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ATTACHMENTS

1. Summary Information

1. Project title:	Lower Putah Creek Restoration from Toe Drain to Monticello Dam: Project Description Development, CEQA Compliance, Permits, Selected Final Design
2. Applicant name:	Yolo Basin Foundation
3. Contact person:	(1) Robin Kulakow, Co-Executive Director, (2) Ann Brice, Co-Executive Director
4. Address:	Yolo Basin Foundation, P.O. Box 943
5. City, State, Zip:	Davis, CA 95617
6. Telephone #:	Kulakow, 916-996-0002; Brice, 530-758-0530
7. Fax #:	530-757-4824
8. Email address:	robin@yolobasin.org, abrice@yolobasin.org
9. Agency Type:	Nonprofit Organization
10. Certified nonprofit Organization:	Yes ☒
11. New grantee:	Yes ☐ No ☒
12. Amount requested:	$2,160,375
13. Total project cost:	$12.8 million including matching funds
14. Topic Area(s):	**Primary:** River Channel Restoration **Secondary:** Shallow Water and Marsh Habitat; Riparian Habitat; Fish Passage; Lowland Floodplains and Bypasses; Hydrodynamics, Sediment Transport, and Flow Regimes; Non-Native Invasive Species
15. ERP Project type:	**Primary:** Full-Scale Implementation **Secondary:** Planning, Monitoring, Research
16. Ecosystem Element:	**Primary:** Riparian and Riverine Aquatic Habitats **Secondary:** Tidal Perennial Aquatic Habitat, Central Valley Streamflows, Coarse Sediment Supply, Natural Floodplain and Flood Processes, Essential Fish Habitats, Freshwater Fish Habitats, Fresh Emergent Wetland, Dams and Other Structures, Disturbance, Invasive Aquatic Organisms, Levees, Bridges, and Bank Protection, Predation and Competition, Stranding
17. Water Quality Constituent:	Other
18. At-Risk species benefited:	Fall-run Chinook salmon, Pacific lamprey, Sacramento splittail, Steelhead trout, Swainson's hawk, Willow flycatcher, California black rail, Western snowy plover, California least tern, Giant garter snake, Bell's least vireo, short-eared owl
19. Project objectives:	The project objectives are to restore 300-700 acres of tidal wetlands, create a 5-mile fish bypass channel, improve access to 25 miles of stream to anadromous fish and improve and restore at least 5,000 square feet of salmonid spawning habitat.
20. Time frame:	This project will be conducted over a three year period. During year 1, the CEQA project description will be developed in collaboration with the Stakeholder group. Year 2 will be focused upon preparing the CEQA compliance documents. Year 3 will entail obtaining the necessary regulatory authorizations. Work will be conducted in parallel to the greatest extent feasible in order to complete the project as expeditiously as feasible.

2. Location Information

1. Township, Range, Section, 7.5' USGS Quad map name:	7.5' USGS quads: Davis, Sacramento West, Clarksburg, Merritt, Winters, Allendale, Mount Vaca, Monticello Dam T8N/R3E/S 19, 26, 27, 28, 29, 30, 35 T7N/R3E/S2, 11, 12, 13, 14 T8N/R2E/S:19-28 T8N/R1E/S: 15-18, 23, 24 T8N/R1W/S:22-24, 27, 28, 31, 32

	T8N/R2W/S: 26-29, 36
2. Latitude, Longitude:	N38.525, W121.788
3. Location description:	Lower Putah Creek from the Toe Drain to Monticello Dam
4. County(ies):	Yolo County, Solano County
5. Directions:	From east bound Interstate 80, exit on East Chiles Road. Turn left and drive to the Yolo Bypass levee. From west bound Interstate 80, exit on East Chiles Road/County Road 32A. Turn right and follow this road under the freeway. Drive up the levee and enter the Wildlife Area. Follow the tour route signs to the bottom of the tour route. Go east and south to parking lot G. Go through the gate and follow this road 1 mile past parking lot G.
6. Ecological Management Region:	Delta, Sacramento Valley
7. Ecological Management Zone(s):	North Delta, Yolo Basin
8. Ecological Management Unit(s):	Yolo Bypass, Putah Creek
9. Watershed Plan(s):	Lower Putah Creek Watershed Management Action Plan (2005), Yolo County Integrated Regional Water Management Plan (2011), Lower Putah Creek Accord (2000)
10. Project area:	This Project covers approximately 37 miles of Putah Creek and tributaries above the Yolo Bypass, 5 miles of Putah Creek within the Yolo Bypass, 650 acres of riparian and seasonal wetlands and up to 750 acres of tidal marsh within the Yolo Bypass. See Figures 1 and 2.
11. Land use statement:	The project is located on land that is primarily irrigated pasture, row crop or fallow ground that is owned and operated by a combination of private landowners and the California Department of Fish and Game (DFG) as part of the Lower Putah Creek corridor and the Yolo Bypass Wildlife Area (YBWA). The restoration of creek channel, wetland, and riparian communities along the Creek will provide important habitat for numerous species. The creek is known to support 38 special-status wildlife species and many more are locally rare or have specialized habitat requirements that are present within the Lower Putah basin. The basin provides seasonal or permanent aquatic habitat for 44 species of fish, 8 of which are special-status species. Hundreds of invertebrate species also inhabit the basin, including five special-status invertebrates. Under the ecosystem management approach, management of the basin is intended to maximize benefits for the full suite of these species as opposed to management at the single-species level. Ideas and concepts that have been developed for the basin range from modifying the hydrology of the Yolo Bypass to yield system-wide changes, to modifying a portion of basin topography to produce localized changes, to simply improving fish passage at physical impediments. The most recent studies and planning efforts have been directed towards fish passage improvements within Lower Putah Creek in a way that is not intended to harm existing agricultural and/or managed wetlands operations within the basin or along the creek corridor.
12. Project area ownership:	% Private 78 % State 22 % Federal 0
13. Project area with landowners support of proposal:	See attached access permission letters from CDFG Area Manager and Figures 3 to 6

3. Landowners, Access, and Permits

3.1 Landowners Granting Access for the Project

Though 78% of the Lower Putah Creek corridor is privately owned (EDAW 2005), the vast majority of implementation activities are proposed for lands that are owned and operated by the California Department of Fish and Game (CDFG) as part of the Yolo Bypass Wildlife Area (YBWA). The contact person for CDFG is:

Dave Feliz
Department of Fish and Game Yolo Bypass Wildlife Area Manager
45211 County Rd 32B, Davis, CA 95618
dfeliz@dfg.ca.gov
(530) 681-7134

Non-CDFG landowners may be contacted through Robin Kulakow at the Yolo Basin Foundation (contact information presented above in Section 1).

3.2 Owner Interest

The California Department of Fish and Game owns YBWA properties in fee title (Figure 2). Parcel Numbers affected by the realignment Include: 33-14-57 (430 ac); 33-14-45 (333.9 ac); 33-14-46 (316 ac); 33-16-05 (658.7 ac); 33-16-12 (405.3 ac); 33-16-14 (324.4 ac). The access permission letter to these lands is attached. A number of local and regional farming businesses are along lower Putah Creek, including Los Rios Farms, Nishi Farms, Glide Ranch, Mariani Nut Company, and M&L Fruit Company. Parcel information for these properties is maintained in a database operated by YBF and Yolo/Solano Counties (EDAW 2005). Many property owners have expressed interest in conservation easements (Figures 3 to 6).

3.3 Permits

The project scope of work includes preparation and certification of the necessary CEQA compliance document, and obtaining the necessary permits for implementation. Following the CEQA / NEPA process, the following permit requirements are anticipated:

- **Fish and Game Code 1600 Lake and Streambed Alteration Agreement**: Department of Fish and Game
- **Department of Water Resources 3615 Encroachment Permit:** Central Valley Flood Protection Board
- **Clean Water Act 404 (anticipated Nationwide Permit No. 27 for wetland and riparian restoration)**: US Army Corps of Engineers
- **Clean Water Act 401 Certification**: Regional Water Quality Control Board
- **Clean Water Act 402 Permit**: State Water Resources Control Board
- **State Lands Lease Amendment (may not be needed pending formal inquiry):** State Lands Commission

Projects upstream of the fish bypass channel could potentially require local government authorizations from the cities of Davis and Winters as well as non-municipal entities such as UC Davis.

3.4 Lead CEQA Agency

The CEQA lead agency is expected to be CDFG. James Navicky (CDFG, BDCP) and Dave Feliz (CDFG, Yolo Wildlife Area Manager) will be Core Team co-chairs.

3.5 Required Mitigation

The Project is not required as mitigation pursuant to CEQA or any other authority. The project has been identified as an important conservation measure in the ERP Stage 2 Conservation Strategy and Bay Delta Conservation Plan.

4. Project Objectives

4.1 Primary ERP Objective Addressed

ERP Primary Objective: *Goal 4, Habitats: Objective 1: Restore large expanses of all major habitat types, and sufficient connectivity among habitats, in the Delta, Suisun Bay, Suisun Marsh, and San Francisco Bay to support recovery and restoration of native species and biotic communities and rehabilitation of ecological processes. These habitat types include tidal marsh (fresh, brackish, and saline), tidal perennial aquatic (including shallow water and tide flats), nontidal perennial aquatic, tidal sloughs, midchannel island and shoal, seasonal wetlands, riparian and shaded riverine aquatic, inland dune scrub, upland scrub, and perennial grasslands.*

The project will achieve this objective by restoring 300-700 acres of tidal freshwater wetlands, creating 5 miles of a new fish channel, improving anadromous fish access to 25 miles of stream, and restoring at least 5,000 square feet of salmon spawning habitat. Connectivity between these habitats will enhance salmonid in-migration and spawning as well as rearing and outmigration conditions for smolts. The restored landscape of tidal, fluvial, and riparian habitats will benefit a broad range of special-status plants and wildlife, including many of the species listed below in Goal 1, Objective 1 and Goal 1, Objective 2.

4.2 Additional ERP Objectives Addressed

ERP Secondary Objective: *Goal 1, Objective 1: Achieve, first, recovery and then large self-sustaining populations of the following at-risk native species dependent on the Delta, Suisun bay, and Suisun Marsh: Central Valley winter-, spring-, and fall-run Chinook salmon ESUs, Central Valley steelhead ESU, delta smelt, longfin smelt, Sacramento splittail, green sturgeon, valley elderberry longhorn beetle, Suisun ornate shrew, Suisun song sparrow, soft bird's-beak, Suisun thistle, Mason's lilaeopsis, San Pablo song sparrow, Lange's metalmark butterfly, Antioch Dunes evening primrose, Contra Costa wallflower, and Suisun marsh aster.*

The project will achieve this objective by enhancing habitat within Lower Putah Creek to support the recovery of local fall-run Chinook salmon, steelhead, and Sacramento splittail populations.

ERP Secondary Objective: *Goal 2, Objective 1: Establish and maintain hydrologic and hydrodynamic regimes for the Bay and Delta that support recovery and restoration of native species and biotic communities, support the restoration and maintenance of functional natural habitats, and maintain harvested species.*

ERP Secondary Objective: *Goal 2, Objective 3: Rehabilitate natural processes to create and maintain complex channel morphology, in-channel islands, and shallow water habitats in the Delta and Suisun Marsh.*

ERP Secondary Objective: *Goal 2, Objective 5: Establish hydrologic regimes in streams, including sufficient flow timing, magnitude, duration, and high flow frequency, to maintain channel and sediment conditions supporting the recovery and restoration of native aquatic and riparian species and biotic communities.*

ERP Secondary Objective: *Goal 2, Objective 6: Reestablish floodplain inundation and channel-floodplain connectivity of sufficient frequency, timing, duration, and magnitude to support the restoration and maintenance of functional natural floodplain, riparian, and riverine habitats.*

ERP Secondary Objective: *Goal 2, Objective 7: Restore coarse sediment supplies to sediment-starved rivers downstream of reservoirs to support the restoration and maintenance of functional natural riverine habitats.*

The project will achieve these objectives by restoring hydrologic/hydrodynamic and other physical processes that support the tidal, fluvial, and riparian habitats needed by native species and biotic communities. Examples of these actions include establishment of a more natural hydrograph within Lower Putah Creek, enhancing gravel/coarse sediment transport and the establishment of suitable salmon spawning substrate, reducing artificial fine sediment inputs to the creek system, re-engineering the creek floodplain so that target special-status fish species will have increased accessibility to the habitats they need for foraging and reproduction at lower flows, and restoring tidal action to habitats that were historically tidally inundated.

ERP Secondary Objective: *Goal 5, Objective 7: Limit the spread or, when possible and appropriate, eradicate populations of non-native invasive species through focused management efforts.*

The project will achieve this objective by engineering a fish bypass channel that can be completely drained in the summer after all outmigrating smolts have left the creek channel. This will help to minimize or potentially even prevent the establishment of large, non-native, predatory fish such as striped bass and largemouth bass in the channel, which should decrease predation on salmonid smolts and other special-status species.

ERP Secondary Objective: *Goal 6, Objective 3: Reduce fine sediment loadings from human activities into rivers and streams to levels that do not cause adverse ecological effects.*

The project will achieve this objective by removing an earthen dam (Road 106a Crossing) whose yearly erosion is currently a significant source of fine sediment to the creek, and replacing it with a bridge crossing.

4.3 Sources of Information on Objectives

Appendix D of the Proposal Solicitation Package.

5. Conflict of Interest

The following information is provided to assist ERP staff in managing potential conflicts of interest as part of the review and selection process by identifying who will directly benefit if your proposal is funded.

Category 1: Persons listed in the proposal, who wrote the proposal, will be performing the tasks listed in the proposal, or who will benefit financially if the proposal is funded

- Yolo Basin Foundation: Robin Kulakow, Ann Brice
- Yolo Bypass Wildlife Area: Dave Feliz

Category 2: Subcontractors listed in the proposal, who will perform tasks listed in the proposal, or will benefit financially if the proposal is funded

- Stillwater Sciences: Noah Hume, Russ Liebig, Bruce Orr, AJ Keith, Scott Dusterhoff, Glen Leverich, Maia Singer, Krista Orr, Megan Keever, Lauren Dusek, Holly Shepley, Nicole Jurjavcic, Amy Merrill
- Wetlands and Water Resources: Stuart Siegel, Christina Toms, Roger Leventhal, Dan Gillenwater, Esa Crumb, Megan Lipps, Leigh Etheridge
- Grassetti Environmental: Richard Grassetti, Miley Holman, Paul Miller, William Scott, Michael Campbell
- cbec eco engineering: Chris Bowles, Chris Campbell
- Vollmar Consulting: John Vollmar, Cassie Pinnell
- Center for Collaborative Policy: Dave Ceppos, Sam McGill

Primary Contact for Proposal: Robin Kulakow, Yolo Basin Foundation
Primary Investigator: Ann Brice, Yolo Basin Foundation
Co-Primary Investigator: Dave Feliz, Yolo Bypass Wildlife Area
Subcontractors: Stillwater Sciences, Wetlands and Water Resources, Grassetti Environmental, cbec, Vollmar Consulting, Center for Collaborative Policy

List of names and organizations of all individuals not listed in the proposal who helped with proposal development along with any comments.

Last Name	First Name	Organization	Role
Eddings	Robert	California Waterfowl	Supporting information
Santerre	Chadd	California Waterfowl	Supporting information
Marovich	Rich	Lower Putah Creek Coordinating Committee	Supporting information

6. Project Tasks and Results

6.1 Detailed Project Description

The actions in this proposal will result in a project design (Restoration Plan), at a level of detail suitable to complete project-level CEQA analysis and necessary permits to: (1) remove a variety of fish barriers on 25 miles of Lower Putah Creek, (2) restore and enhance anadromous fish spawning and emigration access, (3) reroute Lower Putah Creek east of Davis, CA through five miles of new stream channel and seasonal wetland complex.

This proposal includes three discrete elements as follows:

1) **Yolo Bypass Wildlife Area Lower Putah Creek Realignment and Tidal Marsh Restoration Project:**
    a. Project description, CEQA, all permits except the Flood Encroachment Permit
    b. Flood Encroachment Permit and final design plans and specifications – brings the project to a construction-ready state so that WCB and NAWCA funds can be secured and utilized
2) **Lower Putah Creek Enhancement from Yolo Bypass to Monticello Dam:** at the suggestion of the Wildlife Conservation Board and strongly supported by the LPCCC and other, the project would also include:
    a. Project description, CEQA, and coordination with existing permitting efforts
    b. Final design plans and specifications

The Restoration Plan will include a new diversion structure and fish ladder to be installed at a location approximately 1.2 miles upstream of the Los Rios Dam, and new stream channel approximately five miles long that will empty into a newly restored tidal marsh. The design will allow adult salmon to enter the stream at least one month earlier, giving salmon smolts an additional month to exit the creek. The management of the new fish ladder can also be altered in the future to allow fish to enter the stream earlier when water supplies are available.

Los Rios Dam is located approximately 1.2 miles upstream of the mouth of Putah Creek on the YBWA. This concrete-walled stoplog dam spans the entire width of the creek. Current operation greatly restricts the migration of anadromous fish; stoplogs are installed on April 1st and removed on December 1st of each year. When installed, the dam increases the elevation of Putah Creek by 12 feet and creates a reservoir that is used to divert water for agricultural uses on upstream farms. During these months, it is impossible for fish to move up or downstream. When the dam is removed, the creek returns to a free flowing channel that is accessible to fish. Despite current minimum instream flow conditions to allow fish passage beginning in November, fall-run Chinook salmon are present in the Tule Canal as early as September, but are not allowed to enter the stream until December 1st when the Los Rios Dam is removed. Also, the re-installation of the Los Rios Dam on April 1st each year does not provide smolts enough time to emigrate to the lower Yolo Bypass and Delta. Smolts that become trapped behind the dam have no way to escape the reservoir and eventually die as waters get too warm, usually by mid spring.

The Restoration Plan would route a new stream channel through irrigated pasture, row crop or fallow ground within the YBWA. The new channel will bypass the last 2.3 miles of stream channel (a constructed irrigation canal) through which Putah Creek currently flows. Channel design will include additional shallow-water smolt rearing habitat that is relatively free of non-native predatory fish; the channel will be designed in a manner that will create a series of shallow, seasonal wetlands that will provide high quality rearing habitat. The channel will be designed to allow it to be completely drained in late spring, following the smolt outmigration, to prevent the establishment of large, non-native predatory fish (striped bass, largemouth bass) that are present in Lower Putah Creek and the Tule Canal. This will allow smolts to grow faster and bigger before they enter the Tule Canal to give them a greater chance of survival, and ultimately, a greater chance of returning to Lower Putah Creek to successfully reproduce.

The Plan would also describe measures to improve channel/floodplain habitat within the Creek of the Yolo Bypass. These measures include, but are not limited to: installation of fish ladders at selected in-stream structures, improvement or replacement of undersized creek crossings, floodplain restoration, vegetation management activities (control/removal of exotic/non-native/invasive vegetation, enhancement of native riparian/wetland communities), excavation of a deeper, narrower creek channel in certain locations, trash abatement, spawning gravel enhancement, and bank stabilization. These measures are discussed at length in the Lower Putah Creek Watershed Management Action Plan (EDAW 2005).

Construction funds are anticipated from the Wildlife Conservation Board which requires CEQA compliance to grant those funds and from the Fish and Wildlife Service North American Waterfowl Conservation Act which requires NEPA compliance to grant funds. As the NAWCA funds will be limited to work outside Clean Water Act jurisdiction, FWS will complete the necessary NEPA compliance requirements as part of its NAWCA grant process. Consequently, this grant request does not include NEPA compliance activities.

6.2 Background and Conceptual Models

The greater Putah Creek watershed begins west of Sacramento, in the Coast Range of California and drains approximately 600 square miles. The creek historically flowed over 80 miles from its headwaters through the Berryessa Valley, through Devil's Gate and out into the Central Valley floor where it ultimately terminated in the Putah Sink in the Yolo Basin. The Putah Sink was a large (>1,000 acres) natural wetland complex along the flood plain of the Sacramento River. The creek supported at least 17 native species of fish including anadromous steelhead, Chinook salmon, and Pacific lamprey.

As European influences increased, the agricultural production of the area grew which put greater demands on the Putah Creek water supply. Channel alterations to divert water for agriculture and to moderate flood events continued off and on into the 1970's. The largest impact to Putah Creek came with the construction of two dams as part of the Solano Project in the 1950's. The Monticello Dam was completed in 1957 at Devil's Gate, a narrow passage at the mouth of Berryessa Valley, forming Lake Berryessa. The Putah Creek Diversion Dam was completed in 1959 just outside the city of Winters. This dam serves as the main diversion point for the South Putah Canal that supplies water for agricultural and municipal uses in Solano County. Monticello Dam bifurcates the watershed into Upper Putah Creek and Lower Putah Creek. Lower Putah Creek is contained between Monticello dam and the confluence with Tule Canal, a deep channel that was excavated during construction of the Yolo Bypass. There are seven miles between Monticello Dam and the Putah Creek Diversion Dam. Neither Monticello Dam nor the Putah Creek Diversion Dam allows fish passage, relegating anadromous fish species to the lower 23 miles of stream.

Lower Putah Creek is now greatly confined and is diked the last 10 miles. The hydrology is extremely altered and is now managed by Solano County Water Agency (SCWA). In May 2000, a water accord (Accord) was signed that mandated minimum flows and pulse flows for fish and other wildlife that depend on the creek. The Accord also established directives for the managers in an attempt to restore the creek and the native fish that depend on it. The Lower Putah Creek Coordinating Committee (LPCCC) was formed out of this Accord and is responsible for coordinating and implementing restoration efforts on the Lower Putah Creek.

There are three major fish barriers that remain in Lower Putah Creek downstream of Monticello Dam (see Figure 1): the Putah Creek Diversion Dam and 2) the Los Rios Dam, which would be bypassed by the construction of this project; and 3) the Road 106A crossing. These structures greatly restrict the conditions under which fish can pass.

The alterations to Putah Creek have had severe impacts on the local hydrology and wildlife it supported. The amount of habitat available to anadromous fish has been greatly reduced and is degraded due to channelization and sedimentation changes resulting from altered flow regimes. These alterations have resulted in the extirpation of six of the native fish species that once inhabited Putah Creek. The altered hydrology and general characteristics of the stream channel also promoted colonization of the creek by many non-native fish that directly compete with, or prey on, the few remaining native fish.

Local Watershed Plans

Lower Putah Creek falls within the greater Sacramento San Joaquin Delta (Delta), which is the focus of several local environmental planning documents that highlight fisheries projects, including the following:

1994 Yolo Bypass Wildlife Area Land Management Plan & multi-agency MOU's (Yolo Bypass Wildlife Area Land Management Plan appendices: www.yolobasin.org)
2001 A Framework for the Future: Yolo Bypass Management Strategy (CALFED funded) (www.yolobasin.org)
2002 Habitat Improvement for Native Fish in the Yolo Bypass (CALFED funded)
2005 Lower Yolo Bypass Stakeholder Process Feasibility Assessment (CBDA funded) (www.yolobypass.net)

2005 Yolo Bypass Water Quality Management Plan Report (CBDA funded)
2006 Yolo County Integrated Regional Water Management Plan/Yolo Bypass Integrated Project (Water Resources Association of Yolo County funded) (http://www.yolowra.org/irwmp.html)
2007 Yolo Bypass 2-D Hydrologic Model developed by the US Army Corps of Engineers for the Central Valley Flood Protection Board (CBDA funded)
2007 Yolo Bypass Wildlife Area Land Management Plan, including CEQA (WCB and CBDA funded) (www.yolobasin.org)
2008 Lower Yolo Bypass Planning Forum Yolo Bypass Conservation Measures (www.yolobypass.net)
2008 Local Impacts From Habitat Development And Delta Infrastructure Projects and Suggested Solutions (www.yolobypass.net)

All of these plans list the need to improve fish passage and fish habitat in the Yolo Bypass and prioritize the creation of a direct channel between Lower Putah Creek and the tidal waters of the Delta.

6.3 Approach and Scope of Work

The Yolo Basin Foundation (YBF or Foundation) is working collaboratively with the CDFG Yolo Bypass Wildlife Area on implementation planning for the Lower Putah Creek Restoration Project (the Project). The Foundation will be seeking implementation funding from the State Wildlife Conservation Board (WCB), which can grant such funds only after a project has obtained its California Environmental Quality Act (CEQA) compliance. In addition, it is likely that constructing the project will include federal funds disbursed under the North American Waterfowl Conservation Act (NAWCA); NEPA compliance will be undertaken by USFWS as part of its NAWCA grant process. Upstream of the Yolo Bypass, the LPCCC will coordinate working with multiple landowners to advance to implementation a suite of enhancement projects previously identified through efforts such as the Lower Putah Creek Watershed Management Action Plan (EDAW 2005). This scope of work will accomplish three discrete objectives: (1) prepare a CEQA-ready project description, (2) prepare the necessary CEQA compliance document, (3) obtain for implementation, and (4) prepare final design plans and specifications for the YBWA portion of the project. At this point in time, we assume CEQA compliance will be an Environmental Impact Report (EIR). The California Department of Fish and Game will be the CEQA lead agency.

A considerable amount of existing information is available describing the proposed Project and existing/proposed conditions in the project area. All of this material will feed into the project and inform planning and design activities, including the collection of new field data needed to develop a CEQA-ready project description, CEQA analysis, permit compliance documents, and final design. Much of this existing information is compiled in the documents described in Section 6.2 as well as others that YBF will make available to the Project team.

We have identified the following tasks for this scope of work:

- Task 1: Develop CEQA-Ready Project Description
- Task 2: Conduct Necessary Supporting Studies
- Task 3: Prepare and Process CEQA Document
- Task 4: Permits
- Task 5: Final Design, Lower Putah Creek Realignment and Tidal Marsh Restoration Project
- Task 6: Stakeholder Coordination
- Task 7: Coordination and Project Management

Our general approach to such work is to develop all work products with an eye toward their subsequent application (e.g., permitting, final design). For this project, we anticipate a relatively high level of coordination with the Foundation and the many stakeholders given the site history, its location within the Yolo Bypass, and its linkage to the Bay-Delta Conservation Plan (BDCP).

The ***core 'project team'*** will consist of CDFG Yolo Wildlife Area, CDFG Water Branch, Yolo Basin Foundation, LPCCC, CWA, DWR, and the core consultant team. The co-chairs of this team are Dave Feliz and James Navicky.

The ***core 'consultant team'*** will consist of Stillwater Sciences, Wetlands and Water Resources, Grassetti Environmental, and cbec with additional entities added as specific expertise areas warrant.

The ***Stakeholder group*** will be the Yolo Bypass Working Group. The Center for Collaborative Policy will facilitate these stakeholder meetings. Stakeholders will include but not be limited to the following:

- **Elected officials:** CA Assembly representative, 8th District; CA Senate representative, 5th District; Yolo County Board of Supervisors, Solano County Board of Supervisors; US Representative, 1st District, California
- **Federal agencies:** Natural Resources Conservation Service, NOAA Fisheries, US Army Corps of Engineers, US Fish and Wildlife Service
- **State agencies:** Department of Fish and Game (YBWA, Lands Branch, Water Branch), Wildlife Conservation Board, Department of Water Resources (Environmental Services), Resources Agency (Bay Delta Conservation Plan), Central Valley Regional Water Quality Control Board, Central Valley Flood Protection Board, Delta Conservancy, Delta Protection Commission, Delta Stewardship Council
- **Local government:** Yolo County, Solano County, Yolo Natural Heritage Program, City of Davis, City of Winters
- **Public districts:** Dixon Resource Conservation District, Reclamation District 2068, Sacramento-Yolo Mosquito & Vector Control District, Solano County Water Agency, Yolo Resource Conservation District, Solano Mosquito & Vector Control District
- **Non-governmental organizations:** California Waterfowl Association, Yolo Audubon Society, Yolo Basin Foundation, Yolo Bypass/Putah Creek farmers, landowners, managers, tenants, Yolo Bypass private wetland owners and managers
- **Stakeholder groups:** Central Valley Nonpoint Source stakeholders group, Lower Putah Creek Coordinating Committee, Methylmercury stakeholders' group, Putah Creek Council
- **Universities:** UC Davis

Task 1: Develop CEQA-Ready Project Description

Purpose: The purpose of this task is to develop a project description at a level of detail suitable for conducting project-level CEQA analysis. The California Waterfowl Association prepared a concept-level design for the fish bypass channel and restored tidal wetland sink in 2009 for an ARRA application; that there are several specifics for both that area and the 25 miles of creek upstream to Monticello Dam which will require resolution in order to develop the CEQA project description (e.g., 1 cfs flow compliance locations, fish ladders at channel to be abandoned). Such a project description will require finalizing the design goals, objectives, and criteria with all stakeholders and permit agencies, collecting necessary site data to inform the opportunities and constraints that will guide design specifics, and developing the specific design (project description) collaboratively that meets project goals and objectives and design criteria.

Approach: This task has three subtasks which are described in greater detail below:

1. Define Project Goals, Objectives, and Design Criteria
2. Use of Conceptual Models to Define Opportunities and Constraints
3. Prepare CEQA-level Project Description

Schedule: We estimate that 12 months will be needed to accommodate stakeholder involvement appropriate for this task, with the understanding that stakeholder involvement will continue throughout project implementation.

Task 1.1: Define Project Goals, Objectives, and Design Criteria

Purpose: The purpose of this subtask is to define the Project's ecological goals, their associated objectives, and the range of design criteria that will have to be met in order to design a viable project. Goals and objectives will focus on the natural communities and special status species which are targeted for enhancement. The design criteria describe all the needs that must be met as mandated by the site setting, including physical, chemical, biological, and societal factors, and by fiscal considerations. This task is the first step of the adaptive management process.

Approach: We will define goals, objectives, and design criteria through a facilitated Stakeholder group process, discussions with knowledgeable local experts, and evaluation of existing information. We will develop draft goals, objectives, and design criteria concurrent with the conceptual model (Task 1.2); the final goals, objectives, and

design criteria will consider any new understandings that are developed during the conceptual modeling process.

Deliverables:

1) Draft Objectives, and Design Criteria Report
2) Final Goals, Objectives, and Design Criteria Report

Task 1.2: Use of Conceptual Models to Define Opportunities and Constraints

Purpose: Conceptual models of physical and ecological drivers and outcomes will provide the technical foundation necessary to develop an effective restoration design, define suitable experimental designs to build into the project design, and validate or refine project goals and objectives. This task is the second step of the adaptive management process. Its outcome is intended to be pragmatic conceptual models geared directly at (1) achieving target project outcomes, (2) supporting a science-based monitoring and assessment program, and (3) defining and describing the Project's opportunities and constraints.

Approach: We will base conceptual models upon the physical and ecological setting of Lower Putah Creek and the ecological requirements for the targeted natural communities and species. To develop these models, we will use the full range of existing information as well as targeted new field data collection (Task 2). We will peer-review the models with input from focused Stakeholder participation and a small technical working group spanning the range of technical expertise necessary to develop the models and design the Project.

The conceptual models will allow us to define key opportunities and constraints including:

- Upstream sediment management efforts
- Upstream flow control structure modifications and environmental flow requirements
- Water supply requirements for irrigation and municipal use
- Baseline topography and bathymetry, including effects of off- or near-channel gravel mining areas
- Soils and antecedent geology
- Water quality, including temporal/spatial variability and methylmercury concerns
- Land ownership and adjacent land uses/regulations
- Flood protection requirements and infrastructure
- Existing natural communities and special status species, including giant garter snake, Swainson's hawk, western pond turtle, least Bell's vireo, potential vernal pool invertebrates, and rare plants
- Jurisdictional waters of the US
- Current and potential future distributions of invasive species The fate of the current 2.3-mile channel that would be bypassed by Project implementation and the design of the connection into the new channel

Deliverables: Conceptual model(s)

Task 1.3: Prepare CEQA-Level Project Description

Purpose: The purpose of this task is to complete a project description to a level of detail suitable to conduct project-level CEQA compliance analysis. To comply with CEQA and assuming an EIR, we may need to develop one or more design alternatives that reduce or eliminate some of the project's environmental impacts. Potential differences between design alternatives could include acreages of restored tidal marsh, approaches to floodplain restoration, and the location/dimensions of design elements such as berms/levees, seasonal wetlands, and more.

Approach: The consultant team will develop Project designs in close coordination with the Stakeholder working group and the project team. We anticipate that several Stakeholder meetings will be necessary from beginning the goals and objectives through to completion of the project design.

Deliverables: CEQA-ready project description

Task 2: Conduct Studies Necessary to Support CEQA Analyses of Yolo Bypass Wildlife Area Project Element

Purpose: The purpose of this task is to complete the background studies necessary for CEQA analysis of the Lower

Putah Creek Realignment and Tidal Marsh Restoration Project Element. The considerable amount of available existing data should limit the number of required studies, though it may not necessarily limit their extent. We assume all necessary information has or will separately be developed for all project elements upstream of the Yolo Bypass (e.g., Engilis et al. 2009). Anticipated studies include the following subtasks:

- **Task 2.1: Topographic and bathymetric mapping** – This will support project design and the identification of opportunities and constraints. It will supplement existing information such as the DWR 2005/2007 LiDAR data. Additional topographic mapping may be required in areas of dense vegetation and/or tree canopy and in location of new channel connection. We will also survey the bathymetry/topography of the existing Putah Creek channel, associated ditches and drains, and relevant water-control structures.
- **Task 2.2: Wetland delineation** – This will support biological resources impact analysis and permitting and will include an inventory of vernal pools. The expected focus is the point of connection between the new creek bypass channel and potential adjacent vernal pools.
- **Task 2.3: Flow and Stage Measurements –** We will collect a series of flow measurements during different hydrological events using either handheld "flowtracker", if wadeable, or Acoustic Doppler Current Profiler (ADCP). We will collect measurements in the Putah Creek channel and associated ditches and drains, during winter higher flow events. In addition, we will install three water level recorders (one upstream of the project reach, one at the current outlet of Putah Creek to the Toe Drain, and one in the vicinity of the proposed new outlet of the re-routed Putah Creek to the Toe Drain).
- **Task 2.4: Modeling** – Modeling is necessary to support impact analysis for Yolo Bypass floodway conveyance (and thus to support the acquisition of a Flood Encroachment Permit with the Central Valley Flood Protection Board [CVFPB]), and to provide hydrologic stream flow analyses to support water demands and habitat for target fish species. The latter analyses of alternatives will help support the development of collaborative CEQA project descriptions with Stakeholders. We will use a coupled 1- and 2-dimensional hydrodynamic model. We will model the main channel alignment of Putah Creek using the 1-D model and the associated floodplain areas using a 2-D model dynamically coupled to the 1-D model of the main channel. Specifically, required modeling elements include:
    - Flood flow and Yolo Bypass capacity effects
    - Sufficiency of new crossings to allow for adequate flood flow passage
    - Sufficiency of supply at spillway to reach Toe Drain (for Accord requirements) during different seasons, including when salmonids are running, and quantity of water and timing needed by CDFG or SCWA to augment.
    - Timing and extent of flows into marsh or other wetlands as it relates to methyl mercury production and movement, and input parameters for the prediction of the ecological response as a result of the concept design.
    - Hydraulic/hydrologic change to the existing channel that will be partly dewatered.
    - Sediment transport characteristics of the existing and restored channel alignment will be inferred based on sediment characterization and hydrodynamic modeling parameters, such as spatial velocities and shear stresses.
- **Task 2.5: Habitat assessment** – The habitat assessment will incorporate existing and new information and will be used to evaluate biological resource impacts in CEQA, support permitting, and determine the need for additional protocol-level surveys (see Optional Task 2.6). This assessment will determine the likelihood of special-status species to occur in the Project area and to be affected by Project activities, including fish (e.g., Central valley spring-run and winter-run Chinook salmon, Central valley steelhead, green sturgeon, and delta smelt [the latter are unlikely]), invertebrates (e.g., vernal pool fairy shrimp), amphibians (e.g., California tiger salamander), reptiles (e.g., giant garter snake, western pond turtle), birds (e.g., osprey, bald eagle, burrowing owl, Swainson's hawk, and those protected by the Migratory Bird Treaty Act), mammals, and rare plants (e.g., palmate-bracted bird's beak, Colusa grass, Crampton's tuctoria, and Solano grass).
- **Task 2.6: Soils, sediment, and geomorphology assessment** – This assessment will support (1) impact analysis , (2) geomorphic analyses to support target fish species and water demands for the reach between the upstream connection to the existing creek channel and downstream to the restored tidal marsh (which will in turn support the development of CEQA project descriptions with Stakeholders), and (3) geotech analyses for engineering design of the new channel connection and of the three vehicle bridges potentially needed.

Sediment sampling will be conducted in the existing Putah Creek channel, and analyzed for particle size distribution (PSD) in order to characterize the sediments flowing through the channel to the toe drain.

- **Task 2.7: Protocol-level surveys** – These surveys are needed to evaluate biological resource impacts in CEQA and to support permitting. The need for these surveys would be determined based on the habitat assessment in Task 2.5 (i.e., if a special-status species is likely to be affected by the Project) and consultation with CDFG. For the purposes of providing maximum estimated costs for these protocol-level surveys, we are currently assuming that the following surveys would need to be conducted:
    1) Invertebrates: vernal pool fairy shrimp
    2) Reptiles : Western pond turtle
    3) Birds: Burrowing owl, Swainson's hawk, northern harriers, short-eared owl, meadowlark, other ground-nesting birds
    4) Rare plants in lowland grasslands and seasonal wetlands, vernal pool species

  For purposes of regulatory compliance, we assume presence of giant garter snake and will not conduct any presence/absence surveys.
- **Task 2.8: Phase 1 Assessment** – This is necessary to support impact analysis for hazardous materials.

Task 3: Prepare and Process CEQA Documents

Purpose: The purpose of this task is to develop the CEQA compliance document so that the Project can obtain implementation funding from WCB.

Approach: We are currently assuming that the Project will require a focused EIR. CDFG will serve as the Lead Agency for CEQA. Since the project description itself will incorporate all necessary impact minimization, avoidance, and mitigation measures, we assume that the Mitigation, Monitoring, and Reporting Plan (MMRP) will focus upon any required mitigation measures that must be implemented, spells out who will implement, when to implement, and who will assure implementation. It is assumed that none of the mitigation measures will necessitate and action beyond monitoring following project construction. Development of the CEQA document includes the following subtasks:

- **Task 3.1: Initial Study/Notice of Preparation** – This task includes scoping and preparation of an administrative draft IS/EA for internal review, release of a public IS/NOP, and coordination of a public scoping meeting. On the basis of comments on the IS/NOP, we will refine our work scope for the EIR.
- **Task 3.2: Prepare Administrative Draft EIR.** Under this task, we will develop a focused EIR for internal review. This document will be focused on items identified as having potentially significant impacts in the IS. This task includes detailed technical studies of agricultural lands, cultural resources, air quality, biological resources, hydrology, geology, and water quality setting and impacts.
- **Task 3.3: Prepare Public Draft EIR.** We will revise the EIR (up to two revised versions) to address issues identified in the internal review of the administrative draft document. We will then prepare up to 40 hard copies and electronic copy of the public draft EIR. We also will prepare the CEQA Notice of Completion, distribute the document to the State Clearinghouse and appropriate federal agencies, and attend up to two public hearings on the DEIR.
- **Task 3.4: Prepare Final EIR.** We will respond to comments submitted on environmental issues associated with the Draft EIR and prepare draft and final Response to Comment addendums to that document. We will prepare relevant notices and transmittals, including the CEQA Notice of Determination.
- **Task 3.5: Prepare Mitigation Monitoring and Reporting Plan.** We will prepare a Draft and Final MMRP from the Final EIR.
- **Task 3.6: Stakeholder Coordination** – This task includes all activities necessary to obtain feedback and input on the EIR from the Stakeholder Group.
- **Task 3.7: Administrative Elements** – This task will include facilitating scoping and draft EIR meetings, printing, noticing, filing, and recording meeting transcripts.

Deliverables: Initial Study/Notice of Preparation; Administrative Draft, Public Draft, and Final EIR; CEQA notices

Task 4: Obtain Permits

Purpose: The purpose of this task is to obtain all necessary permits to construct the project.

Approach: Based on DFG (a state agency) as the project sponsor, the following permits are assumed necessary:

- **Task 4.1: Flood Encroachment Permit (Central Valley Flood Protection Board)**
- **Task 4.2: Clean Water Act Section 404 Nationwide Permit (Corps of Engineers) –** assume will use NWP 27 (restoration) for Lower Putah Creek Realignment and Tidal Marsh Restoration Project and a Regional Permit for actions upstream of the Yolo Bypass
- **Task 4.3: Clean Water Act Section 401 Water Quality Certification (RWQCB)** – applies to Section 404 NWP and Regional Permit
- **Task 4.4: Clean Water Act Section 402 Storm Water Pollution Prevention Permit (SWPPP) (SWRCB)**
- **Task 4.5: State Lands Lease Amendment (State Lands Commission)** – may or may not be required depending on title issues but must be investigated. SLC has jurisdiction in tidelands, submerged lands, and beds of navigable waterways at time of statehood in 1850. Seems unlikely to apply so may be resolved with simple letter to SLC.
- **Task 4.6: Fish and Game Code 1600 Lake and Streambed Alteration Agreement (DFG)**

Permitting efforts for elements upstream of the Yolo Bypass are being coordinated by the LPCCC with separate funds; permitting activities will be coordinated between the two efforts.

Deliverables:

1) DFG review draft, agency submittal draft permit applications
2) Documents in support of permit applications
3) Letter of jurisdictional request to State Lands Commission
4) Preliminary Wetland Delineation
5) Biological Assessments to USFWS and NMFS

Task 5: Final Design Plans and Specifications, Yolo Bypass Wildlife Area Project Element

Purpose: The purpose of this task is to prepare engineering construction plans necessary to obtain the CVFPB permit and to prepare construction bid documents for the Lower Putah Creek Realignment and Tidal Marsh Restoration Project. Separately, the LPCCC will coordinate preparation of comparable documents for project elements upstream of the Yolo Bypass.

Approach: Engineering plans will be developed starting with the CEQA-ready project description prepared for the EIR and the selected alternative in the Final EIR. Engineering plans will be prepared for the Lower Putah Creek Realignment and Tidal Marsh Restoration Project. We anticipate these plans to include earthwork grading to construct new creek and tidal marsh channels, associated floodplain and tidal marsh habitats, and a new berm; construction of a new water control structure at the connection to the new creek channel; and construction of three vehicle bridges over the newly constructed creek channel.

Task 6: Stakeholder Coordination

The Yolo Basin Foundation, concurrent with its longstanding role as a leader and convener for stakeholder affairs in the Bypass, will manage stakeholder involvement for this project. This effort will include convening various levels of stakeholder groups including the Yolo Bypass Working Group (Working Group), Putah Creek Council, and any subcommittees formed for project specific purposes. The Center for Collaborative Policy (CCP) will provide meeting planning and facilitation services for Working Group and subcommittee meetings as a subcontractor. CCP is the long time facilitator for Working Group and other related Yolo Bypass stakeholder groups.

The Foundation will provide leadership on external communication regarding (1) ongoing communication with general public, other related stakeholder efforts and Working Group members regarding Project activities, and (2) ongoing communication with and/or presentations to State and Local Government representatives regarding the Project as needed.

Elements in support of this task will include:

- **Working Group meetings.** The Foundation will organize, host, and participate in Working Group and

subcommittee meetings. It is anticipated that for CEQA purposes there would be Working Group meetings that would include scoping, public draft review, several workshop format meetings and a field trip over the course of the project. Tasks include but are not limited to developing agendas, meeting preparations, communicating with stakeholders and speakers and meeting summaries and other follow-up activities.
    - **Deliverables:** Working Group meeting agendas and meeting summaries
- **Working Group subcommittee meetings.** Subcommittee meetings will focus as needed on specific aspects of the Project including discussions about technical issues and specific stakeholder concerns. Working Group meetings will be held to communicate Project issues to the full stakeholder community, and will be the venue to allow public participation in project development and analysis. This task will include but is not limited to convening issue or project specific subcommittees of the Yolo Bypass Working Group as needed to discuss issues, and collaborate on solutions. This includes organizing, hosting and participating in an estimated six subcommittee meetings.
    - **Deliverables:** Meeting agendas and meeting summaries
- **Communications with local and state government.** The Foundation will report on Project progress to and elicit comments from Yolo County, Yolo County Water Resources Association Technical Advisory Committee, Lower Putah Creek Coordinating Committee, Delta Conservancy, Delta Stewardship Council, Bay Delta Conservation Plan, Yolo Bypass Fish Enhancement Plan and others as needed.
- **Ongoing communication with stakeholders.** The Foundation will provide update on project issues through listserve communications, Yolo Flyway newsletter articles, and a dedicated website page.

Task 7: Coordination and Project Management

Purpose: The purpose of this task is to coordinate and manage the various teams (consultant and project) in order to effectively and efficiently to achieve successful project advancement.

Approach: This task has two subtasks:

Task 5.1: Grant Management. The Foundation will serve as grant manager and as such comply with all ERP grant requirements, prepare and manage contracts with the consultant team, manage monthly grant invoicing and payments, and prepare quarterly grant reports. Stillwater Sciences and Wetlands and Water Resources will jointly prepare the monthly invoices for the Foundation including cost tracking, statements of services, and subcontractor invoices, in accord with invoicing templates and requirements provided by DFG.

Task 5.2: Project Coordination. The Foundation, CDFG, LPCCC, and the consultant team will all participate in project coordination. The consultant team will manage its internal collaborators. Bi-monthly core team meetings will be held for project coordination.

6.4 Deliverables and Schedule

Project deliverables for each task are listed under Section 6.3, Scope of Work. Assuming that ERP grants will be in place by end of 2011, the project team can start work in the beginning of 2012. Figure 7 shows the anticipated project schedule.

6.5 Feasibility

This project is feasible to complete in the three-year grant period. The key element – stakeholder participation – has long been established for the Yolo Bypass so the focus will be on organizing these stakeholders around developing the project description, rather than organizing the stakeholders around the broad issues. Preparation of the CEQA document is feasible to complete in this time frame as work will begin in parallel to developing the project description so that upon its completion the impact analysis elements can be completed. Permitting coordination will start early in project development and the project description will incorporate any features necessary to address potential impacts; DFG will be the permit applicant for the Lower Putah Creek Realignment and Tidal Marsh Restoration Project and as such, in cooperation with the project team, will coordinate with the other resource and regulatory agencies early and regularly to ensure that all regulatory compliance needs are being addressed expeditiously. LPCCC is coordinating permitting of project elements upstream of the Yolo Bypass and work in the YBWA is not dependent on those permits. The greatest uncertainty resides with issuance of the CVFPB flood encroachment permit and the primary strategy is to conduct the flood conveyance modeling early,

address potential issues through development of the EIR, and advance project design to the level necessary for permit issuance. Project management decisions will be managed by the Core Project Team (see Organization Chart in Figure 8) consisting of DFG, Yolo Basin Foundation, Lower Putah Creek Coordinating Committee, California Waterfowl Association, Department of Water Resources, and the project consultants.

6.6 Relevance to the CALFED ERP

The **Relevance of the Project to this** PSP is demonstrated by meeting the PSP priority (Section II.B of the PSP) for "1. Restoration Projects that Restore or Enhance Aquatic Habitat in the Sacramento-San Joaquin Delta and Suisun Marsh and Bay." In particular, the project meets the following objectives:

Floodplain restoration to optimize salmon rearing and splittail spawning and rearing functions: The project will enhance rearing and spawning habitat within Lower Putah Creek to support recovery of fall-run Chinook salmon, and Sacramento splittail populations. Connectivity between riverine, wetland and estuarine habitats will enhance salmonid in-migration and spawning as well as rearing and outmigration conditions for smolts. Restoration of floodplain habitats and connectivity among habitats will enhance splittail spawning and rearing functions.

Intertidal restoration to estuarine productivity, provide spawning and rearing habitat for native fishes using the Delta, and which accommodate long-term habitat changes resulting from climate change: In addition to the direct benefits for salmon and splittail described above, the restored landscape of tidal, fluvial, and riparian habitats will benefit a broad range of native fishes and special-status plants and wildlife. All of the restoration will be planned in the context of climate change and expected sea level rise. The topographic position and location of the project within the regional landscape provide an ideal site to restore habitat and ecosystem functions to provide both short-term and longer term benefits, including creating a more resilient system that can respond to future changes such as sea level rise.

Restore geomorphic processes and riparian vegetation and assess aquatic invertebrate production and the resulting effects on fish survival and growth: The project will improve geomorphic processes and ecosystem connectivity and enhance local riparian vegetation, all of which should improve invertebrate production and benefit native fish and increase survival and growth of juvenile salmon and splittail. Baseline studies conducted under the proposed project can help create the foundation for subsequent monitoring and adaptive management of post-restoration benefits to aquatic invertebrates and fish survival and growth.

Assessing flora and fauna response to restoration; determining changes in productivity, and monitoring hydrology and geomorphic changes in restored areas: The proposed project is designed to restore more natural hydrogeomorphic processes that improve invertebrate productivity and benefit native flora and fauna. The project will include components to assess response of flora and fauna to the restoration actions, including testing key hypotheses relating various ecological characteristics to population level responses of selected species of both native and non-native plants animals.

The **Relevance to CALFED Issues Outside this PSP** is demonstrated by addressing several targets and programmatic actions specified for the in the CALFED Study Area known as the Yolo Basin Ecological Management Zone (YBEMZ) in the CALFED ERPP. The project also addresses a number of broader ERP goals and objectives, including:

- achieve recovery of at-risk native species dependent on the Delta and Suisun Bay to establish large, self-sustaining populations of these species, support similar recovery of at-risk native species in the Bay-Delta estuary and the watershed above the estuary, and minimize the need for future endangered species listings by reversing downward population trends of native species that are not listed;
- rehabilitate natural processes in the Bay-Delta estuary and its watershed to fully support, with minimal ongoing human intervention, natural aquatic and associated terrestrial biotic communities and habitats in ways that favor native members of those communities;
- protect or restore functional habitat types in the Bay-Delta estuary and its watershed in support of ecological and public values (such as species, biotic community, and ecological processes), health, recreation, aesthetic quality, and scientific research;
- prevent the establishment of additional nonnative invasive species and reduce the negative ecological

and economic impacts of established nonnative species in the Bay-Delta estuary and its watershed; and
- improve or maintain water and sediment quality conditions that fully support healthy and diverse aquatic ecosystems in the Bay-Delta estuary and watershed and eliminate (to the extent possible) toxic impacts on aquatic organisms, wildlife, and people.

6.7 Expected Quantitative Results

The proposed project will be implemented within **Agricultural lands** that are currently being used for irrigated pasture, row crop or are fallow ground within the YBWA. The following quantitative results are expected.

Fish Passage Improvements would occur at two locations. The existing Los Rios Dam would be improved through implementation of a fish ladders to allow spawning access upstream of the dam approximately one-month earlier than under current operations. In addition, the Project would eliminate an existing 150 ft earthen Dam (Road 106A crossing), located approximately 3.4 miles upstream of Los Rios Dam. In addition to the direct creation of approximately 5,000 square feet of spawning habitat (1/8 ac) through gravel augmentation, the Project will provide access to approximately 25 miles of stream habitat for Fall-run Chinook salmon.

The Project would provide for creation of approximately 5-miles of **riparian habitat**, bypassing the last 2.3 miles of existing stream channel (a constructed irrigation canal) through which Putah Creek currently flows into the Tule Canal along the western edge of the Yolo Bypass. The design of the new channel is expected to include additional channels of varying size throughout the project area with the remaining areas graded for proper water depths and tidal flushing.

The Project will create approximately 300-700 acres of **managed seasonal wetlands** along the lower portions of the new channel with tidal access from the Tule sink to the Tule canal, allowing rearing salmon smolts to grow faster than in upstream or estuarine environments of the Delta.

6.8 Other Products and Results

Implementation of the Project will provide habitat connectivity and make Putah Creek the only watershed on the western slope of the Central Valley of California that empties directly into a tidally influenced water body.

This project leverages existing matching funds and is, in fact, essential in enabling other funds to be used: the Wildlife Conservation Board has been ready to provide funding for the restoration project, but cannot do so until the required CEQA and permitting process has been completed (which is this focus of this proposal).

The project meets multiple CALFED needs by incorporating an interdisciplinary and adaptive approach, including analysis, integration and synthesis of existing information. This includes development of pragmatic conceptual models geared directly at (1) achieving target project outcomes, (2) supporting a science-based monitoring and assessment program, and (3) defining and describing the Project's opportunities and constraints. Such an approach is critical in identifying optimal restoration designs that are most likely to achieve desired outcomes in as cost-effective a manner as possible.

6.9 Qualifications

See the Organization Chart in Figure 8.

YOLO BASIN FOUNDATION: www.yolobasin.org

The non-profit Yolo Basin Foundation (YBF) was created in 1990 as a community-based organization to facilitate the creation of the Yolo Bypass Wildlife Area (Wildlife Area) and represent a diverse group of interests, from agriculture and waterfowl conservation to local government and the business community. The mission of the Foundation is to promote the stewardship and appreciation of wetlands and wildlife through education and innovative partnerships. The Foundation, in partnership with CDFG, facilitates public outreach and environmental education at the Yolo Bypass Wildlife Area. The Foundation founded the Yolo Bypass Working Group in 1997 with the first of several CALFED ERP grants. The Working Group provides a focused opportunity for the full range of Yolo Bypass stakeholders including farmers, public and private wetland managers, local, state and federal flood control,

wildlife, and water quality agencies to discuss Bypass related issues.

Robin Kulakow is the founding Executive Director of YBF and a founding member of the Putah Creek Council. Ms. Kulakow's vision, resource management background, and partnership building skills enabled her to facilitate the creation of 16,000-acre Yolo Bypass Wildlife Area, an effort that began in 1989. Currently she facilitates the Yolo Bypass Working Group, is a co-sponsor of the Lower Yolo Bypass Planning Forum, and is a community liaison for the Delta Conservancy Board of Directors.

Ann Brice is the co-Executive Director of YBF and founding Executive Director of the Cache Creek Conservancy. She currently serves as Board of Directors Chair on the Yolo County Flood Control and Water Conservation District. Ms Brice is the author of *"A Landowners Guide to Streambank Management on Cache Creek"* and *"Exploring Putah Creek from Monticello Dam to the Yolo Wildlife Area."* and has considerable expertise in project management.

STILLWATER SCIENCES: www.stillwatersci.com
Stillwater Sciences approaches watershed analysis and restoration with science, innovation, and a collaborative decision-making process. Stillwater integrates geomorphic and biological research to understand critical ecological processes and identify effective measures to restore rivers to functioning ecosystems. Stillwater provides aquatic habitat restoration solutions by applying a variety of approaches, including combining innovative numerical models with targeted field studies, and applying leading-edge technology to solve fish population and habitat problems in the context of the overall river ecosystem. CALFED Grants to Stillwater Sciences include: ERP/ Project #98E-09 **(Merced River Corridor Restoration Plan-Phase II),** ERP/Project #2000 E-05 **(Merced River Corridor Restoration Project-Phase III)**, ,ERP-02-P12D **(Merced River Corridor Restoration Project-Phase IV: Dredger Tailings Reach)**, ERP/#99-B152 (**A Mechanistic Approach to Riparian Restoration in the San Joaquin Basin)**, ERP-02D-P55 **(Physical Modeling Experiments to Guide River Restoration)**, and ERP-02-P60 **(Pacific Flyway Center Initial Planning)**.

Dr. Bruce Orr (Senior Ecologist) has over 25 years of experience leading a variety of studies and restoration projects around in California including the San Joaquin, Sacramento, Merced, and Santa Clara rivers. Dr. Orr has particular expertise in wetland and riparian ecosystems, including modeling ecosystem processes for restoration planning and natural resource management. His areas of technical expertise include natural resources inventory and management planning, riparian ecology and restoration, wetlands and freshwater ecology, aquatic entomology, and vegetation and flora of the western United States.

Dr. Noah Hume (Aquatic Ecologist/Senior Scientist) has over 20 years experience in aquatic sciences and engineering spanning ecology, water quality, water supply and treatment. Dr. Hume's areas of expertise include engineering, water quality management, wetlands ecology, limnology, and fisheries biology. Since joining Stillwater Sciences, Dr. Hume has participated in a number of river and wetland restoration projects, with an emphasis on physical and water quality impacts to aquatic species. Dr. Hume is an experienced project manager who brings technical expertise to a wide variety of interdisciplinary projects, including habitat assessments, wetland projects, river restoration and fisheries programs, and a number of engineering designs.

Zooey Diggory (Aquatic Ecologist/Senior Scientist) is a plant ecologist with extensive experience managing riparian restoration and management programs, and analyzing environmental impacts for regulatory purposes. Her technical expertise includes riparian and wetland plant ecological research, revegetation and vegetation monitoring design and implementation, and U.S. Army Corps of Engineers jurisdictional wetland delineation. Ms. Diggory is currently managing and providing technical support for several projects to improve understanding of riparian ecosystem conditions, develop conservation, restoration, and management strategies, and comply with environmental regulatory requirements.

Additional Staff: AJ, Keith, Russ Liebig, Lauren Dusek, Holly Shepley, Nicole Jurjavcic, Megan Keever, Scott Dusterhoff, Glen Leverich, Krista Orr, Amy Merrill, and Maia Singer.

WETLANDS AND WATER RESOURCES: www.swampthing.org
Wetlands and Water Resources is a leader in site-scale ecosystem restoration planning and implementation,

regional ecosystem resource planning, and applied science in the San Francisco Bay-Delta estuary. Our staff include terrestrial and aquatic biologists, physical scientists, engineers, and planners and regulatory compliance specialists. WWR has played a key role in many recent and ongoing Delta and Suisun ecosystem planning efforts, including ***Delta Vision*** (Ecosystem Workgroup Technical Lead), ***DRERIP*** (co-lead scientist), the ***Delta Plan*** (Ecosystem Senior Scientist), the ***Suisun Marsh Plan*** (Science Advisor), ***The Nature Conservancy Suisun Marsh Conservation Assessment*** (lead), the ***Lower Yolo Ranch Wetland Restoration*** (lead design, permitting, adaptive management) and ***Twitchell Island Carbon Capture Wetland Farm*** (lead design, permitting, selected scientific research)and support roles for ***BDCP*** (Habitat Team participation), and ***DHCCP*** (Restoration Opportunity Areas teams). Prior CALFED grants include the Integrated Regional Wetland Monitoring Pilot Project (Science Program 4600002970, Ecosystem Restoration Program P0685516, Ecosystem Restoration Program E1083005).

Dr. Stuart Siegel (*Principal*) is an expert in San Francisco Bay-Delta aquatic ecosystem restoration, regional ecosystem planning, and applied restoration scientific research. He has planned, designed, permitted, constructed, and monitored dozens of wetland restoration projects, been Lead Principal Investigator for two large, multi-collaborator research efforts, and served on multiple regional scientific advising and natural resource planning efforts for the San Francisco Estuary and Delta. Through all of these efforts, Dr. Siegel has developed a unique skill set that includes science, policy, planning, regulatory, outreach, management, and leadership.

Christina Toms (*Project Engineer*). Christina Toms has over 8 years of experience as an ecological engineer and is responsible for the coordination and design of a variety of aquatic ecosystem assessment, management, enhancement, and restoration projects throughout northern California. She specializes in project planning and design, field data collection and analysis, limnology, wetland science and engineering, coastal lagoon assessment, water quality enhancement, construction management, CEQA support, and GIS/cartography.

Roger Leventhal, PE *(Principal Engineer).* Mr. Leventhal has acquired unique experience in ecological restoration/environmental engineering projects as the project manager or lead engineer for several major tidal wetland and creek restoration projects in the San Francisco Bay-Delta Estuary. He has an academic background in hydraulics and water resources coupled with practical experience in applied engineering and construction. He has evaluated restoration design alternatives, successfully negotiated permitting requirements, prepared plans and specifications and supervised field construction of some of the largest restoration projects on the West Coast.

Additional Staff: Dan Gillenwater; Esa Crumb; Megan Lipps; Leigh Etheridge.

GRASSETTI ENVIRONMENTAL: www.grassettienvironmental.com
Grassetti Environmental Consulting (GECo) is a specialty environmental planning firm with expertise in environmental assessment, CEQA/National Environmental Policy Act (NEPA) compliance analyses, third party review, CEQA project management, and preparation of geologic and water resource studies. Its principal, Richard Grassetti, has over 30 years of experience in environmental impact analysis, hydrologic and geologic assessment, project management, and regulatory compliance. He is a recognized expert on California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) processes, and has served as an expert witness on CEQA and planning issues. Mr. Grassetti regularly conducts peer review and QC/QA for all types of environmental impact analyses, and works frequently with public agencies, citizens groups, and applicants. He has managed the preparation of over 60 CEQA and NEPA documents, as well as numerous local agency planning and permitting documents. Mr. Grassetti also has prepared over 200 technical analyses for CEQA and NEPA documents. He is well acquainted with wetlands restoration projects, having managed the preparation of CEQA documents for the Hamilton Wetlands Restoration Alternative Access Project, the Dutch Slough Wetlands Restoration Project (a DWR project), and the San Francisco Estuary Invasive Spartina Control Project. Working under Mr. Grassetti are **Paul Miller** (air quality), **Miley Holman** (cultural resources), and **Agland Investment Services** (agricultural resources).

CBEC ECO ENGINEERING: www.cbecoeng.com
cbec specializes in water resources engineering services that focus on developing and providing ecologically sensitive and environmentally sustainable solutions in the fields of hydrology, hydraulics, geomorphology and restoration and rehabilitation design. Their research and experience enables them to combine the demands of flood-risk reduction with ecosystem enhancement and other considerations such as agriculture and urban

development. cbec has extensive experience in tidal aquatic ecosystems including San Francisco Bay and the Sacramento-San Joaquin Delta and has developed the only fully calibrated and validated two-dimensional hydrodynamic model of the Yolo Bypass and Cache Slough Complex that currently exists.

Dr. Chris Bowles, P.E. (Civil Engineer/President) has over 17 years of project management experience on a wide variety of large multi-disciplinary, multi-stakeholder projects such as floodplain restoration, sediment studies, watershed hydrology, water quality, and river and wetland restoration. Dr. Bowles has constructed numerous 1-, 2-, and 3-dimensional hydrodynamic models. He over 10 years of experience working with all the major stakeholders in the Yolo Bypass and the Cache Slough Complex.

Chris Campbell (Civil Engineer) has over nine years of engineering and project management experience with an emphasis in ecohydraulics and ecohydrology. His technical expertise routinely involves the application of GIS and public and proprietary computational models to inform a range of water resource and environmental assessment and restoration projects within riverine, estuarine, and wetland environments. Mr. Campbell led the development of the fully calibrated/validated 2-D hydrodynamic model for the Yolo Bypass and Cache Slough Complex.

Additional Staff: Chris Hammersmark, Melanie Carr, Sam Diaz, Hamish Moir, John Stofleth, and April Sawyer.

VOLLMAR NATURAL LANDS CONSULTING: www.vollmarconsulting.com
Vollmar Natural Lands Consulting provides expertise on technical and regulatory aspects of natural resource assessment, impact analysis, mitigation, conservation, restoration, and land stewardship. VNLC has completed projects ranging from small site assessments to large-scale conservation, mitigation, and development projects. Vollmar Natural Lands Consulting specializes in wetland, vernal pool and grassland large-scale biological studies in support of regional conservation planning and development projects. Our services also include high-end GIS database design and development, GIS-based data analysis, and GPS and GIS mapping capability. We have worked extensively throughout the Delta region and Central Valley. Our experience on over 4,000 acres of Delta lands includes surveys for rare plants, vegetation, large branchiopods and amphibians as well as wetland delineations, habitat mapping, preserve monitoring, wetland permitting, and vernal pool creation assessments.

John Vollmar (Principal) is a senior botanist, wetland ecologist, and aquatic wildlife biologist with over 15 years of professional research and consulting experience in California, including the Sacramento Delta region. Recently, his work focuses on large-scale biological assessments, conservation easement and mitigation transactions, land conservation and restoration, expert scientific review, and public outreach. Mr. Vollmar is permitted to conduct surveys for listed aquatic invertebrates including listed branchiopods, California red-legged frog and California tiger salamander throughout their ranges in California (Permit #TE035336-3). He is a recognized expert of California vernal pool ecology and has served as the project director for more than 200 projects including dozens of large-scale (10,000+ acres), often complex biological site assessment, mitigation, and resource management projects.

Cassie Pinnell (Biologist) has more than six years experience in California's habitats and special-status species, emphasizing vernal pools. Ms. Pinnell has worked throughout California within vernal pools, seasonal and perennial wetlands, riparian corridors, coastal marshes, grasslands, and desert and montane bioregions. Her work includes special-status species surveys, habitat assessments, wetland delineations, and aquatic invertebrate surveys. She also prepares land management plans, mitigation and monitoring plans, and biological assessments. Ms. Pinnell is permitted to conduct surveys for vernal pool listed aquatic invertebrates including listed branchiopods and California tiger salamander throughout their ranges in California (Permit #TE035336-3).

CENTER FOR COLLABORATIVE POLICY, CALIFORNIA STATE UNIVERSITY, SACRAMENTO: www.csus.edu/ccp/
The Center for Collaborative Policy (CCP), established in 1992, is a self-supporting unit of the College of Social Sciences and Interdisciplinary Studies at California State University, Sacramento. Its mission is to build the capacity of public agencies, stakeholder groups, and the public to use collaborative strategies to improve policy outcomes. The Center achieves this through two primary focuses: direct service with government agencies and stakeholders, (through the use of multi-party consensus building, strategic planning, and participatory public processes) and teaching and research (through the University's Public Policy and Administration programs). The Center is the long standing facilitator of a variety of projects affecting the Yolo Bypass, and key staff has been involved since the

1990s. Specific projects in and adjacent to the Yolo Bypass include: the Yolo Bypass Working Group, the Yolo Bypass Integrated Regional Water Management Plan Subcommittee, the Lower Yolo Bypass Planning Forum, the Delta Methyl-Mercury Total Maximum Daily Load, Delta Vision, the Central Valley Flood Protection Plan, and the Delta 5-County Coalition. **Dave Ceppos** from CCP will help the Project team develop a Project description.

6.10 Literature Cited

Yolo County Water Resources Association, 2011 update, Yolo County Integrated Regional Water Management Plan: Yolo Bypass Integrated Project.

California Waterfowl Association. 2009. ARRA Funding Application.

CDFG. 2009. Yolo Bypass Position Statement. Department of Fish and Game Memorandum to Water Branch, Fisheries Branch, Wildlife Branch, Habitat Conservation Branch, and Regions 2, 3, and 4. June 23.

CDFG. 2008. Yolo Bypass Wildlife Area Land Management Plan.

EDAW. 2005. Lower Putah Creek Watershed Management Action Plan (WMAP).

Engilis Jr, A., M.A. Truan, J. Trochet, M. Farrell, and S. Veloz. 2009. Putah Creek Terrestrial Wildlife Monitoring Program Comprehensive Report 1997-2008. UC Davis Museum of Wildlife and Fish Biology, Davis, CA. November

NHI et al. 2002. Habitat Improvement for Native Fish in the Yolo Bypass.

Yolo Bypass Interagency Working Group. 2006. Yolo Bypass Conceptual Aquatic Restoration Opportunities: Keeping Yolo Bypass Users Whole While Improving Aquatic Conditions

Yolo Bypass Working Group et al. 2001. A Framework for the Future: Yolo Bypass Management Strategy.

Sacramento County Superior Court. 2002. Second Amended Judgment in the action entitled Putah Creek Council v. Solano Irrigation District and Solano County Water Agency, Sacramento County Superior Court No. 515766, October 30, 2002. ('Putah Creek Accord')

7. Project Budget and Justification

See the project budget in Table 1. We have prepared this proposal to allow for budget distinction between the following four elements plus a contingency:

1) **Yolo Bypass Wildlife Area Lower Putah Creek Realignment and Tidal Marsh Restoration Project:**
    a. Project description, CEQA, all permits except the Flood Encroachment Permit, $900,000
    b. Flood Encroachment Permit and final design plans and specifications – brings the project to a construction-ready state so that WCB and NAWCA funds can be secured and utilized, $250,000
2) **Lower Putah Creek Enhancement from Yolo Bypass to Monticello Dam:** at the suggestion of the Wildlife Conservation Board and strongly supported by the LPCCC and other, the project would also include:
    a. Project description, CEQA, and coordination with existing permitting efforts, $450,000
    b. Final design plans and specifications, $275,000
3) **Contingency:** $75,000

These budget numbers reflect the important yet complex effort of coordinating with a large stakeholder community to develop a CEQA-ready project description, developing an EIR that effectively analyzes the many components of that project description, the requirement to develop final engineering plans in order to obtain the Flood Encroachment permit, the focus to bring the overall project to the level where construction bids can be obtained, and at the suggestion of the Wildlife Conservation Board the inclusion of project elements from the Yolo Bypass to Monticello Dam including tributaries.

Matching funds. In-kind contributions will come from DFG YBWA staff ($100,000). The Yolo Basin Foundation will provide outreach matching funds for web site and newsletters ($10,000). The LPCCC spends $140,000 per year on fish and wildlife monitoring and $13,000 per year on vegetation management plus $56,000 toward my salary and $20,000 for office expenses all of which could be used as a match. We also have $960,000 committed toward bank stabilization on Pleasants Creek tributary; $1.9 million in River Parkway funds and $1.9 million in Watershed Program funds to spend over the next 2-3 years. These are all state bond funds (Props 50, 84). WCB has indicated its likelihood to provide funds to construct the YBWA portion, estimated previously at roughly $5 million.

Property boundaries are approximate and should not be considered legal descriptions. Not all state, federal, or locally (county and city) owned properties shown on this map are publicly accessible. Private lands are not accessible to the public. Maps are intended for study purposes only.

LOWER PUTAH CREEK UPSTREAM REACH PROJECT LOCATIONS

LOWER PUTAH CREEK REALIGNMENT AND TIDAL MARSH RESTORATION PROJECT LOCATION (SEE FIGURE 2)

Lake Berryessa Recreation Area (Bureau of Reclamation)
Monticello Dam
Putah Creek Fishing Access Sites (DFG) 3.7 miles
BLM
BLM
Putah Creek Wildlife Area (DFG)
Quail Ridge Natural Reserve (UC Davis)
Stebbins Cold Canyon Natural Reserve (UC Davis)
Lake Solano County Park
City of Winters Putah Creek Park
Russell Ranch (UC Davis)
University of California (UC Davis)
Putah Creek Riparian Reserve
Wetland Demonstration Area (City of Davis)
Putah Creek South Fork Riparian Reserve (City of Davis)
Los Rios Agricultural Conservation Easement (City of Davis)
South Fork Preserve Los Rios II Unit (City of Davis)
Yolo County Grasslands Regional Park
Yolo Bypass Wildlife Area (DFG)

Willow Canal
Willow Slough
Putah Creek
Dry Creek
Thompson Canyon
Bray Canyon
Cold Canyon
Putah South Canal
Pleasant Creek
Dry Arroyo
Pleasants Creek
Suisun Creek
English Creek
Oats Creek
Encinosa Creek
South Fork Putah Creek
Toe Drain
Ship Channel
Water
SACRAMENTO RIVER

CR 31
CR 89
CR 95
Russell Blvd
Putah Creek Rd
Covell Rd
Stevenson Bridge Rd
Pedrick Rd
Tremont Rd
Old Davis Rd
Mace Blvd
Levee Road
Winters Rd
Harley Rd
Sievers Rd

NAPA COUNTY
YOLO COUNTY
SOLANO COUNTY
WINTERS
DAVIS
DIXON
VACAVILLE
LAKE BERRYESSA

505
128
113
80

LEGEND
- Riparian Corridor
- Ownership
  - Agricultural Easement
  - Private
  - Public
  - Unknown

Sources: USGS 2003, Yolo County 2002, Solano County 2002, UC Davis 2005

FIGURE 1, LOWER PUTAH CREEK RESTORATION PROJECT ERP GRANT PROPOSAL MARCH 2011

Lower Putah Creek Ownership Map

Lower Putah Creek Watershed Management Action Plan

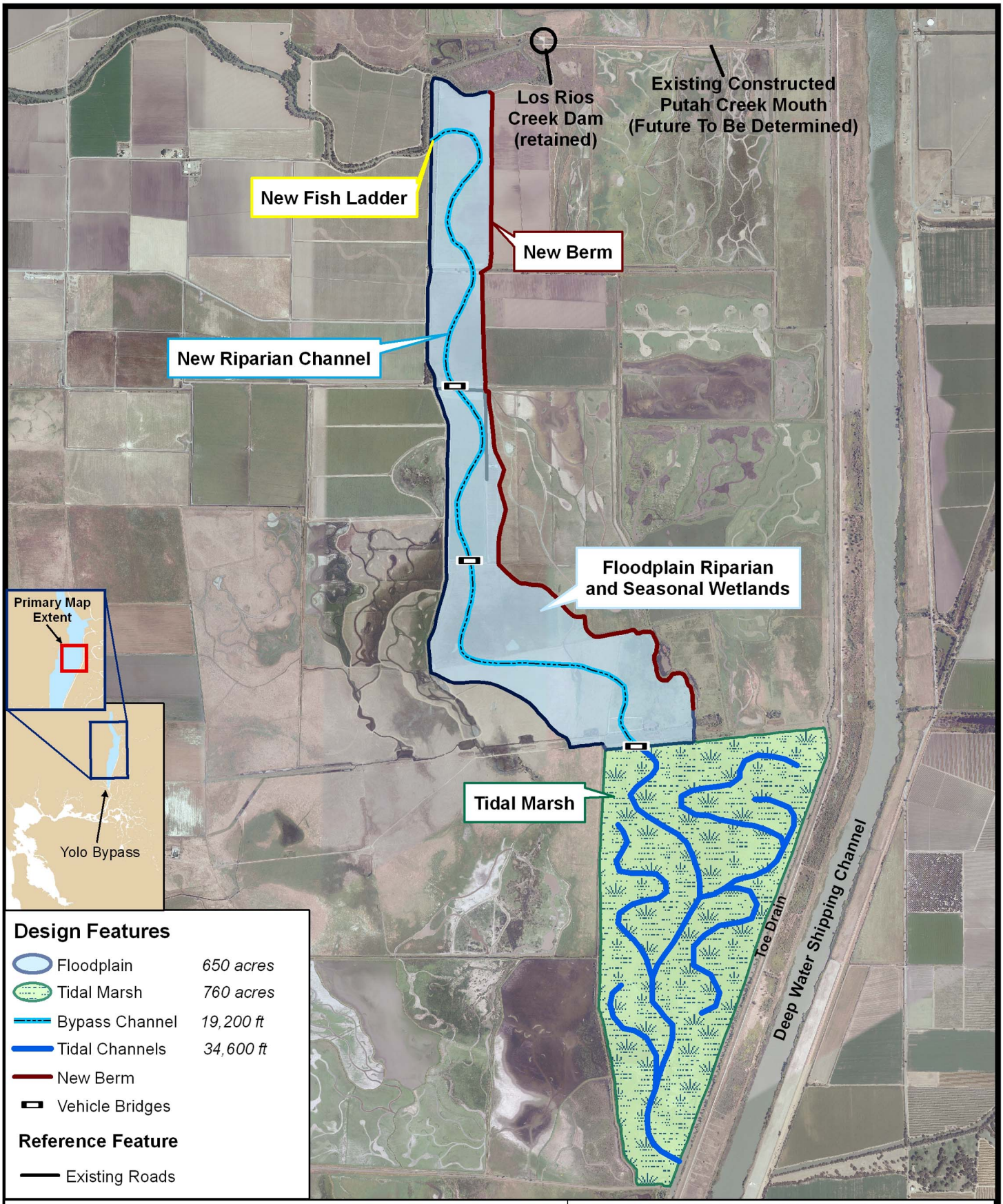
X 05110081.01 1/06

EXHIBIT 3-1

0 2.4 4.8
MILES

NORTH

EDAW



Data Sources: USDA NAIP, 2010; WWR 2011
Map Produced by WWR, March 2011
Map File: wildlife-area-element-LPC_2011-0301mdl.mxd

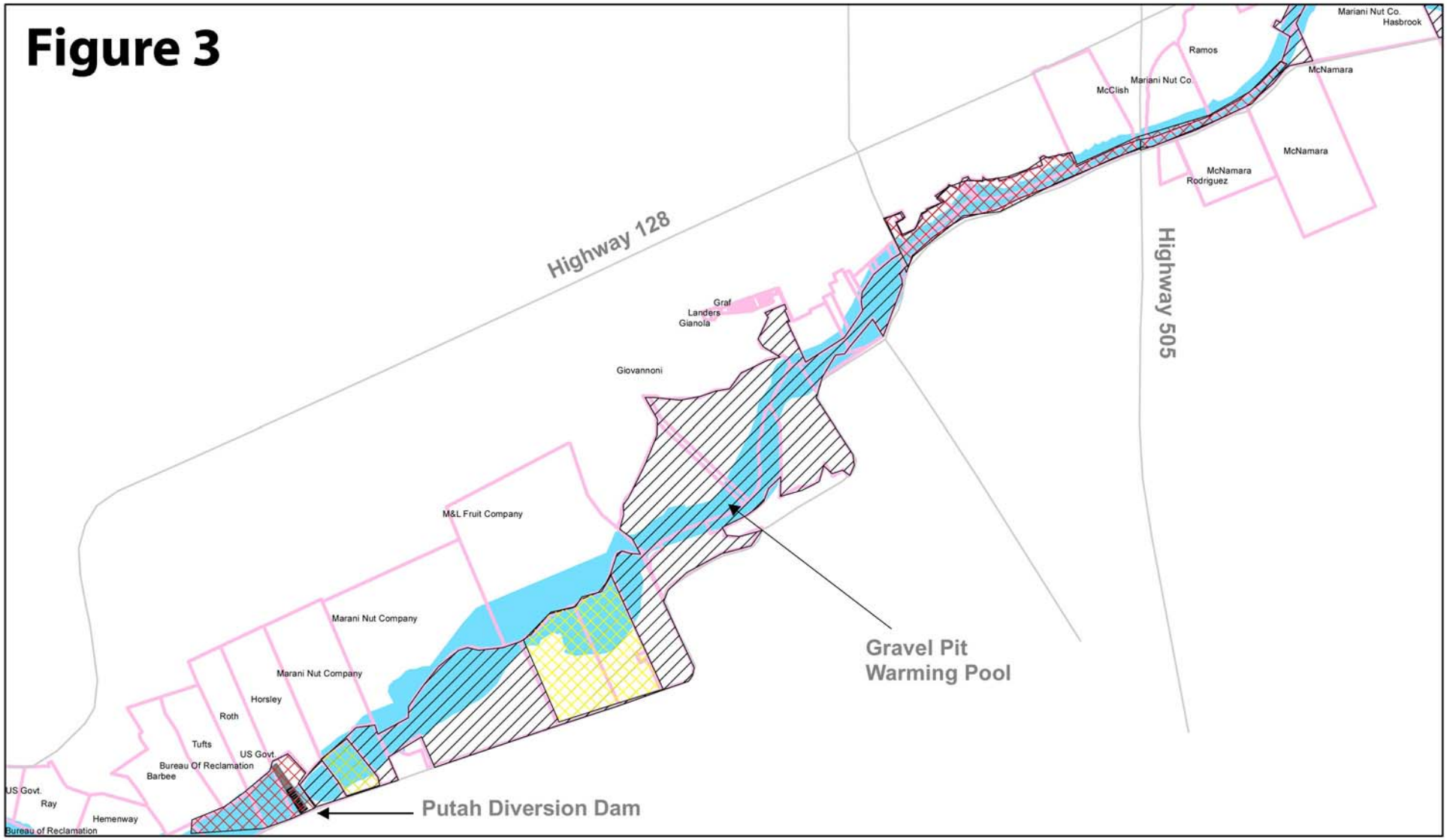
YOLO BYPASS WILDLIFE AREA ELEMENT

Lower Putah Creek Realignment Project
Yolo County, California
California Department of Fish and Game

March 2011	BD: 11001	**Figure 2**

Putah Creek Flood Reduction and Habitat Improvements Project
Putah Diversion Dam to Highway 505

Figure 3



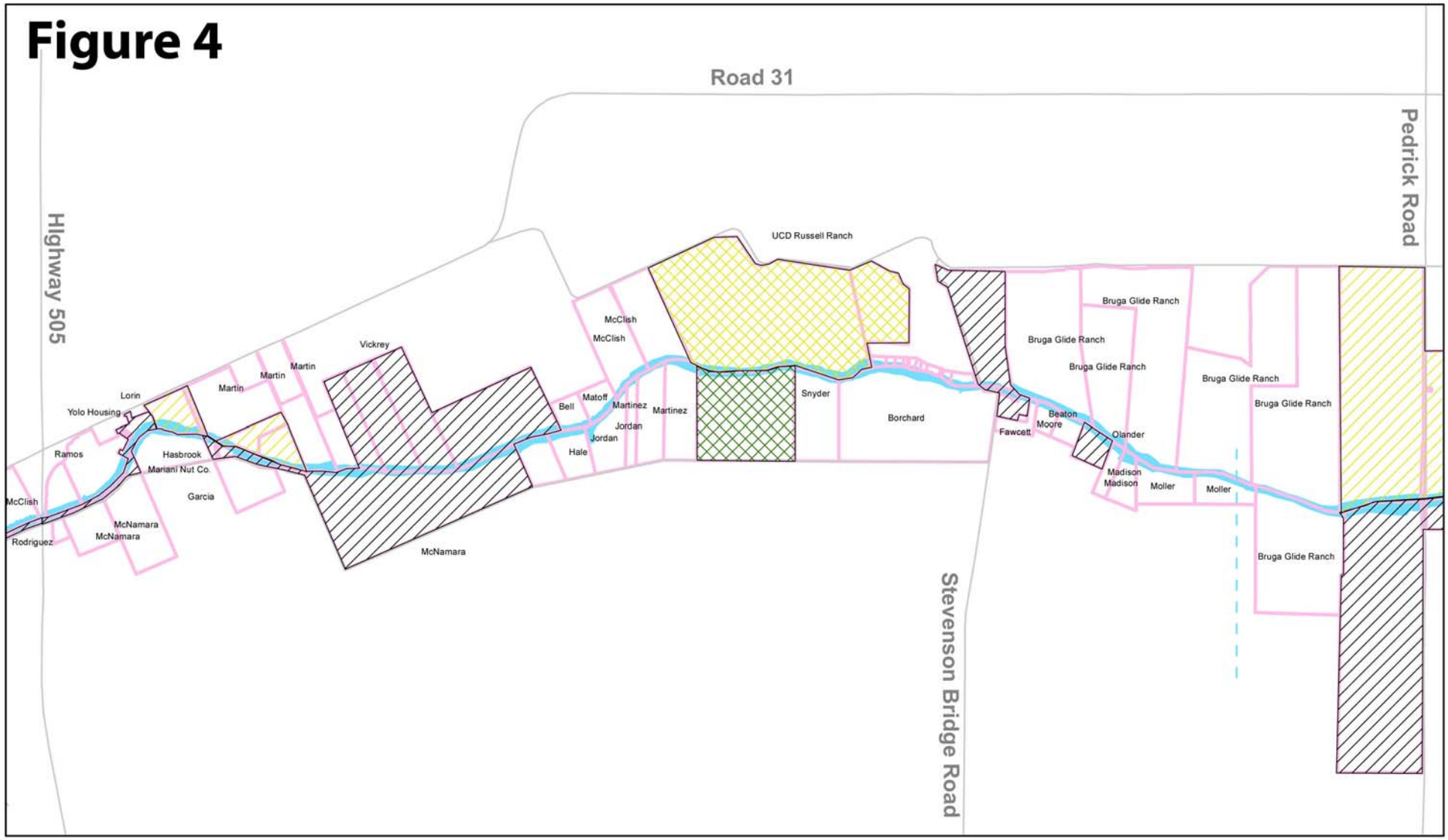
LPCCC
LOWER PUTAH CREEK
COORDINATING COMMITTEE

- Public Lands
- Existing Easement
- Easement Interest
- Management Agreement

0 0.25 0.5 1 Miles

N
W E
S

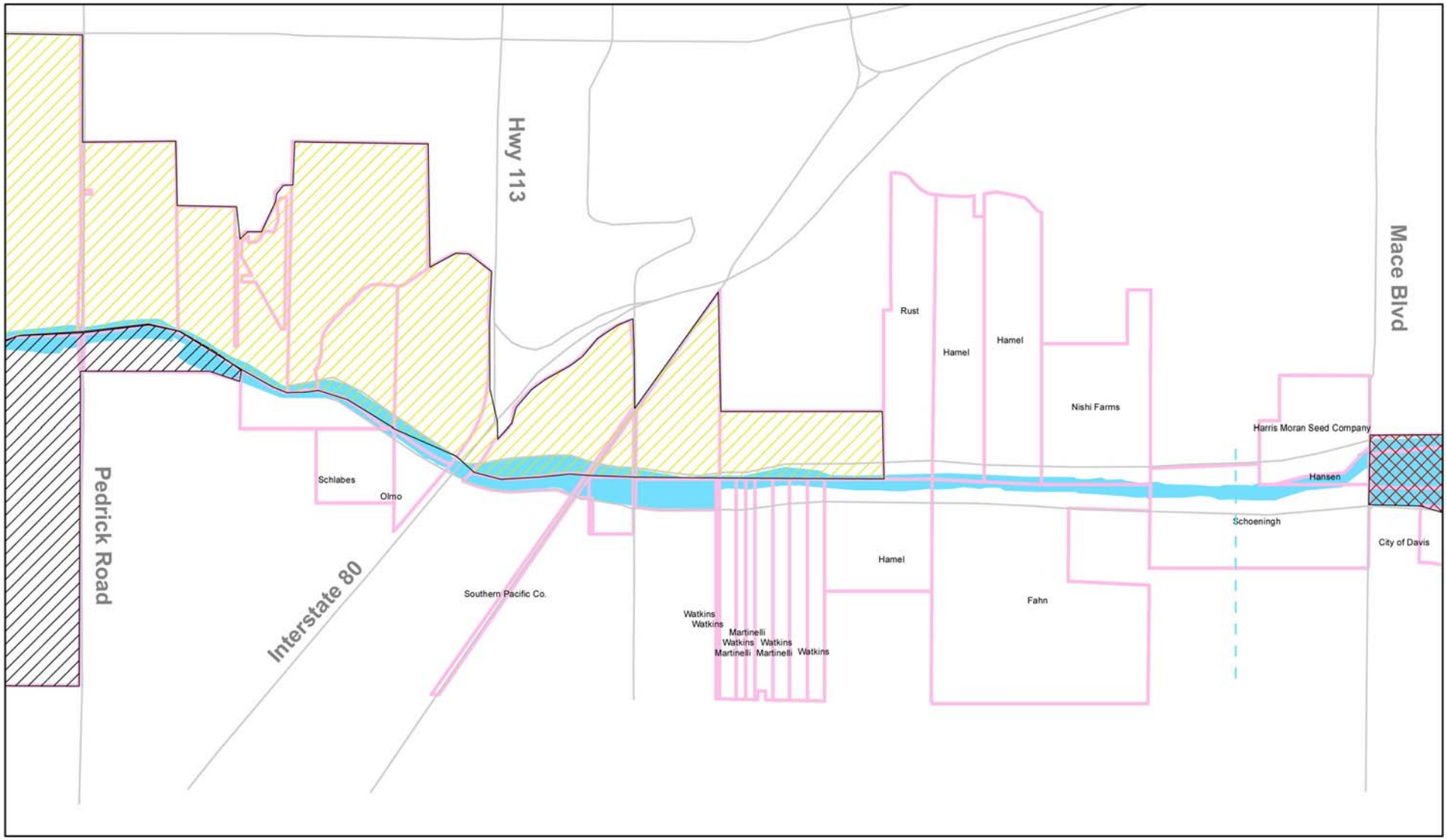
Putah Creek Flood Reduction and Habitat Improvements Project
Highway 505 to Pedrick Road



LPCCC
LOWER PUTAH CREEK COORDINATING COMMITTEE

Putah Creek Flood Reduction and Habitat Improvements Project
Pedrick Road to Mace Blvd

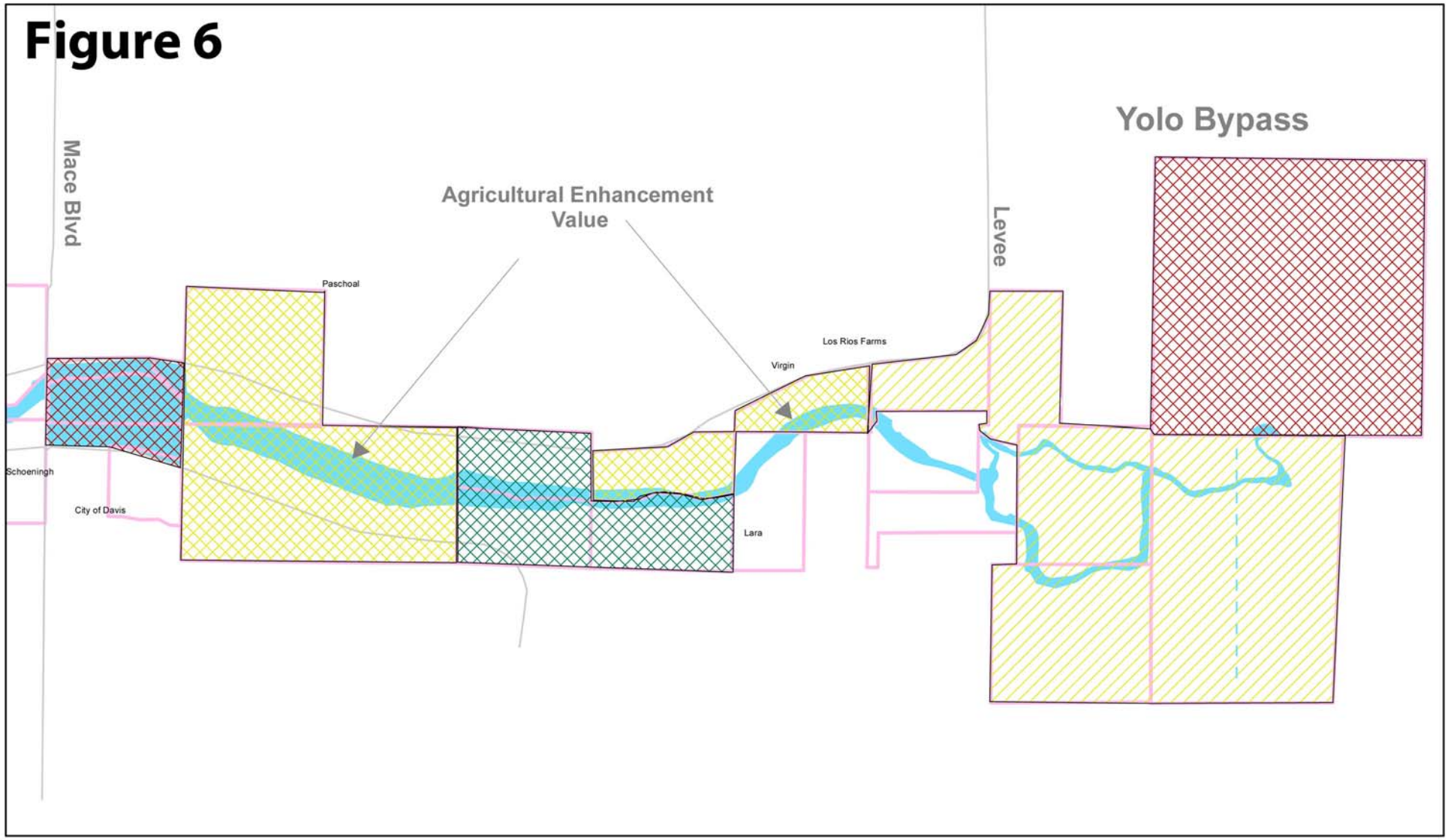
Figure 5



LPCCC
LOWER PUTAH CREEK COORDINATING COMMITTEE

Putah Creek Flood Reduction and Habitat Improvements Project
Mace Boulevard to Yolo Bypass

Figure 6



LPCCC
LOWER PUTAH CREEK
COORDINATING COMMITTEE

Public Lands
Existing Easement
Easement Interest
Management Agreement

0 0.25 0.5 1 Miles

N
W E
S

Figure 7. Project Schedule
Lower Putah Creek Project Description, CEQA, Permits, Limited Final Design

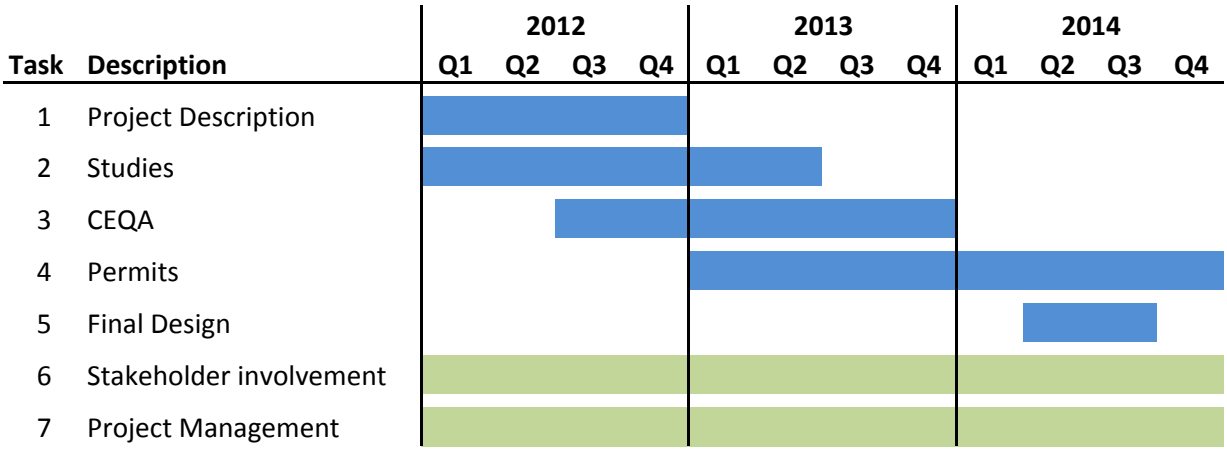


Figure 8. Organization Chart

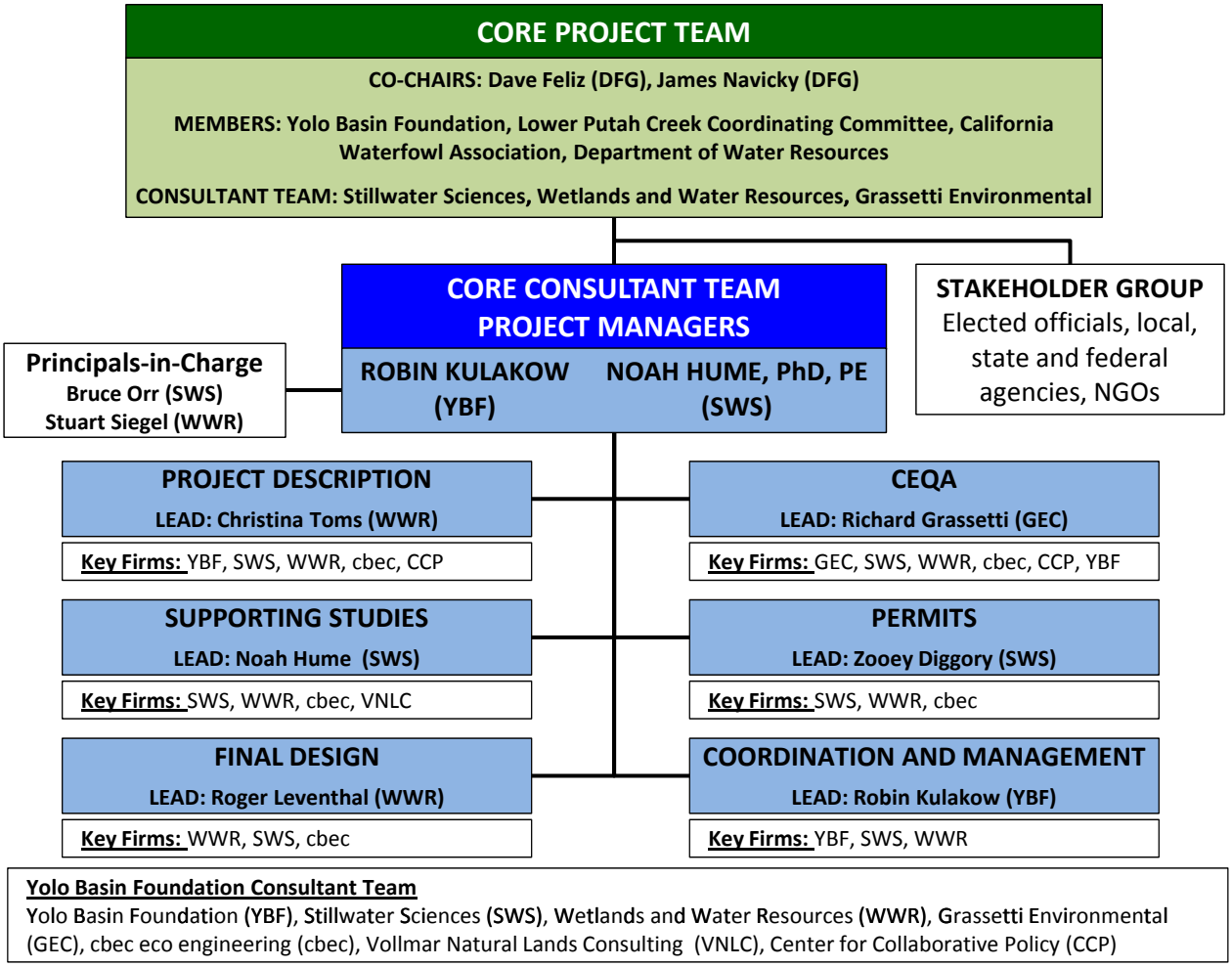


TABLE 1. BUDGET

Lower Putah Creek Restoration from Toe Drain to Monticello Dam

PERSONNEL SERVICES			
Staff Level	**Number of Hours**	**Hourly Rate**	**Total**
Robin Kulakow	690	110	75,900
Ann Brice	360	110	39,600
TOTAL PERSONNEL SERVICES			**115,500**

OPERATING EXPENSES	
Description	**Total**
Element 1: YBWA description, CEQA, permits except flood	
Subcontractor Costs - Stilllwater Sciences	350,000
Subcontractor Costs - Wetlands and Water Resources	200,000
Subcontractor Costs - cbec eco engineering	124,000
Subcontractor Costs - Grassetti Environmental	155,000
Subcontractor Costs - Vollmar Consulting	25,000
Subcontractor Costs - Center for Collaborative Policy	40,000
Printing and Duplicating	2,500
Office Supplies	1,000
DFG Section 1600 Lake and Streambed permit fee	4,000
RWQCB Clean Water Act Section 401 permit fee	2,000
SWRCB Clean Water Act Section 402 permit fee	2,000
Element 2: YBWA Flood permit and final design plans and specs	
Subcontractor Costs - Stilllwater Sciences	45,000
Subcontractor Costs - Wetlands and Water Resources	185,000
Subcontractor Costs - cbec eco engineering	16,000
Element 3: Upstream description, CEQA, permit collaboration	
Subcontractor Costs - Stilllwater Sciences	156,000
Subcontractor Costs - Wetlands and Water Resources	125,000
Subcontractor Costs - Grassetti Environmental	155,000
Subcontractor Costs - Center for Collaborative Policy	10,000
Element 4: Upstream final designs	
Subcontractor Costs - Wetlands and Water Resources oversight: upstream final design	275,000
CONTINGENCY	75,000
Total Operating Expenses	**1,947,500**
OVERHEAD @ 5%	**97,375**
GRAND TOTAL	**$ 2,160,375**

DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov

February 28, 2011

Department of Fish and Game
Ecosystem Restoration Program
Water Branch
830 S Street
Sacramento, CA 95811

Subject: Concurrence on ERP PSP Proposal Submittal and Permission for Access, Lower Putah Creek Realignment CEQA and Permits Project

The Yolo Basin Foundation and the consulting team with whom it is working are hereby given permission (1) to submit a grant proposal to the Ecosystem Restoration Program for the preparation of CEQA documents and permits for the Lower Putah Creek Realignment Project and (2) to access the Yolo Bypass Wildlife Area to conduct surveys for biological resources and physical properties of the Yolo Bypass to contribute information towards the preparation of environmental documents for the "Lower Putah Creek Restoration Plan." Information and data obtained during these surveys shall be provided to the Department of Fish and Game on at least an annual basis. Data should be submitted to:

David Feliz
Senior Wildlife Biologist
45211 County Road 32 B
Davis, CA 95618
dfeliz@dfg.ca.gov

Access to the property shall be limited to activities related to the studies and is granted through the entire term of the CEQA process. Vehicle access shall be limited to existing levee roads and should only be accessed during appropriate weather conditions. Camping is prohibited.

If you have any questions, please contact Mr. Feliz at (530) 757-3431

Sincerely,

Original signed by

David Feliz
Manager
Yolo Bypass Wildlife Area

February 28, 2011

Stuart W. Siegel, PhD, PWS
President and Principal Environmental Scientist
Wetlands and Water Resources, Inc.
818 Fifth Avenue, Suite 208,
San Rafael, CA 94901

The Lower Putah Creek Coordinating Committee is pleased to join in stakeholder participation efforts to develop a CEQA project description for habitat enhancement and floodway management projects from Monticello Dam to the Yolo Bypass. We are working with most landowners already on various enhancement projects involving CEQA exempt actions. We are pleased to work with ESA and others on permitting for future projects that require CEQA compliance.

Many of the requisite studies have been done or are underway. In addition to a 2005 Watershed Management Action Plan that summarized physical and biological assessments, we have a 2009 Terrestrial Wildlife Monitoring report, electrofishing data, a compendium of aquatic invertebrate data and other studies we are pleased to provide. We are also aware of a Flood Safe California study by the Department of Water Resources that will provide baseline flood capacity data from west of Winters to the Yolo Bypass.

The Lower Putah Creek Coordinating Committee (LPCCC) fully supports the proposed project to restore fish passage in the lower Putah Creek drainage. LPCCC has restored several reaches of Putah Creek, and is committed to restoring the Creek to a fluvially and ecologically self-sustaining system. As a part of these restoration efforts, LPCCC has been actively engaged in negotiations for Programmatic Permits with NOAA-National Marine Fisheries Service, the US Fish and Wildlife Service, and the US Army Corps of Engineers for the upstream reaches of the Creek, outside of the Yolo Bypass. We would be pleased to collaborate with the Yolo Basin Foundation on integrating their project into our existing proposals and securing programmatic coverage for the entire lower Putah Creek watershed.

Sincerely,

Rich Marovich
Streamkeeper
(530) 902-1794

P.O. Box 349 ♦ 6040 Vaca Station Road, Building 84, Elmira, California 95625-0349 ♦ Phone (707) 451-6090 ♦ Fax (707) 451-6099
www.watershedportals.org/lpccc