Lower Putah Creek Watershed Management Plan Update: Inter-Dam Reach and Tributaries

Recovering native vegetation on Pleasants Creek due to rock vanes

September 3, 2024

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Acronyms and Abbreviations

CDFW	California Department of Fish and Wildlife
IDR	Inter-Dam Reach
LPCCC	Lower Putah Creek Coordinating Committee
NRCS	Natural Resources Conservation Service
PCC	Putah Creek Council
PCT	Putah Creek Trout
RCD	Resource Conservation District
SCWA	Solano County Water Agency
SID	Solano Irrigation District
SW	StreamWise
UCD	University of California Davis
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
WMAP	Watershed Management Action Plan

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Executive Summary

Date: September 3, 2024
Applicant: Solano County Water Agency on behalf of the Lower Putah Creek Coordinating Committee
City: Vacaville
County: Solano and Yolo
State: California

This project is located in the Putah Creek Watershed, in northern California about halfway between San Francisco and Sacramento. The approximate center of the project lies on Highway 128 five miles west of the City of Winters. The project is focused on three contiguous HUC12 sub watersheds (69 square miles) consisting of Dry Creek, McCune Creek-Putah Creek and Pleasants Creek. It includes the seven-mile Inter-Dam Reach between Monticello Dam (Lake Berryessa) and Putah Diversion Dam (Lake Solano) and all tributaries including Thompson Creek, Cold Creek, Bray Canyon Creek, Apricot Draw, Pleasants Creek, Miller Creek, McCune Creek, Dry Creek and two unnamed tributaries. All tributaries downstream of Monticello Dam have roughly tripled in width and depth since the construction of the dam in 1957. The erosion of the tributaries is severe and ongoing with a host of adverse effects including disruption of drinking water supply, increase risk of wildfires, loss of capacity of Lake Solano and Putah South Canal, smothering of spawning habitat for salmonids, degradation of recreational opportunities and reduction of base flows. The 2020 LNU Complex fire burned over 70% of the watershed as the fire spread up the dry tributary channels. In response, Solano County Water Agency (SCWA) built 86 rock vanes on Pleasants Creek to trap expected mud and ash flows as an emergency measure to protect the water supply of 400,000 municipal, industrial and agricultural water users. The rock vanes function like beaver dam analogs and are succeeding in trapping sediment and aggrading eroded channels, increasing base flows and restoring fire-resistant riparian vegetation as shown on the title page. This planning project proposes to create new rock vanes and augment existing rock vanes on all tributaries, and to define other restoration actions with willing landowners and land managers. Putah Creek is a recreational destination for fishing, boating, hiking and bird watching within a day's travel from the San Francisco Bay Area with a diverse group of stakeholders whose support will be needed to implement this project. The LPCCC consists of riparian landowners, the Cities of Davis, Fairfield, Suisun, Vacaville, Vallejo and Winters, Counties of Solano and Yolo, Solano County Water Agency, Solano Irrigation District, Maine Prairie Water District, Putah Creek Council and the University of California Davis; representing environmental, municipal, industrial, institutional, academic, recreational and agricultural water interests. SCWA is fiscal agent for the LPCCC. The project includes federal land (USBR) associated with the Solano Project.
Schedule: October 1, 2025 to September 30, 2028.

Project Location

Lower Putah Creek is located in Northern California approximately halfway between San Francisco and Sacramento. The center of the watershed is approximately 5 miles west of the City of Winters along Highway 128. The watershed is composed of three sub-watersheds:

HUC 12	Name	Acres
180201620501	Pleasants Creek (including Miller Creek)	10,611
180201620502	Dry Creek	14,072
180201620503	McCune Creek-Putah Creek	19,240
Total		43,923

Putah Creek is the water source for the Bureau of Reclamation's Solano Project consisting of Monticello Dam at Lake Berryessa, Putah Diversion Dam at Lake Solano and Putah South Canal. Lower Putah Creek originates at Monticello Dam and includes the seven-mile Inter-Dam Reach between Monticello Dam and Putah Diversion Dam. Monticello Dam includes a hydropower plant.

Lower Putah Creek flows almost due east through the Cities of Winters and Davis including the South Fork of Putah Creek, a diversion channel around the City of Davis that dates from the 1800s. Lower Putah Creek flows into the Toe Drain along the east side of the Yolo Bypass and through a network of sloughs joining the Sacramento River at Rio Vista providing a pathway for anadromous fish including fall-run Chinook salmon.

A map of the watershed and vicinity map is shown in Figure 1. Locations of the tributaries are shown in Figure 2.

Figure 1: Putah Creek HUC12 Sub-watersheds

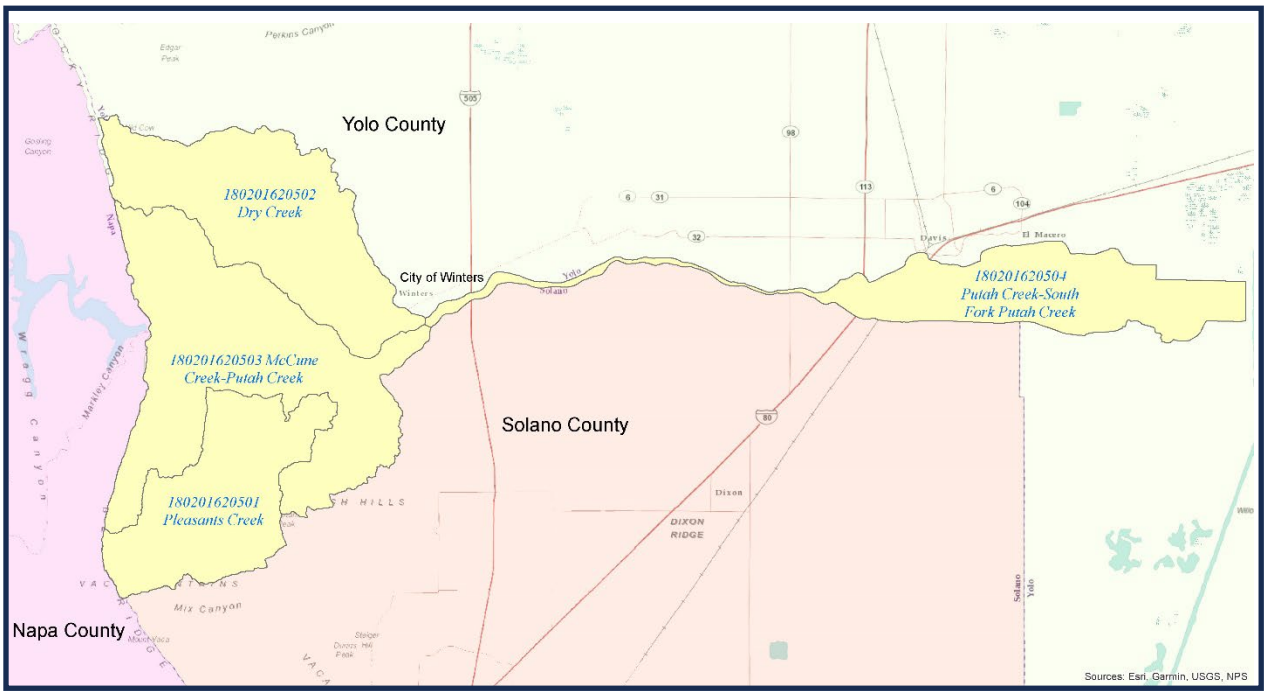


Figure 2: Lower Putah Creek Inter-Dam Reach and Tributaries

Technical Project Description

Applicant Category

The Lower Putah Creek Coordinating Committee (LPCCC) and Putah Creek Council (PCC) are existing watershed groups. Putah Creek Council (PCC) was founded in 1988 as a grass-roots 501(c)(3) public interest watershed advocacy group. By 1989, Lower Putah Creek went dry along much of its length due to a seven-year drought that lasted until 1994. In 1990, PCC sued Solano County Water Agency (SCWA) to release more water from Lake Berryessa (Solano Project) to maintain fish in good condition as required by Section 5937 of the California Fish and Game Code. The Council was joined by the City of Davis and the University of California, Davis as plaintiffs in the litigation. Defendants included SCWA, Solano Irrigation District, Maine Prairie Water District and the Cities of Fairfield, Suisun, Vacaville and Vallejo.

The lawsuit was settled in 2000 via the Putah Creek Accord: that made Putah Creek a perennially flowing stream; formed the Lower Putah Creek Coordinating Committee (LPCCC) representing parties to the litigation, created a permanent Streamkeeper reporting to the LPCCC to monitor flows and seek funding for physical and biological assessments, stakeholder meetings and restoration projects; provided spring and fall pulse flows to attract salmon and support spring spawning fish; and provided perpetual funding for fish and wildlife monitoring indexed to inflation. The Accord is the charter of the LPCCC.

Eligibility of the Applicant

Solano County Water Agency (SCWA) is a water district responsible for administration of the federal Solano Project (Monticello Dam, Putah Diversion Dam and Putah South Canal). Per the Accord, SCWA is fiscal agent of the Lower Putah Creek Coordinating Committee, a court approved watershed advocacy group representing parties to the original flow litigation (1990-2000) that made Putah Creek a perennially flowing stream. SCWA funds a permanent Streamkeeper and works collaboratively with local, state and federal partners to protect and enhance the resources of Lower Putah Creek. SCWA also administers grants on behalf of the LPCCC.

LPCCC members include representatives of the Cities of Davis, Fairfield, Suisun, Vacaville, Vallejo and Winters, County Supervisors for Solano and Yolo Counties, Solano County Water Agency, Solano Irrigation District, Maine Prairie Water District, Putah Creek Council, University of California, Davis and riparian landowners.

Meetings

The LPCCC meets on second Thursdays from 3:00 PM to 4:30 PM at SCWA

headquarters. The SCWA board also meets on second Thursdays at 6 PM. All meetings are open to the public and include opportunities for public comment. The meetings are also accessible by Zoom. Agendas are posted at least 72 hours in advance.

Mission of the LPCCC

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.

Mission of Putah Creek Council

Putah Creek Council protects and enhances Putah Creek, its watershed, and tributaries

Goals

1. Stakeholder Engagement: Putah Creek Council will engage diverse stakeholders in the Putah Creek watershed west of Winters including the Inter-Dam Reach and tributaries.
2. Update Watershed Management Action Plan: Expand the scope of the plan from the main channel and Pleasants Creek to watershed scale including Cold Creek, Thompson Creek, Bray Canyon Creek, Apricot Draw, McCune Creek, Dry Creek and unnamed tributaries.
3. Finalize restoration plans: Incorporate stakeholder input into restoration plans and engineering drawings.
4. Obtain landowner agreements for consensus restoration projects.

Project Description

Administration

Richard Marovich of Solano County Water Agency will manage the project including execution of the contract and subcontracts, filing reports and preparing invoices.

Task A

Subcontractor Phil Stevens and staff of Putah Creek Council will conduct pre-planning activities including review of existing plans related to the watershed; develop an outreach plan that includes recreational boaters, hikers, trout fishermen, tribal representatives and representatives of disadvantaged communities; issue a press release and series of newspaper articles identifying the need for the project; conduct tours of prior successful projects; hold meetings with landowners and land managers and obtain agreements from the willing for consensus restoration projects.

Task B

Subcontractor StreamWise will perform physical and biological surveys to define baseline conditions; Putah Creek Council will identify desired watershed improvements

with stakeholders. StreamWise will determine preferred locations of rock vanes and bank stabilization sites with willing landowners; update invasive weed maps; and identify sites for planting elderberries and other native vegetation. Putah Creek Council will prepare an update to the Watershed Management Action Plan.

Task C

StreamWise will complete a basis of design document and complete the analysis to determine project locations; identify the means and methods of construction including access and egress, staging areas, and constraints and complete site-specific project design and engineering, including drawings and specifications for construction. Putah Creek Council will develop timelines and milestones and research permit requirements.

Staff and Consultants

Project Manager: Rich Marovich, Streamkeeper Emeritus holds a B.S. Degree in Plant Science from University of California Davis. As the first Streamkeeper of Putah Creek, he raised and administered $14 million in grant funding over 21 years (2000-2021) and administered contracts and annual budgets of approximately $500,000 for physical and biological assessments, stakeholder engagement, development of the Watershed Management Action Plan and restoration projects that doubled bird populations in 20 years and restored fall-run Chinook salmon. He is currently working half time as a retired annuitant.

Contractor – Putah Creek Council - Executive Director Philip R. Stevens has 20 years of experience in project management from urban stream restoration to multi-million-dollar flood control projects. He led numerous planning efforts including project scoping and development, coordination of multi-disciplinary teams and strategic planning. He has five years of experience managing Conservation Corps crews, raised and administered $13 million in private funding from corporations, foundations and other donors. He currently manages $600,000 average annual budget. He served as Executive Director of Putah Creek Council since 2021. Previously he served as Principal of Overstory Land Stewardship (2018-2021); was Associate Director of Marine Applied Research and Exploration (2016-2017); Executive Director of the Urban Creeks Council (2007-2015) and had several roles with The Nature Conservancy (2000-2007), including Senior Advisor, Director of Resources, and Associate Director of Philanthropy. He has a M.A. Degree from Columbia University Teachers College and a B.A. from Williams College. Putah Creek Council was selected due to their role as the original watershed group with a following of 300 community volunteers.

Contractor – Streamwise – Rick Poore, Owner/Principal has over 20 years of experience in geomorphic restoration learning directly from Luna Leopold and David Rosgen, pioneers in the field. He has advised on projects in the Putah Creek Watershed from 2009-present. He built the first rock vanes in the watershed on the Hoskins property and developed conceptual restoration plans for mainstem Putah Creek and tributaries and constructed 86 rock vanes on Pleasants Creek following the LNU fire. Streamwise focuses on natural channel form and function to drive restoration

design, restoring biologic as well as hydrologic function. He has designed and constructed over 30 geomorphic restoration projects in California, Nevada and Oregon since 1999. His role in this project is to complete baseline assessments, determine placement of rock vanes with willing landowners, map locations for bank stabilization, complete site-specific project design and engineering and prepare drawings and specifications; develop a basis of design document and analyze the means and methods of construction including constraints, access routes, staging areas, etc. Streamwise was selected due to their involvement in preliminary planning and construction of rock vanes.

Evaluation Criteria

A. Watershed Group Diversity and Geographic Scope

A1. Watershed Group Diversity

Existing Watershed Group: The Lower Putah Creek Coordinating Committee is an existing watershed group that was formed in May 2000 as a result of a settlement agreement over environmental water, the Putah Creek Accord, which is also its charter.

Putah Creek Council, formed in 1988 is a member of the LPCCC and 501(c)(3) watershed advocacy group.

LPCCC: The Lower Putah Creek Coordinating Committee (LPCCC) already represents a diverse group of stakeholders including agricultural, municipal and industrial water users, environmental organizations, water agencies, a university and disadvantaged communities. The LPCCC oversees a Streamkeeper who monitors flows and manages grant-funded studies and restoration projects and an annual budget indexed to inflation for fish and wildlife monitoring and vegetation management.

How members are appointed: The LPCCC has a ten-member board that is appointed by a core group that represents the original parties to the flow litigation that created the Putah Creek Accord which is the charter of the LPCCC. The core group consists of Putah Creek Council, the City of Davis and U.C. Davis (original plaintiffs) and Solano County Water Agency, Solano Irrigation District and City of Fairfield representing the original defendants. Leadership rotates between the parties with each designating a chair and vice chair in rotation. Solano County Water Agency uses two of its positions to host riparian landowner representatives. The LPCCC consists of representatives of the Cities of Davis, Fairfield, Suisun, Vacaville, Vallejo and Winters, Solano County Water Agency, Solano Irrigation District, Maine Prairie Water District, Putah Creek Council, U.C. Davis and two riparian landowners. Suisun, Vacaville and Vallejo rotate representatives. Each entity may also assign alternates of their choosing.

Member interests: U.C. Davis performs most of the fish and wildlife monitoring under contract to SCWA. Most restoration projects are funded by grants. Solano County Water

Agency operates a 17-acre native plant nursery located in the Inter-Dam Reach with help from community volunteers organized by Putah Creek Council. The Solano cities (Fairfield, Suisun, Vacaville and Vallejo) represent over 400,000 municipal water users who depend on Solano Project water. Solano Irrigation District (SID) represents up to 60,000 acres of agriculture and industrial water users including a Budweiser brewery in Fairfield and operates Putah South Canal. Lower Putah Creek flows through Davis and Winters but they do not use Putah Creek water, rather they advocate for creek restoration for sites like Winters Putah Creek Nature Park and Camp Putah on the U.C. Davis Campus, a day camp rite of passage for Davis youth. The City of Davis representative chairs the Davis Open Space Committee. The U.C. Davis representative is also the Riparian Reserve Manager, who manages the frontage of the main campus along Putah Creek including an aquaculture research site. U.C. Davis manages Stebbins Cold Canyon Reserve on Cold Creek upstream of Highway 128. SID operates the power plant at the base of Monticello Dam.

Putah Creek Council is a 501 (c)(3) non-profit public interest advocacy group with a ten-member board including a fluvial geomorphologist, salmon biologist, an attorney, law professor and a former public housing director, a financial advisor and two former educators. The Council appoints its own board. The Council has a database of 300 community volunteers who engage regularly in trash cleanup projects, propagating native plants at our native plant nursery and installing plants in restoration sites. The Executive Director will lead stakeholder discussions, issue press releases, conduct tours of successful projects, meet with individual landowners and land managers, conduct pre-planning meetings and obtain landowner agreements for consensus restoration projects.

Partnering Agencies

The **US Fish and Wildlife Service (USFWS)** performed a Reconnaissance Assessment of Lower Putah Creek in 1993, recommending that a Lower Putah Creek Coordinating Committee be formed to promote watershed restoration. USFWS sponsored a series of Partners for Wildlife projects with individual landowners that launched larger scale restoration efforts. USFWS generated a Safe Harbor plan for conservation of Valley Elderberry Longhorn Beetle (one of two known populations at the time of listing) under Section 10 of the federal Endangered Species Act for the Putah Creek Watershed.

The **California Department of Fish and Wildlife (CDFW)** owns almost the entire north bank of Putah Creek in the Inter-Dam Reach through a series of five fishing accesses; and designated the Inter-Dam Reach as a Wild Trout Stream, suspending stocking of trout and restoring naturally spawned fish to levels of previously stocked fish. CDFW also owns a hunting area downstream of Highway 128 on Cold Creek. CDFW is currently cooperating with invasive weed control efforts sponsored by SCWA but

requires an update to the watershed plan (this proposal) to allow bank stabilization work on their land.

Putah Creek Trout is a fly-fishing organization dedicated to the enhancement of trout in the Inter-Dam Reach. They support bank stabilization projects to restore what was previously the best trout spawning habitat at the mouths of Cold Creek and Thompson Canyon that have been buried by sediment from erosion of the tributaries.

Thompson Canyon Landowners Association maintains an access road along Thompson Creek. They support improvements to the access road including replacing undersize culverts with rolling dips and culverted crossing with fords. Landowner Matt Straw supports installation of rock vanes to stabilize the banks of Thompson Canyon and has allowed the staging of rock in anticipation of future restoration work by SCWA on behalf of the LPCCC.

Bureau of Reclamation owns Monticello Dam, Lake Solano and Putah Diversion Dam. The local office supports invasive weed control and bank stabilization of the lower half mile of Pleasants Creek which is part of Lake Solano.

USDA Natural Resources Conservation Service supports bank stabilization on Pleasants Creek and has supported an EQIP project on the Rose property. They also assessed erosion of Dry Creek upstream of Highway 128.

Solano and Yolo Resource Conservation Districts support invasive weed control and planting native vegetation on Pleasants Creek and the Inter-Dam Reach respectively.

The **Golden Gate Salmon Association** supports the restoration of naturally spawned fall-run Chinook Salmon on Putah Creek including fish passage, scarification of cemented spawning gravels and bank stabilization to prevent siltation of spawning habitat.

Rivertown Racers, a competitive kayaking group supports restoration of Lake Solano, especially control of aquatic vegetation that limits use of the lake.

Landowners on Pleasants Creek and Dry Creek downstream of Highway 128 have participated in the first iteration of rock vanes to stabilize eroding banks and witnessed the increase in base flows. They have participated in invasive weed control projects, especially control of the invasive species *Arundo donax* (false bamboo) by SCWA/LPCCC and Resource Conservation Districts and planting native vegetation. Eroding streambanks is a primary concern as landowners have witnessed up to 30 feet of bank loss in a single high flow event. Pleasants Creek landowners include orchardists and ranchers and rural residential landowners.

Solano County Department of Transportation is concerned with eroding stream banks on Pleasants Creek. They replaced five bridges over Pleasants Creek in the past 21 years because the channel eroded out from under the bridge abutments. The bridges were built in the 1950s and expected to last 100 years and barely existed for

half of that time. They have also had emergency bank repairs on Pleasants Valley Road due to bank erosion following high flow events.

Solano County Parks Department maintains Lake Solano Park and Campgrounds and frequently partners with SCWA to address invasive weeds and boating access.

Community support for salmon recovery is evidenced by the increasing turnout at the Winters Salmon Festival, held the first Saturday in November.

Yoche Dehe Tribe has sponsored restoration projects on Putah Creek and advised on cultural resources.

California Audubon owns Bray Canyon Creek as part of Bobcat Ranch in the Inter-Dam Reach north of Highway 128. They cooperate in erosion control projects especially following the LNU fire. The land is grazed by cattle.

Watershed Restoration Planning

Watershed restoration planning began as the LPCCC was being formed in a series of facilitated stakeholder meetings managed by Solano County and funded by a Prop 204 grant that were held at the City of Winters Community Center. Landowners were invited by letter and the meetings were announced in local newspapers. The meetings attracted a wide range of stakeholders including farmers, Putah Creek Council members, fly fishermen, recreational boaters, LPCCC members, SCWA staff, city representatives and a tribal representative. During the flow litigation, SCWA sought to adjudicate water rights so that additional releases for environmental benefit would not be taken by farmers. Farmers have senior riparian water rights based on a model of flows that would have existed prior to Monticello Dam, driven mainly by inflows to Lake Berryessa. Prior to the Accord, Putah Creek dried up in most reaches by June of most years so there was no water to divert. During the flow litigation, SCWA sued private landowners to come forward with documentation of their riparian rights and offered to pay legal expenses of those who came forward. However, the flow litigation was misunderstood as a water grab and landowners formed a Putah Creek Landowners Association (PCLA) to resist any settlement. Ultimately, the PCLA failed to participate in the final hearing of the flow litigation, SCWA dropped the attempted adjudication and proceeded to accept responsibility for Accord releases including downstream performance points in Davis and at the Toe Drain, reserving the right to challenge landowners if their diversions became excessive. The initial stakeholder meetings were held in 2000, led by Solano County and were consumed by landowner bitterness of spending tens of thousands of dollars on legal representation, from which they perceived no benefit. The agendas were abandoned as landowners used the occasion as a forum to vent their anger at SCWA. The facilitator hired by Solano County quit with half of the Prop 204 budget remaining.

Meanwhile the LPCCC proceeded with a grant to conduct physical and biological assessments of Lower Putah Creek resulting in the Lower Putah Creek Watershed Management Action Plan (WMAP) Phase 1 Assessments (2005) that mapped public

and private ownership, trash sites, invasive weeds and bank erosion. It also documented the value to fish and wildlife and included a plant palate for restoration but stopped short of recommending actions pending further meetings with stakeholders.

firm. The LPCCC applied for and won the remaining funding from the Prop 204 grant and held a series of facilitated stakeholder meetings to review the assessments resulting in the WMAP Phase 2 Priority Projects (2008).

The WMAP Phase 1 consisted of physical and biological assessments and a set of maps providing a sound scientific basis to discuss restoration projects with stakeholders. Phase 2 presented the findings of the Phase 1 assessments and through a series of public meetings arrived at a list of projects ranked in three tiers according to stakeholder priority. These plans were limited to mainstem Putah Creek and Pleasants Creek based on the following selection criteria: existing landowner agreement, invasive species, bank stabilization, trash cleanup, habitat enhancement, on-site materials, multiple funding sources, contiguous to other projects and visibility.

Stakeholders agreed to the following guiding principles (WMAP Phase 2 – page 4-1)

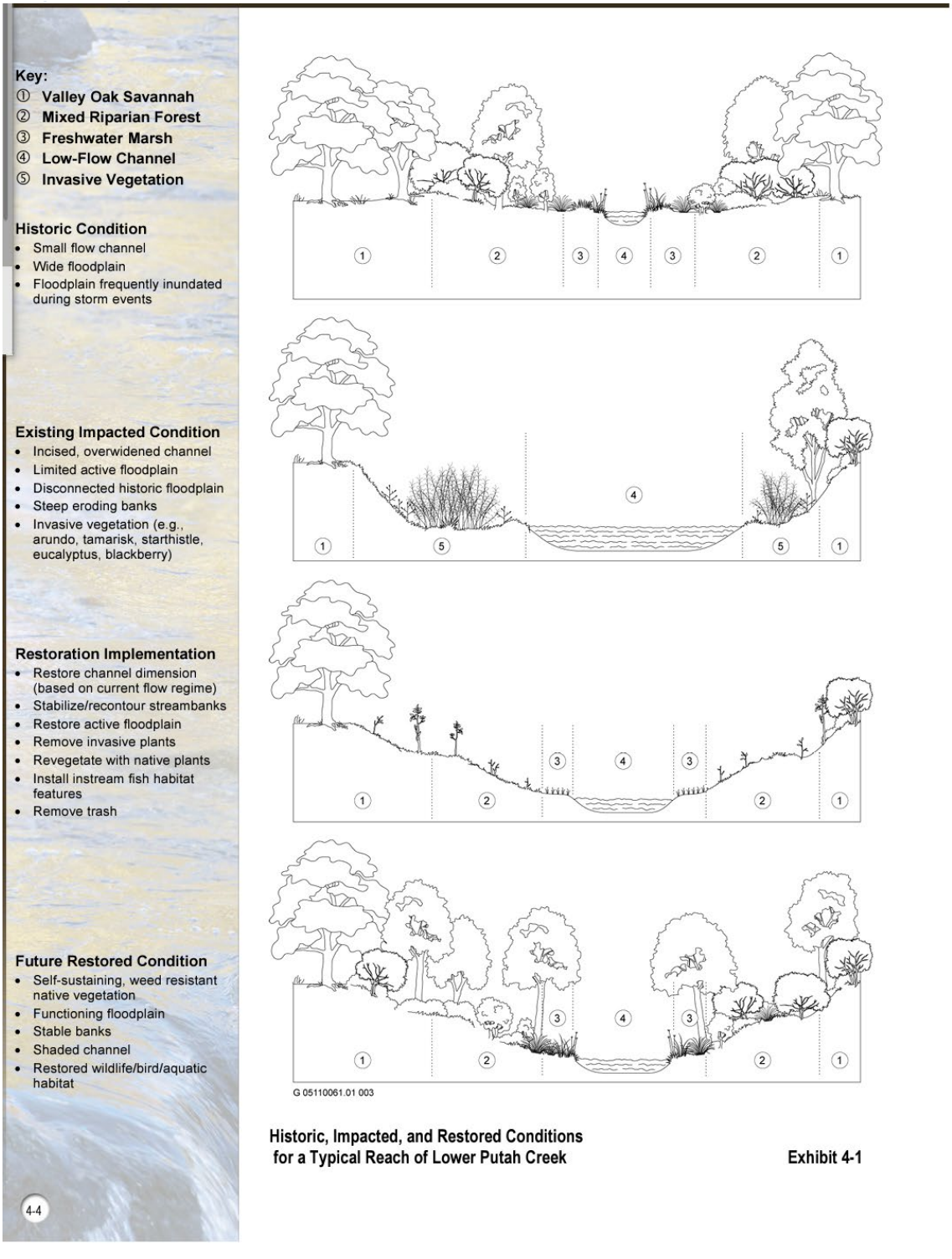
- Respect for Private Property Rights
- Actions only with Willing Participants
- Respect Local Knowledge
- Manage the Creek as a Community Asset
- Improve and Enhance Lower Putah Creek
- Consider a Wide Variety of Improvement and Enhancement Activities
- Employ Actions Consistent with Current Regulations and Policies

The WMAP Phase 2 established the following overarching goal:

Restore and enhance the Lower Putah Creek watershed to a self-sustaining ecological condition.

This includes restoring functional channel dimensions, accessible floodplains and stabilizing eroding streambanks (page 4-3). A conceptual illustration is provided in Figure 3.

Figure 3: Historic, Impacted and Restored Conditions (WMAP Phase 2



As the assessments were underway, the LPCCC worked with individual landowners on consensus projects, especially cleaning up legacy dump sites and restoring native

vegetation. Initially five of roughly 100 riparian landowners were willing to work with the LPCCC, but word of those projects spread among other landowners and the LPCCC began to restore the sense that SCWA was not averse to landowner interests.

As the LPCCC was being formed, a Pleasants Creek landowner Ethel Hoskins interviewed geomorphologists to address eroding streambanks with a grant from the USFWS Partners for Wildlife Program. She selected StreamWise, a company out of Mount Shasta, CA, who installed the first rock vanes in the Putah Creek watershed. The LPCCC joined the project and provided funding for control of the invasive weed *Arundo donax* (false bamboo) that complemented the USFWS project.

As part of the restored Prop 204 stakeholder meetings, separate forums were held for private landowners and all other stakeholders so that private landowners would not feel pressured to accept restoration projects. A plenary meeting of stakeholders was then held where it emerged that all stakeholders agreed that the first projects should be on public land, especially Winters Putah Creek Nature Park, a one-mile reach from downtown Winters to Highway 505. Private landowners were mainly concerned about trespass and saw the public restoration project as a place where the public could go to enjoy Putah Creek without trespass on private land.

Stakeholders collectively agreed on a set of criteria for project selection. The Streamkeeper applied that criteria to a list of potential project sites and stakeholders agreed to a three-tier set of priority projects. The first projects focused on trash cleanup

cubic yard trash bins in cleanup projects centered on the Highway 505 overcrossing and at Stevenson Bridge seven miles downstream. Some legacy dump sites were too extensive for volunteers and so the LPCCC organized Farm and Ranch Cleanup Grants in cooperation with Yolo and Solano Resource Conservation Districts. These projects earned the goodwill of landowners and opened the door to invasive weed control projects and planting native vegetation.

In 2005, the LPCCC won a grant from the California River Parkway Program to remove a derelict percolation dam at Winters Putah Creek Nature Park (the community's highest priority site) that led to a series of projects to restore natural meander form and pool-riffle sequence to former gravel pits.

In 2008, the Streamkeeper along with Putah Creek Council founded a native plant nursery at a CALFIRE facility in Davis to produce native plants at cost with volunteer labor organized by the Council. Trash cleanups had become a favorite stakeholder activity, but trash was becoming scarce and so stakeholder interests turned to propagating and planting native vegetation.

By 2008 several agricultural properties had changed hands and new owners witnessed a creek channel that never went dry. From 2000 to 2008, there were only three violations of Accord flows and all were settled amicably with farmers curtailing diversions until additional water could be released and transit the creek. In August

2008, the cumulative effect of more and larger diversions became unsustainable. SCWA proposed to send threatening letters to all riparian landowners, but the Streamkeeper urged SCWA to have public meetings instead to explain the problem and seek consensus solutions. While riparian rights are co-relative, that is, dependent upon all other concurrent diversions, farmers had no means of knowing what other diverters were doing. A breakthrough occurred when the organizer of the Putah Creek Landowners Association explained to another farmer that riparian rights were not unlimited.

SCWA offered riparian diverters several options, more water in wet years, less water in dry years; more water upstream, less water downstream; or a uniform cutoff date for riparian diversions before which SCWA would meet all reasonable demands for riparian water and after which landowners would voluntarily curtail diversions after July 15. Farmers opted for the third option to give their operations certainty over water supplies. Farmers who operated before the Accord adapted to the creek going dry in the summer by planting early to mid-season crops or by augmenting with groundwater or other surface water supplies. SCWA continued to meet annually with riparian diverters to review the prior year water deliveries and to approve limited term exemptions from the cutoff for those acting in good faith to develop alternative water supplies or rotate their crops to reduce dependency on Putah Creek water.

A series of conceptual restoration plans for tributaries identified possible locations for rock vanes and bank stabilization as part of a creek wide planning project funded by CDFW (2015-2020). 86 rock vanes were built by StreamWise on the lower five miles of Pleasants Creek in 2020 following the LNU Complex Fire under emergency permit exemptions. More rock vanes are needed upstream on Pleasants Creek including the Miller Creek tributary that would be covered by this project. 30 rock vanes were built on Dry Creek below Highway 128 in 2008. A 1994 flood management study by the U.S. Army Corps of Engineers noted that the box culvert beneath the Highway 128 bridge provided grade control (p5) resulting in no observed upstream incision, however the

upstream, undermining gunnite and rock/asphalt slurry that is now collapsing into the channel. A visit by a USDA NRCS civil engineer documented the eroded condition upstream of the Highway 128 bridge. A preliminary plan for more rock vanes was proposed upstream of Highway 128, but these have not yet been discussed with landowners.

A2. Geographical Scope

This project will extend the reach of planning efforts beyond mainstem Putah Creek and Pleasants Creek to the entire watershed downstream of Monticello Dam, focusing on the mouths of the tributaries and working upstream. This is an expansion from the 2,000-acre riparian corridor to include over 44,000 acres of three combined sub watersheds west of Winters. The project focuses on the seven-mile main channel of

Lower Putah Creek between Monticello Dam and Putah Diversion Dam and nine tributary channels, four from the north (Yolo County) and five from the south (Solano County) that are discussed individually below:

Thompson Canyon Creek is the first tributary downstream of Monticello Dam that enters from the north. The lower mile of Thompson Canyon Creek spans two parcels and includes an unimproved road that leads to a repeater station that controls communications with Monticello Dam operators. The mouth of Thompson Canyon has been degraded by erosion from a poorly engineered road that has 30 undersized culverts. It is bladed by a dozer operator each year with spoils pushed into the creek contributing to siltation of the main channel. A geomorphic restoration plan includes proposed locations of 30 rock vanes to act as sediment detention features. A road engineer surveyed the site and concluded that the road should be out sloped and graveled and culverts replaced by rolling dips and fords. In 1983, a severe erosion event filled the pool below Putah Diversion Dam with sediments seven miles downstream, requiring emergency excavation to protect the power plant upstream. The mouth of Thompson Canyon was prime trout spawning habitat until it became buried in sediment. Rock has been staged near the mouth of Thompson Canyon Creek for future construction of rock vanes. Thompson Canyon burned completely in the 2020 LNU fire.

Cold Canyon Creek is the first tributary that flows from the south downstream of Monticello Dam. Wildhorse Creek flows into Cold Canyon Creek but it is steep and inaccessible. CDFW owns the mouth of Cold Canyon Creek and an adjacent hunting area. The U.C. Davis Stebbins Cold Canyon Reserve is located upstream of Highway 128. The Reserve is a popular destination for hikers with magnificent views from the ridge of Lake Berryessa. A post wildfire soils assessment concluded that the greatest erosion risk was from social trails. AmeriCorps trails specialists greatly improved the trail system and blocked off social trails. Like Thompson Canyon Creek, Cold Canyon Creek has periodically discharged sediments that threatened to block the main channel requiring emergency excavation to prevent inundation of the power plant at Monticello Dam. SCWA installed rock vanes on Cold Canyon Creek that have successfully trapped sediment and prevented a recurrence of massive sediment spills. Those rock vanes are now buried in sediment. A geomorphic assessment by Streamwise has recommended more rock vanes between Highway 128 and the existing structures close to the mouth of the creek. Cold Canyon burned completely in the 2020 LNU fire. FEMA offered grant funding for fire recovery that was used to rebuild the trail system. CDFW requires an update to our watershed plan before allowing further restoration on any of their properties including five fishing accesses along Highway 128.

Two Unnamed Tributaries are the second and third tributaries flowing from the south downstream of Monticello Dam. They would be assessed for geomorphic stability as part of this project.

Bray Canyon Creek is the second tributary from the north downstream of Monticello Dam. The lower reach is owned by California Audubon as part of Bobcat Ranch. Bobcat Ranch burned completely in the 2020 LNU fire. SCWA hired a soil scientist to review erosion risks post-fire who concluded that the greatest erosion risk was from unimproved roads. A series of small erosion control projects mostly associated with roads has addressed the worst of erosion threats. A geomorphic restoration plan calls for rock vanes near the mouth of Bray Canyon Creek.

Apricot Draw is the third tributary flowing from the north joining Putah Creek at the midpoint of Lake Solano. The channel began as a drainage ditch for farmland and is now a gully. Above Highway 128, the channel is a grassy swale with a box culvert under the highway acting as grade control. Downstream of Highway 128, the channel is eroded and there is a delta of sediment in Lake Solano centered on Apricot Draw that is now a large marsh. Apricot Draw would be assessed for geomorphic stability in this project.

Pleasants Creek is the largest tributary in the Inter-Dam Reach. It has an average gradient of 20 feet per mile with unconsolidated soils that are prone to erosion. An estimated 90 percent of sediment in Lake Solano came from this tributary. SCWA built 86 rock vanes on the lower five miles of Pleasants Creek to trap expected mud and ash flows following the devastating 2020 LNU fire that burned Pleasants Valley to the ridgelines. More rock vanes are needed upstream to the confluence of Miller Creek and an additional two miles up Miller Creek to a small diversion dam that serves as grade control. Miller Creek supports a native trout population that is likely a remnant population of the federally listed Central Valley Steelhead. The fish are reproductively isolated due to the diversion dam which is a fish passage barrier.

McCune Creek is the only tributary from the south that is downstream of Putah Diversion Dam. It has eroded into a gully. A geomorphic assessment and restoration plans would be completed as part of this study.

Dry Creek forms the southern and western boundary of the City of Winters and is highly eroded with vertical walls. A study by the US Army Corps of Engineers concluded that Dry Creek eroded due to water storage at Monticello Dam because the channel is no longer backwatered in high flows. The same effect occurs on all tributaries. The south and west sides of the creek are agricultural, including orchard and row crops. The north and east sides of the creek are residential with each landowner owning to the centerline of the channel. Seventy-six residential properties back up to Dry Creek, thirty-six downstream of Highway 128 and forty upstream of Highway 128. Thirty rock vanes were constructed by Streamwise downstream of Highway 128 in 2008. NRCS has identified the need for bank stabilization upstream of Highway 128. The 1994 US Army Corps of Engineers study found no recent erosion upstream of Highway 128 at the time of the study. Subsequent replacement of the highway bridge eliminated the box culvert in 1998 and erosion has since progressed upstream.

Inter-Dam Reach consists of the main channel of Lower Putah Creek between Monticello Dam and Putah Diversion Dam. An aquatic weed survey including water temperature analysis documents the extensive growth of aquatic weeds and warming effect of the shallow margins of the lake that increase water temperatures from 55 degrees to 65 degrees in late summer. While Lake Solano is popular with boaters, they avoid the lower end of the lake due to proliferation of aquatic weeds. The Inter-Dam Reach is prized for trophy trout and is the only fly-fishing destination within a day's drive from the San Francisco Bay Area, attracting 100,000 visitors per year. Lake Solano Park includes a boat launch and a campground on both sides of the Pleasants Creek.

B. Developing Strategies to Address Critical Watershed Needs

B1. Critical Watershed Needs or Issues

There is a critical need to **reduce and reverse ongoing erosion of downstream tributaries** since construction of Monticello Dam that is making the watershed both flashier and drier.

There is a critical need to **reduce the risk of wildfires** by aggrading the bed of eroded channels to retain more water in inset floodplains and thereby increase base flows so that the channels are wetter and more resistant to burning.

There is a critical need **to address climate change**, especially the risk of high flows from severe storm events by stepping down the flow velocities with plunge pool and inset floodplain energy dissipation; and retaining more water in the tributaries during droughts.

There is a critical need to **restore continuity of habitat** for the federally listed Valley Elderberry Longhorn Beetle, by enrolling properties in the Valley Elderberry Beetle Safe Harbor Agreement between SCWA and USFWS.

There is a critical need to **reduce sediment loading** that buries trout habitat in the Inter-Dam Reach and chinook salmon habitat downstream of Putah Diversion Dam; and that is continuing to reduce the capacity of Lake Solano and Putah South Canal; and that is raising the floodplains of Lower Putah Creek downstream of Lake Solano, cutting off floodplain access.

There is a critical need to **reduce the magnitude of turbidity events** that disrupts continuous processing of drinking water for 400,000 municipal and industrial water users.

There is a critical need to **lower water temperatures**, especially on the lower end of Lake Solano that acts as a warming basin to the detriment of native fish downstream.

There is a critical need to **reduce the production of invasive aquatic vegetation** in Lake Solano that degrades recreation and spreads propagules on Putah South Canal creating a vicious cycle of sediment trapping and invasive weed growth.

There is a critical need to **protect residential properties along Dry Creek** that are incrementally collapsing into the channel.

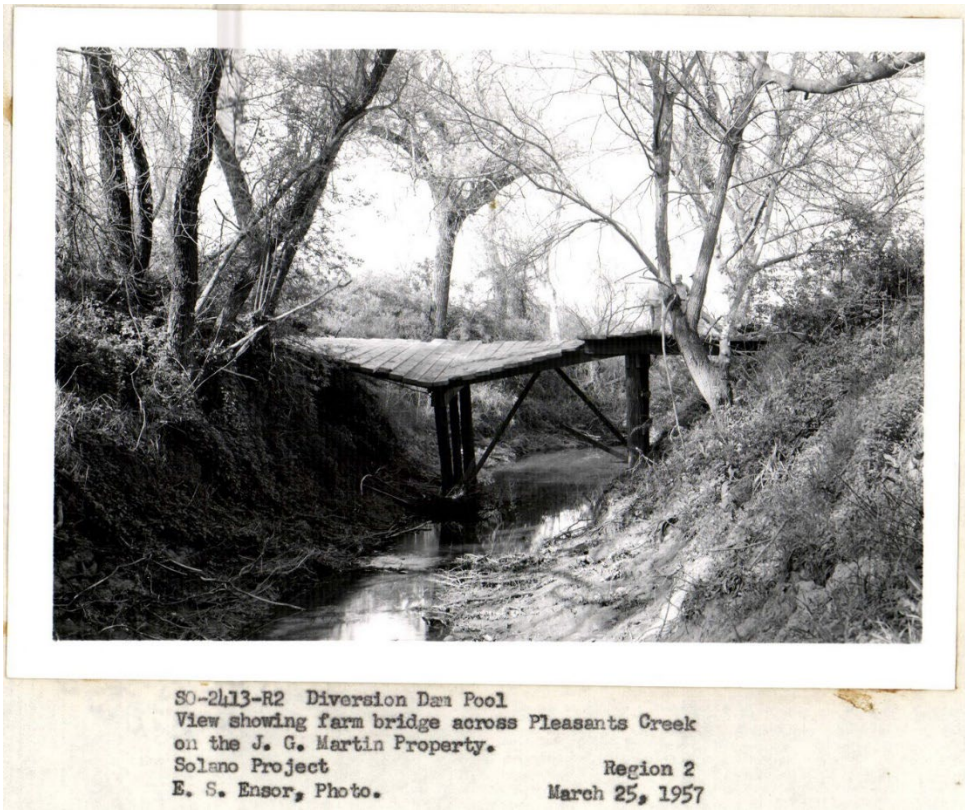
There is a critical need to **protect trout spawning habitat** in the Inter-Dam Reach that supports recreational fishing and drives local tourism that supports the economy.

There is a critical need to **control invasive terrestrial weeds** including arundo, Himalaya blackberries, eucalyptus and tree-of-heaven that displace native vegetation, obstruct passage of high flows accelerating bank erosion and that displace native vegetation to the detriment of wildlife.

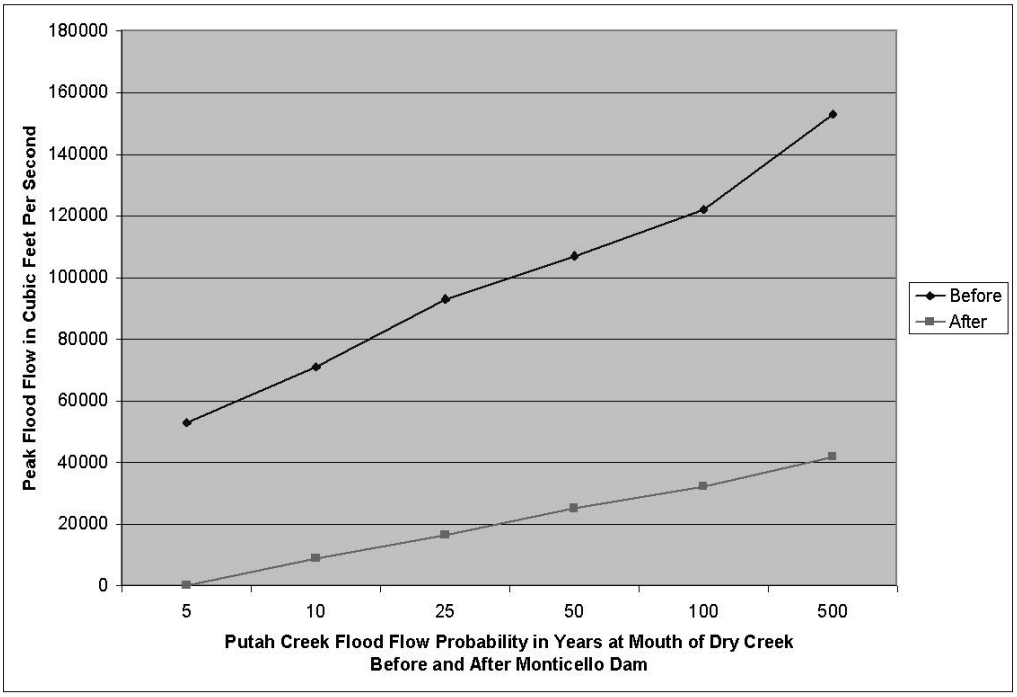
Qualitative and Quantitative Support

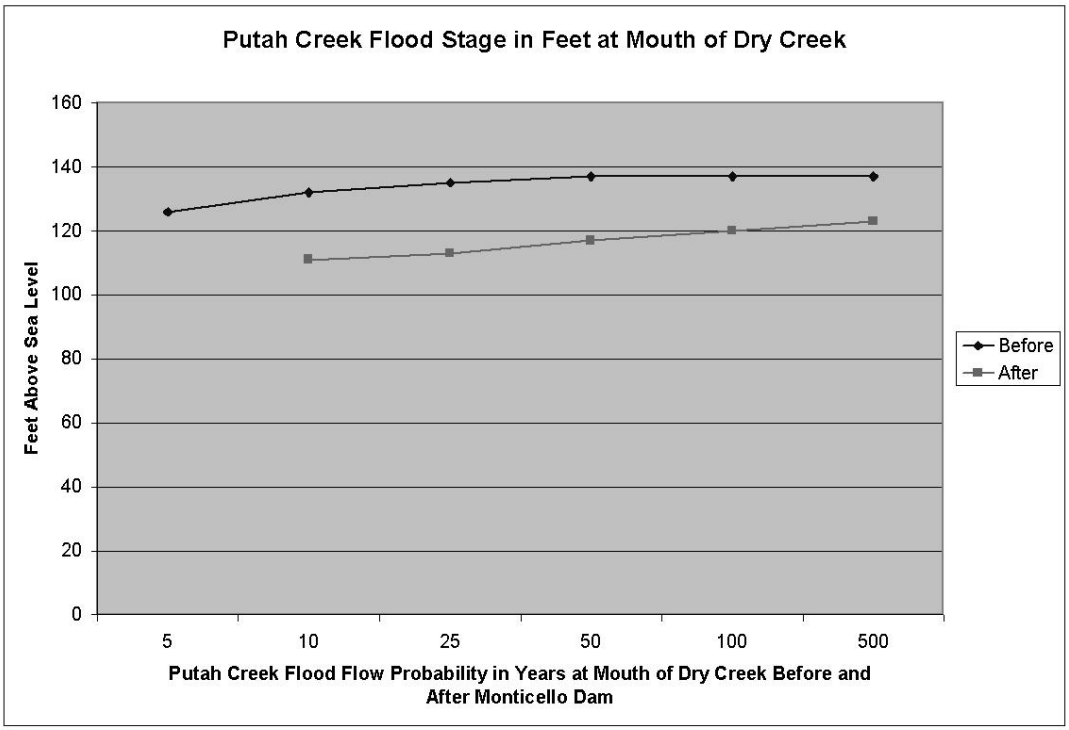
SCWA has documented 43% loss of capacity of Lake Solano (p8) since the mid-1970s due to erosion of the tributaries downstream of Monticello Dam. Increasing costs of canal maintenance due to increased sediment loading and the compounding effect of invasive aquatic weeds is a further measure of impacts. Rising elevation of floodplains downstream of Putah Diversion Dam with as much as three feet of new sediment deposits annually, reduces floodplain access and riparian vegetation.

Tributary channels have eroded by ~20 feet to match the change in peak flood stage at the mouths of the tributaries (USCOE 1994, p5). A Pleasants Creek bridge near the mouth collapsed as Monticello Dam was under construction, an early indication of incision.



Peak flow and peak flood stage downstream before and after Monticello Dam shows reduction caused by water storage (derived from USACE, 1994)





Left: Pleasants Valley Road embankment collapsed in December 2002 following a similar event in 1998 before the edge of the road was re-striped. Right, re-analysis of record turbidity sample at North Bay Drinking Water Treatment Plant from same storm event (original reading exceeded 3,200 NTU)

Sediment spill from Pleasants Creek into Lake Solano (1997)

Discharge of Rock and Debris from Cold Canyon Creek (2003)

Emergency Excavation of Sediment from Thompson Canyon in 1995

Exposed well casing indicates bank loss on Pleasants Creek (2002)

Invasive Arundo (false bamboo) blocks flow causing mass wasting of opposite banks

As Lake Solano has filled with sediment from the tributaries, invasive aquatic weeds have flourished in the shallower warmer water, especially on the margins of the deep-water channel.

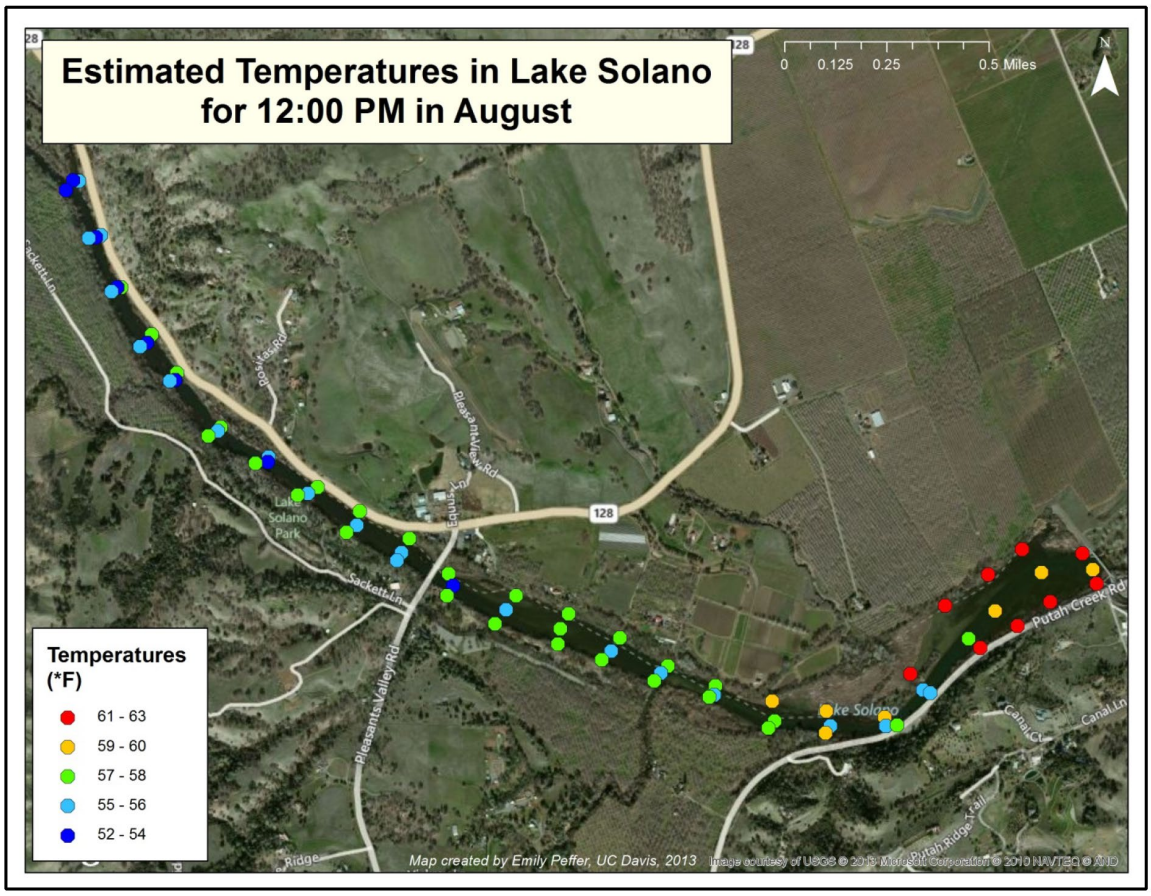


Figure 3.24. Estimated temperatures in Lake Solano for 12:00 PM in August. Warmer colors indicate warmer temperatures. Note: this map does not show actual measured temperatures at sampling points; these are predicted values based on a model using data collected over a period of several days and at different times.

B2. Project Benefits

Erosion of tributaries downstream of Monticello Dam will be reversed by construction of rock vanes to aggrade the channel and deflect flow away from the banks**.**

Wildfire risk will be reduced by aggrading the bed of eroded channels with rock vanes to retain more water in inset floodplains and thereby increase base flows so that the channels are wetter and more resistant to burning.

Climate change, especially the risk of high flows from severe storm events will be addressed by stepping down the flow velocities with plunge pool and inset floodplain energy dissipation; and retaining more water in the tributaries during droughts.

Continuity of habitat for the federally listed Valley Elderberry Longhorn Beetle, will be addressed by enrolling properties in the Valley Elderberry Beetle Safe Harbor Agreement between SCWA and USFWS and planting elderberries not less than 200 feet apart to aid in dispersal of the beetle.

Sediment loading will be reduced by trapping sediment in eroded tributaries with rock vanes, protecting trout habitat in the Inter-Dam Reach and chinook salmon habitat downstream of Putah Diversion Dam; protecting the capacity of Lake Solano and Putah South Canal; and preventing floodplains of Lower Putah Creek downstream of Lake Solano from rising due to sediment deposition.

The magnitude of turbidity events will be reduced, protecting the continuous processing of drinking water for 400,000 municipal and industrial water users.

Water temperature will be reduced by narrowing the lower end of Lake Solano and converting the shallow margins of the lake to managed wetlands, reducing the surface area of the lake exposed to solar radiation and reducing residence time of water in the lake so that it no longer acts as a warming basin to the detriment of native fish downstream.

Invasive aquatic vegetation in Lake Solano will be reduced by converting the shallow margins of the lake to managed wetlands, reducing the spread of propagules into Putah South Canal and downstream irrigation channels.

Residential properties along Dry Creek will be protected from bank erosion.

Trout and salmon spawning habitat will be protected from siltation from erosion of tributary channels.

Invasive terrestrial weeds including arundo, Himalaya blackberries, eucalyptus and tree-of-heaven will be mapped for future control measures.

Stakeholders who will benefit

Stakeholders who will benefit include 400,000 industrial, institutional and municipal water users in Solano County who depend on Solano Project water, 100,000 visitors annually to the Interdam Reach for hiking, boating and especially fishing for trophy trout; residential landowers along Dry Creek who are losing land to bank erosion; salmon fishermen and the community who celebrate the return of Chinook Salmon at the Winters Salmon Festival; farmers and ranchers whose land is eroding on all tributaries; rural residential landowners who are at risk of wildfire; environmentalists who seek to enhance fish and wildlife habitat throughout the watershed.

Design and engineering

Design and engineering will focus on rock vanes and other habitat enhancements including bank stabilization, invasive weed control, and habitat enhancement through planting native vegetation and plans to convert the shallow margins of the lower end of

Lake Solano to managed wetlands. The design process will benefit stakeholders by considering the widest range of watershed improvements and building in public and landowner support for plans rather that seeking buy-in to existing plans.

Policies or administrative actions needed

Policies or administrative actions needed to implement the plan include programmatic permits based on common causes and solutions to eroding tributaries.

C. Readiness to Proceed

Solano County Water Agency (SCWA) is ready to proceed in partnership with Putah Creek Council. Under the proposed implementation plan, SCWA would administer the project with subcontracts to the Council and Streamwise.

Preliminary Project Schedule:

Year 1: The Council will develop an outreach plan to engage landowners and stakeholders. They will start by issuing a press release announcing the project followed by a series of news articles on the history, causes and potential remedies of bank erosion. The Council will mail news articles to landowners along with an invitation to participate in stakeholder meetings. The Council will conduct pre-planning activities including review of existing plans and collect baseline information. Landowners, land managers, recreational boaters, fishermen, resource agencies and the Yoche Dehe tribe will be included in targeted outreach. The Council will hold meetings with individual landowners and obtain agreements from willing landowners for consensus restoration projects. SCWA will hire consultants to collect baseline information. The Council will work with watershed group members, tribal representatives, landowners, federal, state and local agencies and local governments to gather the widest input on watershed enhancement opportunities.

Year 2: Consultants will determine the proposed locations of rock vanes, invasive weed control sites and opportunities to plant native vegetation including elderberries with USFWS Safe Harbor Agreements. Consultants will refine maps of proposed rock vane locations and bank stabilization projects with input from landowners. The Council will complete watershed restoration plans for the Inter-Dam Reach and tributaries. The LPCCC will propose a Watershed Management Project Design including: **assessment**: analyzing the current conditions of the watershed, including land use, water quality, hydrology, and habitats; **stakeholder engagement**: Involving local communities, government agencies, and other stakeholders to gather input and build support for the project; **goals and objectives**: defining clear goals, including improving water quality, controlling invasive weeds, stabilizing eroding banks, improving habitat and supporting listed species; **best management practices**: identifying and designing practices to address identified issues, such as erosion control, and habitat restoration; an **implementation plan**: developing a timeline, budget, and specific actions needed to execute the project; and **a monitoring and evaluation plan**: establishing methods to track the effectiveness of the project and make necessary adjustments over time.

Year 3: The Council will complete analyses to identify specific project locations; develop project timelines and milestones; research what type of environmental permits are required. Consultants will complete site-specific design and engineering, including preparing engineering drawings and specifications for construction; develop a basis of design document and analyze the means and methods for construction at the project site and identify constraints, necessary equipment, site access, staging areas, etc.

Permits

No permits are required at the planning stage. Some of the implementation work, including removal of trash and controlling invasive weeds and planting native vegetation is covered by a programmatic permit from the Department of Fish and Wildlife.

The LPCCC has a history of working with landowners in the Inter-Dam Reach and tributaries, including existing agreements that will need to be extended and augmented. All have granted prior access for preliminary surveys. Landowner agreements will be updated or created in year 1 by the Council and SCWA.

No cultural assessments are required at this stage.

This project will lay the groundwork for watershed scale programmatic permits on the common theme of restoring eroded tributaries.

Performance Measures

The effectiveness of rock vanes and other bank stabilization methods such as grading will be determined by longitudinal profiles of the tributaries that will enable estimates of the total volume of sediment trapped. The effect on peak turbidity will be tracked by SCWA in a permanent monitoring station at Lake Solano. SCWA also conducts periodic bathymetric surveys of Lake Solano to determine the effect of sediment discharges from the tributaries. The long-term cost of annual sediment cleanouts for Putah South Canal will also be tracked as a measure of bank erosion. An engineer's letter report on the performance of 86 rock vanes on Pleasants Creek is included among attachments to this proposal.

Turbidity will be monitored at permanent stations in Lake Solano. Existing locations of elderberries will be mapped and continuity of habitat will be assessed by establishing elderberries at not less than 200-foot intervals to allow for dispersion of the Valley Elderberry Longhorn Beetle.

Sediment spills into the main channel of Putah Creek following peak storm events will be photographed.

Rock vanes are inspected annually by StreamWise and augmented as needed.

D. Presidential and Department of Interior Priorities

Climate Change:

The project will address risks of erosion in high flows caused by more intense storm systems, protect the water supply from extreme turbidity events, counteract droughts by

trapping more water in the tributaries, and resist wildfires by making tributary channels wetter.

Benefits to Disadvantaged, Underserved and Tribal Communities:

Half of the residents of Winters are native Spanish speakers who will benefit from greater recreational opportunities including hiking, boating and fishing. The project will protect salmon spawning sites on the Yolo Housing Authority (Section 8) facility on the main Channel of Putah Creek in Winters.

Tribal Benefits:

The Yoche Dehe Tribe will benefit from participation in project planning, protection of cultural resources, and inclusion of Indian basketweaving plants such as White Root Sedge in restoration plans.

References

1. Second Amended Putah Creek Judgment (Putah Creek Accord), Superior Court of California, Sacramento County. 2002. (Charter of the LPCCC)
2. Poore, Rick Tributaries Project Proposal – Inter-Dam Reach Tributaries: Thompson Canyon, Cold Creek Canyon, Bray Canyon, Pleasants Creek, Streamwise. 2017
3. U.S. Army Corps of Engineers, Sacramento District, Office Report, Hydrology of the City of Winters, California and Lower Putah Creek, Reconnaissance Study, Appendix A. November 1994
4. SCWA Lake Solano Sediment Study – 2013 Update
5. Poore, Gavin Pleasants Creek Rock Vane Project Summary. SCWA. 2024
6. Rosgen, David L., CROSS-VANE, W-WEIR, and J-HOOK VANE Structures (Updated 2006) Description, Design and Application for Stream Stabilization and River Restoration. 2006.
7. Peffer, Emily. Aquatic Vegetation Assessment of Putah Creek, Lake Solano, the Putah South Canal, and the Terminal Reservoir. University of California, Davis Graduate Group in Ecology. 2013.
8. Keller, Edward A. Form and Fluvial Processes of Dry Creek Near Winters, California. Master's Thesis, 1969.
9. Rypel, Andrew L. et al. ORIGIN AND ABUNDANCE OF CHINOOK SALMON IN PUTAH CREEK: ANNUAL REPORT TO SOLANO COUNTY WATER AGENCY 2023/2024 Department of Wildlife, Fish & Conservation Biology, University of California, Davis. 2024
10. US Fish and Wildlife Service, Valley Elderberry Longhorn Beetle Safe Harbor Agreement conducted by SCWA in Solano and Yolo Counties. 2014
11. SCWA/LPCCC. Lower Putah Creek Watershed Management Action Plan 2008.
12. Brown, Christine, P.E. NRCS Dry Creek @ Highway 128. Trip Report. Vacaville Office. 2020.
13. Dybala, Kristin E., et al. Evaluating Riparian Restoration Success: Long-Term Responses of the Breeding Bird Community in California's Lower Putah Creek Watershed. Ecological Restoration. 2018.

14. Lake Solano Sediment Removal and Management Study, Phase 1 Final Report, Northwest Hydraulic Consultants. 1998.
15. Preliminary Assessment of Sediment and Sludge Removal and Treatment Alternatives for the Putah South Canal. Northwest Hydraulic Consultants. 2010
16. NRCS Plant Guide: White Root Sedge, importance to Indian Basketweavers.

Official Resolution

An official resolution of the Solano County Water Agency will be considered at their next meeting, September 12, 2024.

Agenda Item No. 6E

RESOLUTION NUMBER 2024-07

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SOLANO COUNTY WATER AGENCY APPROVING THE APPLICATION FOR THE GRANT FUNDS TO THE BUREAU OF RECLAMATION FOR THE LOWER PUTAH CREEK WATERSHED PLAN UPDATE: INTERDAM REACH AND TRIBUTARIES

WHEREAS, the U.S. Department of Interior Bureau of Reclamation has created the WaterSMART Cooperative Watershed Management Program Phase 2 Funding Opportunity Announcement No. BOR-DO-21-F002; and

WHEREAS, the Bureau of Reclamation has been delegated the responsibility for the administration of this grant program and establishing necessary procedures; and

WHEREAS, said procedures established by the Bureau of Reclamation require a resolution certifying the approval of application(s) by the Applicant's governing board before submission of said application(s) to the Bureau of Reclamation; and

WHEREAS, Solano County Water Agency is fiscal agent of the Lower Putah Creek Coordinating Committee, a qualifying local watershed group; and

WHEREAS, the Lower Putah Creek Coordinating Committee has approved the proposed project.

NOW, THEREFORE, BE IT RESOLVED that the Board of the Solano County Water Agency

1. Approves the filing of an application on behalf of the Lower PutaH Creek Coordinating Committee for the LOWER PUTAH CREEK WATERSHED PLAN UPDATE: INTERDAM REACH AND TRIBUTARIES; and
2. Certifies that Applicant understands the assurances and certification in the application; and
3. Appoints the GENERAL MANAGER or designee, as agent to conduct all negotiations, execute and submit all documents including, but not limited to, applications, agreements, payment requests and so on, which may be necessary for the completion of the aforementioned project.

Approved and adopted the 12th day of September 2024. I, the undersigned, hereby certify that the foregoing Resolution Number 2024-07 was duly adopted by the Solano County Water Agency Board of Directors by the following vote:

Ayes:

Noes:

Abstain :

Absent:

_____

Chris Lee
General Manager & Secretary to the
Solano County Water Agency

Letters of Support

SOLANO COUNTY WATER AGENCY

August 26, 2024

Department of the Interior
Bureau of Reclamation
Water Resource and Planning Office

RE: Funding Opportunity BOR-DO-21-F002
Lower Putah Creek Watershed Management Plan Update:
Interdam Reach and Tributaries

To Whom It May Concern,
Solano County Water Agency (SCWA) on behalf of the Lower Putah Creek Coordinating Committee (LPCCC), an existing watershed group is submitting a proposal to the WaterSMART Cooperative Watershed Management Program entitled Lower Putah Creek Watershed Management Plan Update: Interdam Reach and Tributaries. SCWA administers the federal Solano Project and is fiscal agent for the LPCCC.

SCWA has drafted a resolution accepting the grant, if awarded, that will be considered at the next board meeting on Thursday, September 12, 2024.

Sincerely,

Chris Lee
General Manager
(707) 455-1105

810 Vaca Valley Parkway, Suite 202
Vacaville, CA 95688
(707) 451-6090
Fax (707) 451-6099
Scwa2.com

SOLANO WATER
BE GREEN. SAVE BLUE

LOWER PUTAH CREEK COORDINATING COMMITTEE

August 28, 2024

Department of the Interior
Bureau of Reclamation
Water Resource and Planning Office

RE: Funding Opportunity BOR-DO-21-F002
Lower Putah Creek Watershed Management Plan Update:
Interdam Reach and Tributaries

To Whom It May Concern,

The Lower Putah Creek Coordinating Committee with Solano County Water Agency as fiscal agent approves the submission of a grant proposal to the WaterSMART Cooperative Watershed Management Phase 2 Program entitled Lower Putah Creek Watershed Management Plan Update: Interdam Reach and Tributaries

The LPCCC Board meets next Thursday, September 12, 2024, and will formally adopt the proposal at that time.

Sincerely,

Andrew Fulks, Chair
Lower Putah Creek Coordinating Committee
(530) 752-0763

Putah Creek Council

AUGUST 27, 2024

To Whom It May Concern:

Putah Creek Council (PCC) fully supports and is very pleased to be a part of the project titled "Lower Putah Creek Watershed Plan Update: Interdam Reach and Tributaries Cooperative Watershed Management," which is submitted by the Lower Putah Creek Coordinating Committee (LPCCC) and Solano County Water Agency (SCWA). Should the project be funded, PCC will be a key player in carrying out the tasks described.

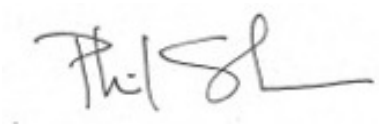
PCC recognizes the need for a comprehensive planning effort that covers the upstream reaches and tributaries of Lower Putah Creek. The tributaries in particular are significant sources of fine sediments that are aggrading Lake Solano and reducing available salmon spawning habitat below the Solano Diversion Dam. Repair and restoration of these areas will be essential to the successful recovery of a thriving salmon population in Putah Creek.

Since its founding in 1988, PCC has focused on protecting and restoring Putah Creek in partnership with the cities of Davis and Winters, local resource conservation districts, and other nonprofit organizations. With the signing of the Putah Creek Accord in 2000, PCC has also worked closely with the LPCCC and SCWA, the sponsors of the current proposal.

PCC has deep and broad roots in the communities that border Putah Creek. Over the years the organization has developed a reputation for effective community engagement and willingness to work with all stakeholders in the creek. Our mailing list includes over 3,000 residents of the watershed, and we host hundreds of volunteers per year at our community environmental stewardship events. We also serve thousands of school-age children every year through our environmental education programs, and operate a very popular internship program for college students and other adults.

We are excited at the prospect of working with our partners to begin the restoration of the sections of Putah Creek that have so far not been targeted for restoration action. Thank you very much for considering this proposal.

Best regards,



Phil Stevens
Executive Director

UNIVERSITY OF CALIFORNIA, DAVIS

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ONE SHIELDS AVENUE
DAVIS, CALIFORNIA 95616-8571

August 27, 2024

Department of the Interior
Bureau of Reclamation
Water Resource and Planning Office

RE: Funding Opportunity BOR-DO-21-F002
Lower Putah Creek Watershed Management Plan Update:
Interdam Reach and Tributaries

Colleagues:

It is my pleasure to submit this accompanying letter of support for the application by Solano County Water Agency (SCWA) on behalf of the Lower Putah Creek Coordinating Committee (LPCCC), to the U.S. Bureau of Reclamation WaterSmart Cooperative Watershed Management Phase II Program to update the Lower Putah Creek Watershed Management Action Plan. As you know the proposed project includes plans for the Interdam Reach (between Monticello Dam and Putah Diversion Dam) and ten tributaries that have all eroded since construction of the Solano Project (Monticello Dam, Putah Diversion Dam and Putah South Canal) as an unintended consequence of water storage. Working to mitigate these issues is therefore important for the ecological health of the watershed. As such, I consider this an outstanding proposal that I believe should be highly competitive.

I am a Professor and the Peter B. Moyle and Coldwater Fish Chair at University of California Davis, and also the Director at the Center for Watershed Sciences. I have over 20 years of professional experience studying the ecology and production of native and managed fish populations across the world. And for the last 8 years I have worked specifically on conservation and management of native fishes in Putah Creek. My lab operates a major agreement with SCWA to monitor and study native fishes in Putah Creek, with a special focus on Chinook salmon. For example, we maintain a long-term counting operation for adult Chinook salmon each fall, operate a rotary screw trap to count out-migrating juveniles in the spring, and conduct acoustic telemetry experiments with large smolts to understand fish passage barriers and other limitations to survivorship. We publish peer-reviewed studies on Putah Creek; e.g., on the salmon populations (Willmes et al. 2021 *Fisheries*), or how the fish assemblage changed over time with improved management (e.g., Jacinto et al. 2023 *Ecological Applications*, and Baruch et al. 2024 *Ecological Applications*). We also publish blogs on our work in the California Waterblog (see Rabidoux et al. 2022, Rypel et al. 2022, Jacinto et al. 2023).

Putah Creek is a major and rare success story of salmon management in California. For example, while populations continue to decline across the Central Valley (we are in the second year of a statewide salmon fishing closure), Putah Creek is one of few places where the salmon population is growing. During winter 2023/2024, we estimated 735 adult salmon ascend Putah Creek to spawn, up from 548 fish the year prior. I attribute that success largely to the community- and science-based approach to

management occurring at the watershed scale. Going forward, there are several known factors limiting further growth of native salmonids in Putah Creek. One major factor is available redd habitat for spawning adults. We are currently observing salmon spawning 2-4 times on the same redds each year. This pattern obviously signals the need for additional scarification projects and spawning habitat improvements. However, the reverse is also true – siltation of spawning beds poses an inverse threat. Therefore, projects like the one at hand also carry a strong potential for outsized positive impacts. Specifically, an updated Lower Putah Creek Watershed Management Action Plan that focuses on controlling siltation will benefit native fishes, including salmon.

My lab team would be happy to participate in any restoration planning activities that occur as part of this grant. We remain intensely engaged on Putah Creek and aim to continue to do so as going forward – it is after all our local watershed in Davis! We are also here to assist with any other technical and science-oriented questions should they arise. For 25 years now, Putah Creek stakeholders have embraced a collaborative approach to management that is one of the major keys to its successes. We hope to continue contributing to that approach, and advancing more sustainable management of the watershed into the future.

In summary, this is critically important work with a high potential to improve management and production of native fishes, including salmonids, in the Putah Creek watershed. I hope that you'll be as impressed with this research proposal as I have been. Of course, please don't hesitate to contact me if you have any remaining questions about my support for this excellent work. Thank you and Best,

--
Andrew L. Rypel, Ph.D.
Professor, Peter B. Moyle & California Trout Endowed Chair
Department of Wildlife, Fish & Conservation Biology
University of California, Davis
Davis, CA 95616
Office: 530.752.9567, Cell: 205.886.9916
https://sites.google.com/view/rypel-lab/

Director
Center for Watershed Sciences
https://watershed.ucdavis.edu/

United States Department of Agriculture

Natural Resources Conservation Service
Vacaville Field Office
810 Vaca Valley Parkway, Suite 104
(707) 448-0106 ext. 3

August 27, 2024

Department of the Interior
Bureau of Reclamation
Water Resource and Planning Office

RE: Funding Opportunity BOR-DO-21-F002
Lower Putah Creek Watershed Management Plan Update:
Interdam Reach and Tributaries

To Whom It May Concern,

The Vacaville office of the USDA Natural Resources Conservation Service is co-located in the same building as Solano County Water Agency and frequently collaborates on erosion control and habitat enhancement projects in the Putah Creek Watershed. We work with private landowners including those on the Pleasants Creek tributary to Putah Creek on bank stabilization and erosion control projects.

If the subject grant is awarded, our office would participate in stakeholder meetings and provide technical assistance in the development of bank stabilization projects especially on agricultural lands in Solano County.

Sincerely,

Teri Knight

Teri Knight
District Conservationist

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Est. 1875

August 27, 2024

Department of the Interior
Bureau of Reclamation
Water Resource and Planning Office

RE: Funding Opportunity BOR-DO-21-F002
Lower Putah Creek Watershed Management Plan Update:
Interdam Reach and Tributaries

To Whom It May Concern,
As a member of the Lower Putah Creek Coordinating Committee (LPCCC), the City of Winters supports the application to the WaterSmart Cooperative Watershed Management Phase II Program to update the Lower Putah Creek Watershed Management Plan to include the Interdam Reach and ten tributaries, especially Dry Creek which forms the Western Boundary of Winters.

In the early 1990s, the City of Winters approached the U.S. Army Corps of Engineers to perform a flood study of Dry Creek. The study analyzed the effect of water storage at Monticello Dam and concluded that Dry Creek had eroded in response to the change in peak flood stage at the mouth of Dry Creek. The same effect is occurring on all tributaries to Putah Creek, thus the need for a comprehensive watershed approach.

The LPCCC has restored fall-run Chinook salmon to Lower Putah Creek sufficiently to support a Winters Salmon Festival each year on the first Saturday in November, where residents often witness salmon spawning in Winters Putah Creek Nature Park. Our salmon are threatened by siltation of spawning beds from erosion of upstream tributaries including Dry Creek.

If funded, the City of Winters would participate as a stakeholder and facilitate outreach to the residential landowners whose property backs up to Dry Creek. We have seen the benefits of rock vanes stabilizing Dry Creek downstream of Highway 128 but have noticed that the erosion

has propagated upstream since the highway bridge replacement in 1998 that removed a box culvert in favor of a single span bridge. This indicates a need for more rock vanes upstream of the Highway 128 bridge that this project would facilitate.

Sincerely,

Jeremy Craig
City Manager

1520 East Covell Blvd
Suite 5, PMB #331
Davis CA 95616
SK60@putahcreektrout.org
530-400-1171

August 27, 2024

Department of the Interior
Bureau of Reclamation
Water Resource and Planning Office

RE: Funding Opportunity BOR-DO-21-F002
Lower Putah Creek Watershed Management Plan Update:
Interdam Reach and Tributaries

To Whom It May Concern,

Putah Creek Trout supports the application by Solano County Water Agency (SCWA) on behalf of the Lower Putah Creek Coordinating Committee (LPCCC), to the U.S. Bureau of Reclamation WaterSmart Cooperative Watershed Management Phase II Program to update the Lower Putah Creek Watershed Management Action Plan to include the Interdam Reach (between Monticello Dam and Putah Diversion Dam) and ten tributaries, that have all eroded since construction of the Solano Project (Monticello Dam, Putah Diversion Dam and Putah South Canal) as an unintended consequence of water storage.

Putah Creek Trout has long been concerned with siltation of trout spawning habitat at the mouths of the tributaries, especially Thompson Creek and Cold Creek which were historically among the best spawning sites in the Interdam Reach. Other sites in the Interdam Reach offer rearing habitat that could be further improved.

Putah Creek Interdam reach has been designated by California Department of Fish and Wildlife as a Trophy Wild Trout Water, suspending the stocking of hatchery trout, making the Interdam Reach more dependent upon natural spawning. The Interdam Reach attracts roughly 100,000 visitors per year. Putah Creek Trout would gladly participate in stakeholder meetings to protect this unique resource.

Sincerely,

Stephen Karr

Stephen Karr, PhD
Chairman of the Board for Putah Creek Trout

SOLANO
Resource
Conservation
District

1170 N. Lincoln St. Suite 110
Dixon, CA 95620
(707) 678-1655 x 3
solanorcd.org

August 27, 2024

Department of the Interior
Bureau of Reclamation
Water Resource and Planning Office

RE: Funding Opportunity BOR-DO-21-F002
Lower Putah Creek Watershed Management Plan Update:
Inter-dam Reach and Tributaries

To Whom It May Concern,
I am writing in support of the application by Solano County Water Agency (SCWA) on behalf of the Lower Putah Creek Coordinating Committee (LPCCC), to the U.S. Bureau of Reclamation WaterSmart Cooperative Watershed Management Phase II Program to update the Lower Putah Creek Watershed Management Action Plan to include the Inter-dam Reach (between Monticello Dam and Putah Diversion Dam) and ten tributaries, that have all eroded since construction of the Solano Project (Monticello Dam, Putah Diversion Dam and Putah South Canal) as an unintended consequence of water storage.

Solano Resource Conservation District (RCD) has worked with SCWA and the LPCCC on a number of restoration projects in the Putah Creek Watershed including trash cleanup, invasive weed control and planting and maintaining native vegetation on mainstem Putah Creek and Pleasants Creek tributary. We have also been active with Solano County Parks Department in restoration of Lake Solano Park and advising on ways to reduce risk of wildfires on Solano County tributaries.

Solano RCD has existing relationships with landowners in the Inter-dam Reach and tributaries, especially Pleasants Creek and can provide technical assistance in the development of restoration plans.

Sincerely,

Chris Rose
Executive Director
Solano Resource Conservation District

County of Yolo

Mail: 625 Court Street, Room 204
Woodland, CA 95695
(530) 666-8622

District Office: 600 A Street, Suite B
Davis, CA 95616
(530) 757-5557

LUCAS FRERICHS
Supervisor, Second District

August 30, 2024

Department of the Interior
Bureau of Reclamation
Water Resource and Planning Office

Subject: Funding Opportunity BOR-DO-21-F002; Lower Putah Creek Watershed Management Plan Update: Interdam Reach and Tributaries

To Whom It May Concern:

As a member of the Lower Putah Creek Coordinating Committee, I support the proposed application to the WaterSmart Cooperative Watershed Management Phase II Program to update the Lower Putah Creek Watershed Management Plan to include the Interdam Reach and ten tributaries, especially Thompson Creek, Bray Canyon, Apricot Draw and Dry Creek, all Yolo County tributaries to Lower Putah Creek.

As documented in a 1994 Reconnaissance Study of Dry Creek by the U.S. Army Corps of Engineers, all tributaries downstream of Monticello Dam (Solano Project) have been eroding since the construction of the dam due to the change in peak flood stage caused by water storage. The approximately 20 feet of observed erosion agrees in time and in magnitude with the change in peak flood stage.

This project would engage stakeholders in addressing tributary erosion and explore other habitat enhancement projects. Among other benefits, the project would promote the recovery of fall run Chinook salmon by protecting spawning beds from becoming buried in silt.

With appreciation,

Lucas Frerichs, Yolo County Supervisor, District 2

SOLANO COUNTY | BOARD OF SUPERVISORS

675 Texas Street, Suite 6500, Fairfield, CA 94533-6342 Fax (707) 784-6665

JOHN M. VASQUEZ
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JMVasquez@solanocounty.com

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August 27, 2024

Department of the Interior
Bureau of Reclamation
Water Resource and Planning Office

RE: Funding Opportunity BOR-DO-21-F002
Lower Putah Creek Watershed Management Plan Update:
Interdam Reach and Tributaries

To Whom It May Concern,
I am writing in support of the application by Solano County Water Agency on behalf of the Lower Putah Creek Coordinating Committee (LPCCC), to the U.S. Bureau of Reclamation WaterSmart Cooperative Watershed Management Phase II Program to update the Lower Putah Creek Watershed Management Action Plan to include the Interdam Reach (between Monticello Dam and Putah Diversion Dam) and ten tributaries, that have all eroded since construction of the Solano Project (Monticello Dam, Putah Diversion Dam and Putah South Canal) as an unintended consequence of water storage.

Tributary erosion has degraded salmon and trout spawning habitats downstream of Monticello Dam. Salmon on Putah Creek are limited by spawning habitat. This project would contribute to the recovery of salmon populations, especially fall run Chinook salmon and protect the trophy trout spawning beds in the Interdam Reach.

This project would convene diverse stakeholders in planning restoration projects in the Interdam Reach to address siltation of spawning beds at the source. By rebuilding the bed of eroded channels, this project would also present a rare opportunity for true restoration of the watershed.

As County Supervisor and board member of Solano County Water Agency, I can attest that since the work of restoring the flows to Putah Creek and its restoration I have witnessed the many benefits and the return of the salmon to record runs in recent years.

Thank you,

John M. Vasquez,
Board of Supervisors
Solano County, District 4

Yolo County Resource Conservation District
221 West Court Street, Suite 1
Woodland, CA 95695
phone: (530) 661-1688
www.yolorcd.org

August 29, 2024

Department of the Interior
Bureau of Reclamation
Water Resource and Planning Office

RE: Funding Opportunity BOR-DO-21-F002
Lower Putah Creek Watershed Management Plan Update: Interdam Reach and Tributaries

To Whom It May Concern,

I am writing in support of the application by Solano County Water Agency (SCWA) on behalf of the Lower Putah Creek Coordinating Committee (LPCCC), to the U.S. Bureau of Reclamation WaterSmart Cooperative Watershed Management Phase II Program to update the Lower Putah Creek Watershed Management Action Plan to include the Interdam Reach (between Monticello Dam and Putah Diversion Dam) and ten tributaries, that have all eroded since construction of the Solano Project (Monticello Dam, Putah Diversion Dam and Putah South Canal) as an unintended consequence of water storage.

Yolo County Resource Conservation District (RCD) has worked with SCWA on a number of restoration projects in the Putah Creek Watershed including trash cleanup and invasive weed control, including native vegetation plantings on Dry Creek downstream of Highway 128. Half of the eroding tributaries to Putah Creek originate in Yolo County, including Thompson Canyon, Bray Canyon, Apricot Draw and Dry Creek including the west fork of Dry Creek.

The Putah Creek Watershed is a significant natural resource in our district. Through our Putah-Cache Riparian Restoration program, we are committed to contributing to long term efforts to improve the resilience and function of this ecosystem. If funded, Yolo County RCD would participate in stakeholder meetings and advise on restoration projects.

Sincerely,

Heather Nichols

Budget Narrative

Lower Putah Creek Watershed Management Plan Update:
Interdam Reach and Tributaries

Increased base flows on Pleasants Creek after rock vane construction

September 3, 2024

Project Manager: Rich Marovich, Streamkeeper Emeritus
Lower Putah Creek Coordinating Committee
Solano County Water Agency
810 Vaca Valley Parkway, Suite 202
Vacaville, CA 95688
(530) 902-1794
rmarovich@scwa2.com

Abbreviations

PCC	Putah Creek Council
SCWA	Solano County Water Agency
SW	StreamWise (Geomorphic consultant)

Administration: Streamkeeper Emeritus Richard Marovich of Solano County Water Agency will administer the project on behalf of the Lower Putah Creek Coordinating Committee including project management, execution of contracts, progress reports and invoices. SCWA hours and benefits will be billed at actual cost not to exceed the amount below.

Task	Year	Subtask	Staff	Hours	Rate	Extended
-	1-3	Administration	SCWA	200	$150	$30,000

Task A: Watershed Group Development: Putah Creek Council (PCC) Executive Director Philip Stevens and staff will lead outreach efforts beginning with development of an outreach plan, and pre-planning meetings to review existing plans related to the watershed, and collect baseline information. He will issue a press release and newspaper articles inviting stakeholders to planning meetings and will lead tours of successful projects, especially the existing rock vanes on Pleasants Creek, Dry Creek and Cold Canyon. He will mail the press release and newspaper articles to landowners and an email list of over 300 people. He will hold stakeholder meetings, meetings with individual landowners and land managers and obtain agreements from the willing for consensus restoration projects.

Task	Year	Subtask	Staff	Hours	Rate	Extended
A	1	Pre-planning Activities	PCC	300	$105	$31,500
A	1	Outreach Plan	PCC	80	$105	$ 8,400
A	1	Press Release	PCC	8	$ 77	$ 616
A	1	Newspaper Articles	PCC	48	$ 77	$ 3,696
A	1	Site Tours	PCC	80	$105	$ 8,400
A	1	Landowner Meetings	PCC	80	$105	$ 8,400
		Task A Subtotal				**$ 61,012**

Task B: Watershed Restoration Planning

Rick Poore of Streamwise (SW) will augment existing physical and biological assessments of baseline conditions and perform new assessments for McCune Creek and unnamed tributaries and to extend rock vanes upstream on Cold Creek, Pleasants Creek and Miller Creek. He will determine placement of rock vanes with willing landowners and map locations for bank stabilization projects, weed control sites and native vegetation plantings.

Phil Stevens of Putah Creek Council (PCC) will work with watershed group members, landowners, local, state and federal agencies to determine how the watershed can be improved. He will complete watershed restoration plans for Inter-Dam Reach and tributaries including Valley Elderberry Longhorn Beetle Safe Harbor Agreements with individual landowners who are interested.

Task	Year	Subtask	Staff	Hours	Rate	Extended
B	1	Physical and Biological Assessments	SW	100	$150	$ 15,000
B	1	Identify Watershed Improvements	PCC	300	$105	$ 31,500
B	2	Propose Rock Vane Locations	SW	40	$150	$ 6,000
B	2	Propose Bank Stabilization Locations	SW	40	$150	$ 6,000
B	2	Complete Watershed Restoration Plan Update	PCC	480	$105	$ 50,400
		Task B Subtotal				**$ 108,900**

Task C: Watershed Management Project Design

Phil Stevens of Putah Creek Council will complete the analysis to identify specific project locations, develop project timelines and milestones and research permit requirements. Rick Poore of Streamwise will complete site-specific project design and engineering including but not limited to: preparing design drawings and specifications for construction of the project; develop a basis of design document and analyze the means and methods for construction at the project site, including equipment requirements, access and egress, staging areas, constraints, etc.

Task	Year	Subtask	Staff	Hours	Rate	Extended
C	3	Identify Project Locations	SW	80	$150	$ 12,000
C	3	Develop Timelines and Milestones	PCC	120	$105	$ 12,600
C	3	Research Permit Requirements	PCC	240	$105	$ 25,200
C	3	Analyze the means and methods of construction at the project sites and identify constraints.	SW	100	$150	$ 15,000
C	3	Prepare Basis of Design Document	SW	20	$150	$ 3,000
C	3	Complete Site-Specific project design and engineering including drawings and specifications for construction	SW	200	$150	$ 30,000
		Task C Subtotal				**$ 97,800**

Budget Summary	
Task	**Budget**
Administration	**$ 30,000**
A: Watershed Group Development	**$ 61,012**
B: Watershed Restoration Planning	**$ 108,900**
C: Watershed Management Project Design	**$ 97,800**
Total	**$ 297,712**

Summary by Contractor		
Contactor	**Budget**	**Percent of Total**
Solano County Water Agency	**$ 30,000**	**10%**
Putah Creek Council	**$ 180,712**	**60%**
Streamwise (Engineering)	**$ 87,000**	**30%**
Total	**$ 297,712**	**100%**

Summary of Non-Federal and Federal Funding Sources	
Federal	**$ 297,712**
Non-Federal	**$ 0**
Other	**$ 0**
Requested Reclamation Funding	**$ 297,712**

No Indirect Costs, Travel or Supplies

Solano County Water Agency waives reimbursement for indirect costs, travel and supplies. Salaries and benefits will be billed at cost not to exceed the hourly rate in the budget.

Environmental and Cultural Resource Compliance

The proposed project will be constructed in highly eroded channels where cultural resources are unlikely to remain. We will consult with the Yoche Dehe Tribe on proximity to historic sites. Known tribal encampments are all on higher ground, typically near confluences. A search of cultural locations was included in the original Watershed Management Action Plan and will be updated as part of Task B.

Required Permits or Approvals

No permits are required to conduct planning activities and site assessments. Sites selected for elderberry plantings will be enrolled in the Valley Elderberry Safe Harbor Agreement with licenses issued to individual landowners under Section 10 of the federal Endangered Species Act.

Overlap or Duplication of Effort

No overlap or duplication of effort is expected. The watershed plan update will focus on areas not covered by the original Watershed Management Action Plan. Geomophic assessments have been conducted for Cold Creek, Thompson Canyon, Bray Canyon and Pleasants Creek. Additional assessments will focus on upstream reaches and tributaries not previously assessed.

Conflict of Interest Disclosure Statement

Two Putah Creek Council board members have homes that back up to Dry Creek. Since the proposed restoration projects will be open to all Dry Creek landowners, there is no conflict of interest. However, to avoid the appearance of conflict of interest, affected board members will recuse themselves from discussions concerning restoration of Dry Creek except where landowner agreements may be needed. SCWA employees file annual conflict of interest statements.

Uniform Audit Reporting Statement

This project falls below the threshold of federal limits for a Single Audit report. However, Solano County Water Agency conducts annual audits and posts the results on their website with financial reports.

Disclosure of Lobbying Activities

SCWA has a federal lobbyist and will include a signed SF-LLL form.

Letters of Support

Support letters are compiled and will be included as an attachment to this proposal.

Official Resolution

An official resolution from the Solano County Water Agency Board will be considered at their next regular meeting on September 12. The Lower Putah Creek Coordinating Committee will also affirm their support at their next meeting also scheduled for September 12.

Unique Entity Identifier

The Unique Entity Identifier for Solano County Water Agency is: **FBSDL3C2FMJ7.**

Registration with System for Award Management (SAM)

Solano County Water Agency is registered with SAM.

Conflict of Interest Disclosure Statement

Two properties owned by Putah Creek Council board members including the current chair back up to Dry Creek upstream of Highway 128. This area will be assessed to determine if rock vanes or other bank stabilization work is needed on these properties. The offer of assistance to landowners to stabilize banks applies to all landowners with eroding banks, so technically there is no conflict of interest.

However to avoid the appearance of a conflict of interest, board members will recuse themselves from decisions regarding Dry Creek.

Endangered Species Act

Valley Elderberry Longhorn Beetle a federally listed (threatened) species occurs throughout the project area on the upper banks. Solano County Water Agency has entered into an agreement with the U.S. Fish and Wildlife Service on a ESA Section 10 Safe Harbor Agreement that licenses individual landowners to pre-mitigate for any future impact on elderberries by planting more elderberries before any disturbance of existing shrubs.

Overlap or Duplication of Effort

Solano County Water Agency (SCWA) on behalf of the Lower Putah Creek Coordinating Committee and on its own behalf has built 86 rock vanes on the lower five miles of Pleasants Creek, has constructed an initial set of rock vanes on Cold Canyon Creek and Dry Creek downstream of Highway 128. Additional rock vanes are needed upstream of these structures for example upstream of Highway 128 on Dry Creek. The additional sites are geographically separated from past work so there is no overlap or duplication of effort.

Required Permits and Approvals

Putah Creek Council will facilitate landowner agreements with Solano County Water Agency (SCWA) to allow access for surveys where such agreements do not already exist, and update expired agreements as needed.

No permits are required at the planning stage.

SCWA has a programmatic watershed scale permit for invasive weed control and other actions deemed routine maintenance by the California Department of Fish and Wildlife.

Uniform Audit Reporting

The funding level requested is below the threshold requiring uniform audit reporting, however, Solano County Water Agency conducts an annual audit and posts the results with annual financial reports on their website: https://scwa2.com/about-us/finance/financial-reports/

CROSS-VANE, W-WEIR, and J-HOOK VANE Structures (Updated 2006)

Description, Design and Application for Stream Stabilization and River Restoration

David L. Rosgen, P.H., Ph.D.

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wildlandhydrology@wildlandhydrology.com