirements in Putah Creek



Graphic E shares information about Putah Creek conveyance and wheeling functions at the lower end of the creek. The visual shows the lower 4-5 miles of the creek, between UC Davis and the Yolo Bypass Wildlife Area; the arrows represent flow passes in the summer and fall. This wheeling and conveyance goes upstream because of the pumps and check dam. This historic use has been occurring for a long time. It's important to note that all water users along the creek affect the creek and the flow compliance points.

Graphic E: Putah Creek Conveyance and Wheeling



Questions & Input Gathered

Participants could ask questions and share their perspectives on Putah Creek Water Management. The goal of gathering input is to inform the LPCCC to develop recommendations to improve Putah Creek Water management. These recommendations will be presented to the SCWA Board for approval and implementation.

Questions and Comments on Creek Management & Measurement Strategies

Question: Where is the check dam?

> **Response:** The check dam is near the Yolo Bypass Wildlife Refuge area. It is a critical point for managing water as a backup source for Highway 106A. When water is released for supplemental support, it takes about two days for it to reach the check dam.

Comment: As a farmer west of Mace Blvd. It would be great to have a better flow measurement between West Mace Blvd. and the Yolo Bypass Wildlife diversion area. Based on maps, we have seen various pumps in this area that could benefit from better flow measurements.

> **Response:** There is currently a staged flow station at Mace Blvd. Measuring flows in this area has been challenging because of how flat it is. When irrigators remove or add boards in the Highway 106A area, significant changes throw the data off. The staged station can still give us an idea about what is happening in that area. It is tricky to set up flow stations from Mace Blvd. down towards the Toe Drain because of the flat area. A permanent weir structure in the creek is required to set up a proper flow station.

Question: Does trying to improve measurements at the Toe Drain with all its complexities make sense? If the Toe Drain is one of the compliance points, how do we ensure that the point complies?

> **Response:** This is a complicated system to manage because of the constant flow change. It is also challenging to manage primrose in that area. Managers are not able to use any type of herbicide, which just adds to the challenge—adding to the difficulties. One option is to operate the Los Rios dam with the centerboard, coordinate with each other, and maintain flow over the top. Then, we can use an equation to estimate the flow below Los Rios when the boards are in. When the boards are out, it's a real challenge to measure flows, and it would take some kind of a restructure somewhere downstream of Los Rios if we wanted to measure that. We would have to do our best with our technical ability to develop something that works.

Question: Would an artificial channel for the salmon alongside Putah Creek help?

Response: SCWA will look at the many available grant opportunities for this. The footprint for a salmon channel is already there. A channel would allow the fish to bypass the check dam, and the boards on the dam would not have to be shifted.

Participant Response: In the past two years, the pulses for salmon have been earlier and have caused problems for other users. When the pulses are in October, rice fields are in the middle of flooding, and water from Putah Creek can not be used. In the past, November pulses did not affect rice farmers. A fish channel could allow farmers to pump, habitat fields to be flooded, and give salmon a way to go through the creek.

Questions and Comments on Irrigation and Water Use

Comment: Many of the growers on the east end of the creek are passing on utilizing Putah Creek Surface water for irrigation because it is not advantageous to put in the work to install a pump and only have minimal access up until July, then shifting to another water source mid-year. As the industry has shifted and focused on tomato transplants, irrigation begins in May. When the industry focused on starting crops with seed, irrigation began in March. Currently, irrigation needs do not align with surface water availability, so it is better to depend on groundwater for irrigation.

> **Response:** This is very insightful. Switching to groundwater irrigation reduces irrigation runoff returning to the creek, decreasing water recharge.

Question: If irrigators are shifting to drip irrigation, what are the net effects on Putah Creek? What are the effects of using groundwater instead of Putah Creek for irrigation? What changes are seen in the system?

> **Response:** PCWM will explore this question.

Comment: Landowners have a projected cost return, and the farmer is pressured to produce higher-valued irrigated crops to meet this return.

Question: Would rangeland ranching provide less tail water than irrigated crops?

> **Response:** PCWM will explore this question

Comment: Irrigators must assess their water needs based on their growing crops and what water source will be available in July and August. If enough surface water is available for irrigation, farmers may consider using that water based on the crop's needs.

> **Response:** SCWA would need to ask irrigators the question, “When would you need to know how much Putah Creek water is available for irrigation based on where you are at?”

Comment: When farmers set up drip irrigation, they must set up pumps and filters. This is more involved than before, and there is a need for a lot of space to pump out of the creek. As a farmer, I would look to Putah Creek as an irrigation water source if one of my groundwater pumps went out to supplement irrigation while the pump was being repaired. This is when I would talk to SCWA about using Putah Creek for irrigation.

Comment: Delta water rights can be some of the water rights east of the Yolo Bypass Wildlife Refuge. Delta riparian water rights are year-round. We know Delta water use is tide-dependent. The Yolo Bypass area utilizes Delta water, available through the tidal marsh. Their leased property produces rice and cattle rangeland and uses toe-drain water. The refuge only has one pump available on Putah Creek, but it was barely used last year. The refuge's most extensive coordination effort right now is understanding when SCWA wants to do the pulse flows so that they know when the fish will get triggered. When the boards are pulled, they are shut down from using the system. During this time, they will rely on a deep well or other pumps on the Toe Drain, which gets expensive because they have to lift water three different times when they could have lifted it once.

Questions and Comments on Communication and Coordination

Comment: There is a need to develop a communication system with irrigators and water users on Putah Creek.

Comment: Consistency in managing the dam boards and communication about scheduled pulse flows would be great.

> **Response:** There is a need to find a balance between when the Salmon are on that side of the creek, when farmers need water for their crops, and when wildlife area managers need water for habitat. We could have a follow-up meeting in March to discuss general Putah Creek Water Management for 2024.

Meeting Adjourned