SACRAMENTO - SAN JOAQUIN DELTA CONSERVANCY
A California State Agency

PROP 1 GOVERNOR EDMUND G. BROWN, JR. WATER BOND 2014 RELIABILITY | RESTORATION | RESILIENCE

Proposition 1 Grant Program

2015-16 Staff Recommendation

I. Project Overview

Project Title	Wildlife Corridors for Flood Escape on the Yolo Bypass Wildlife Area		
Applicant	Yolo County Resource Conservation District		
Project Number	Prop 1-Y1-2015-016	**Category**	2
County	Yolo	**Funding Request**	$688,195.65
Score	87.3	**Total Project Cost**	$888,856.85
Staff Recommendation: Approval of funds conditional upon submittal of proof and verification of adequate water rights; determination by the lead agency that the project is categorically exempt from CEQA; and a signed agreement with the landowner.		**Funding Recommended**	$688,195.65

II. Staff Recommendations

Delta Conservancy staff recommend that the Board conditionally approve funding for the Wildlife Corridors for Flood Escape on the Yolo Bypass Wildlife Area project (#Prop 1-Y1-2015-016) proposed by Yolo County Resource Conservation District (Yolo RCD). Approval of funds is conditional upon the applicant providing the following: (1) proof of water rights for irrigation purposes; (2) determination by the lead agency that the project is categorically exempt from environmental review pursuant to CEQA; and (3) receipt of a signed agreement with the California Department of Fish and Wildlife giving the applicant the right to access the project site in order to implement the proposed project and committing to maintaining the habitat for 15 years. Conservancy staff anticipates receiving these items by September of 2016.

This Category 2 implementation project will create five miles (22 acres) of wildlife corridors and flood escape, and an additional 0.5-acre buffer patch in the Yolo Bypass Wildlife Area (YBWA), and includes funding for finalizing environmental permitting. This project will build on decades of work by a broad coalition of conservationists and

stakeholders to restore habitat in the Yolo Bypass Wildlife Area (YBWA), and implements multiple state priorities.

The applicant has plans in place to obtain the permits necessary for initiating site preparation within six months of executing the grant agreement, and will complete restoration within two years. Local support is a strength of this project. Yolo RCD has extensive experience with native plant corridor installation, extensive knowledge of native plant habitat and cultivation, and a proven history of working with farmers and ranchers. The applicant is ready to begin work towards restoration goals in this important floodway, agricultural and habitat landscape, using the best available science for plant selection, corridor design and adaptive management techniques to ensure a successful project that supports and enhances ecological, agricultural, and recreational functions of the YBWA. The benefits of wildlife corridors and cover are well established in scientific literature. The applicant acknowledges that use of wildlife corridors for flood escape is not well studied and proposes to collect data on this benefit through the use of wildlife cameras. The applicant lays out a clear approach to long-term management that is supported by the project's monitoring plan and allows for adaptive management of the site. The project is expected to increase resilience to climate change by improving ecosystem health and diversity, providing connectivity to different habitat types, and providing escape from flooding.

This project is an opportunity to establish flood-adapted, floodway-sanctioned, agriculture-friendly habitat corridors and patches on the YBWA. The project proponent has the expertise and experience, as well as partnerships, to make the success of this project highly likely to yield ecosystem benefits.

Staff has prepared the text and tables below based on staff's best understanding of the information provided in the application. The Conservancy has received comments on the proposal from the Delta Stewardship Council and the Delta Protection Commission. If approved, staff will work with the applicant to further refine the project's scope of work and performance measures, and to address comments prior to entering into a grant agreement.

III. Project Summary

Project Description:

This project will provide wildlife flood escape cover and enhance year round habitat for a variety of migratory birds, pollinators, and other wildlife by creating five miles (22 acres) of new, floodway-compatible wildlife and pollinator habitat and floodway-escape corridor, and a 0.5-acre buffer patch in of the YBWA. The habitat type restored will be native floodplain meadow and riparian woodland. As flood waters rise from east to west in the YBWA, wildlife currently lacks adequate cover to move out of lower areas or to escape aerial predation. Project proponents have identified corridors that, if planted with a mix of native plants, could provide year-round wildlife passage and much needed cover for wildlife escaping flood events. This project is an initial effort to implement multi-benefit

habitat restoration that provides cover for a diverse set of species and is compatible with the surrounding agricultural operations on the YBWA.

Proposed restoration sites are a mixture of grazed and unmanaged grasslands consisting primarily of annual grass and noxious invasive weeds. Treatment of noxious plant species will support a diverse mix of regionally appropriate native plant species. This project will provide educational opportunities and create public connections to habitat restoration in the Delta by engaging the community in implementing restoration. The regional community will be engaged through organized field days involving high school students and community volunteers in hands-on learning about restoration and planting native plants in the corridor areas. This will expose the public to usually off-limits parts of the bypass, expanding awareness and understanding of the area's importance for flood safety, agriculture, and wildlife. Wildlife use of the habitat corridors will be monitored to measure success and inform future restoration efforts.

Project partners have a breadth of experience and track record of working effectively with farmers, ranchers, and communities to implement restoration projects. These partners include the California Department of Fish & Wildlife (CDFW), Yolo Basin Foundation (YBF), Putah Creek Council, Center for Land-Based Learning, Natural Resources Conservation Service (NRCS), Point Blue Conservation Science, and UC Davis. Yolo RCD also plans to involve lease-holding farmers and ranchers and the general public in implementing this project. By engaging the community in planting events in coordination with the Yolo Basin Foundation, Center for Land-Based Learning, and Putah Creek Council's community-based stewardship program, this project will also create a larger awareness of YBWA and the efforts to improve habitat that will benefit both the ecosystem and people.

Location (Site Description):

The project is located on the YBWA in the Yolo Bypass in Yolo County between the cities of Davis and West Sacramento. The YBWA is owned and maintained by CDFW, and a signed access agreement is requested as one of the conditions for awarding funding for this proposal. The general terrain is nearly flat with a slight decrease in elevation from west to east from north to south. It is composed of predominantly annual grassland with weedy broadleaf plants along irrigation or drainage canals. There are occasional, seasonal wetlands with emergent vegetation (cattails) and widely scattered trees or small shrubs mostly along drainage canals.

IV. Implementation of California Water Action Plan and Consistency with Prop 1 and Conservancy Enabling Legislation

State Priority/Plan	Action	Project Benefits
Proposition 1	Ch. 6 79732(a)(2) Implement watershed adaptation projects in order to reduce the impacts of climate change on California's	Creates a corridor of habitat for wildlife that runs across the Yolo Bypass. This habitat connectivity will allow species to move along areas of suitable habitat and so

	communities and ecosystem.	accommodate flood events which are linked to climate change.
State Priority/Plan	**Action**	**Project Benefits**
Proposition 1	Ch. 6 79732(a)(4) Protect and restore aquatic, wetland, and migratory bird ecosystems, including fish and wildlife corridors and the acquisition of water rights for instream flow.	Creates a corridor of habitat for wildlife that will provide high quality habitat for insect populations, migratory bird populations, and other upland Delta species.
	Ch. 6 79732(a)(12) Assist in the recovery of endangered, threatened, or migratory species by improving watershed health, instream flows, fish passage, coastal or inland wetland restoration, or other means, such as natural community conservation plan and habitat conservation plan implementation.	The restored habitat will benefit a range of state and federally listed species including Swainson's hawk, giant garter snake, western pond turtle, and riparian brush rabbit. It will also benefit a large numbers of migratory bird species.
California Water Action Plan	Action 3. Achieve the Coequal goals for the Delta.	Protects and restores Delta ecosystems.
	Action 4. Protect and Restore Important Ecosystems.	Protects and restores wooded upland habitats that support several listed species.
	Action 8. Increase flood protection.	Integrates flood protection with habitat creation that will accommodate flood events.
Delta Conservancy Enabling Legislation	§32301(i)(1) Protect and enhance habitat and restoration.	Protects and restores wooded upland habitats that support several listed species.
	§32301(i)(3) Increase the resilience to floods.	Creates and maintains floodplains that will accommodate flood events and contain high quality habitat.
	§32301(i)(6) Restore the region's physical and living resources.	Restores five miles (22 acres) of riparian woodland which better represents the more natural state of the area, both physically and biologically.
	§32301(i)(7) Assist locals with NCCPs.	Complements the Yolo HCP/NCCP by enhancing and providing habitat to two of the species covered by the Yolo HCP/NCCP—giant garter snake and western bond turtle. While this property is consistent with the Yolo HCP/NCCP, it is not serving as mitigation and therefore

		would be eligible for Prop. 1 funds
State Priority/Plan	**Action**	**Project Benefits**
Delta Conservancy Enabling Legislation	§32301(i)(8) Promote environmental education.	Restored habitat, community involvement, involved partners, and proximity to schools encourages environmental education in the area.
Delta Conservancy Strategic Plan	Objective 3.2. Lead Delta ecosystem restoration activities consistent with Conservancy authorities, the Delta Plan and other regional plans and guidance, through a voluntary Delta Restoration Network, and based on adaptive management. Strategy 3.2.2. Establish, enhance and maintain migratory corridors for fish, birds and other animals. Strategy 3.2.3. Protect and enhance wetland and upland habitats on subsided lands, as consistent with agricultural operations.	Establishes and maintains native upland habitat that will serve as corridors for wildlife.
Delta Plan	ER P2. Restore habitats at appropriate elevations.	Creates a section of habitat corridor that will help to link the Yolo Bypass floodplain to surrounding areas of habitat. Restoration provides transitional habitat to upland elevation.
	ER R2. Prioritize and implement projects that restore Delta habitat.	Ensures connections between areas of habitat being created and existing habitat areas. Restoration is in Yolo Bypass priority restoration area.
	RR P4. Floodplain protection.	Creates habitat on a floodplain and also maintains flood protection function.

V. Outcomes/Outputs

Project Goals	Desired Project Outcomes	Output Indicators
Goal 1. The Yolo RCD will create wildlife habitat on the YBWA that promotes wildlife flood-safety problems and enhances habitat year-round.	Two habitat corridors installed. One publicly-accessible demonstration planting approx. 0.5 acre. Monitoring data that measures project success.	Miles of corridor established. Acres of habitat and publicly accessible demonstration planting established. Pollinator, butterfly, bird and mammalian wildlife monitoring data.
Goal 2. The YCRCD will use strong partnerships during the contract period to implement restoration and educate and connect the public to restoration in the Delta.	High school students educated about restoration methods and with on-the-ground experience in same. Community members connected to and experienced in on-the-ground restoration in the Delta.	Number of SLEWS days held. Number of community volunteer days held. Monitoring data and surveys that assess community participation, knowledge transfer and project.

VI. Budget

Total cost for this project is $888,856.85. The Delta Conservancy is being asked to approve $688,195.65 in Prop 1 funds. The remainder will come from the applicant contributing $60,000 (in-kind), CDFW contributing $28,000 (in-kind), Natural Resource Conservation Service contributing $45,000 (in-kind), Point Blue Conservation Science contributing $15,286 (in-kind), U.C. Davis contributing $18,960 (in-kind), the Center for Land Based Learning contributing $10,076 (in-kind), the Yolo Basin Foundation contributing $11,189 (in-kind), and the Putah Creek Council contributing $12,150 (in-kind).

VII. Consistency with Grant Program Guidelines

Readiness (Including CEQA Status if Applicable):

Plans for obtaining necessary permits are in place, and will facilitate a start date that is within six months of executing the grant agreement. Hydraulic modeling will be completed to support a flood permit application and encroachment permit from the Central Valley Flood Protection Board and the US Army Corps of Engineers, Section 408. The applicant intends to coordinate with CDFW and the U.S. Fish and Wildlife Service staff to utilize the existing Biological Opinion for giant garter snake. This project is covered under the YBWA Land Management Plan (LMP) for which a Negative Declaration was prepared pursuant to the provisions of CEQA. However, because the LMP's CEQA compliance is several years old, the applicant filed a Notice of Exemption under California Code of Regulations Title 14

Section 15304: Minor Alternations to Land (d): "Minor alterations in land, water, and vegetation on existing officially designated wildlife management areas or fish production facilities which result in improvement of habitat for fish and wildlife resources or greater fish production." The applicant filed on March 14, 2016.

CBEC Inc., Eco Engineering has been identified as a subcontractor on this project for the development of the restoration design plans. Contractual funds will be obligated to project partners Yolo Basin Foundation, Putah Creek Council, and the Center for Land-Based Learning for their roles in implementing this project.

Local Support:

This project has strong local support from the community. Letters of support were included from one city, four NGOs, two local districts, one university, and one federal agency. The Delta Protection Commission has confirmed that the project applicant has informed them of this project. The landowner, CDFW, is identified as a partner in this project.

The applicants demonstrate that this project has extensive partnerships in the area. The relationship built with the grazing lessee has resulted in their cooperation with the design, implementation, and management process of this project. The Yolo Basin Foundation has engaged volunteers in Yolo Bypass stewardship and management issues for more than 20 years and has worked closely with landowners and managers throughout the Bypass, integrating the larger community with the practical, day-to-day management of the resource. The Yolo Basin Foundation provides an outreach conduit to the community, both through its planned volunteer workdays in support of the project, but also in its formal outreach to its membership and the public. Putah Creek Council is a long-standing community stewardship organization working throughout the watershed. They bring a dedicated group of volunteers who care deeply about the watershed they live in to our partnership and will contribute their labor and their support to our efforts. The Center for Land-Based Learning provides quality educational restoration experiences to students throughout Yolo County, adjacent counties and elsewhere in the state.

Scientific Merit:

The project's scientific basis is well developed and the proposal cites a broad body of scientific literature. Studies of wildlife corridors and their benefits began in the early 1990s. These, and more recent studies, demonstrate that corridors provide wildlife with wind and weather protection, escape cover, food and foraging sites, reproductive habitat, and travel corridors. These benefits emphasize the importance of re-connecting separated habitat areas and providing safe, diverse corridors for wildlife movement to allow response to changing weather, climate, food, population and other life-history needs. Native plants and beneficial insects have also been documented to benefit from wildlife corridors. There is a scarcity of research on the benefits of wildlife corridors during flood events. It is reasonable to propose that wildlife corridors would provide shelter and cover during escape from rising flood waters. This proposal will use game trail cameras during strategic times of the year, and during any flood events that occur during the contract period. Data collected by these cameras will serve as pilot documentation of the benefits of wildlife corridors during flood events and to inform future similar work. This will also keep

monitoring costs low. The applicants will use the same program principles and practices as those used by the UC Davis Road Ecology Center's research program as a model for the wildlife corridor use observations in this proposal.

Long Term Management & Adaptive Management Plan:

The applicant lays out an approach to long-term management that will likely be effective. Management of the restoration sites will be supported by monitoring and is expected to incorporate adaptive management of the site. Applicants will use grazing as a long-term approach to weed management. Weed management is the main long-term management need. Grazing will be excluded via fencing during the three-year establishment period. Since the RCD manages the grazing leases for CDFW, the applicant will work with the grazers and CDFW to implement strategies for weed management that are compatible with native grass and shrub maintenance. CDFW, the landowner, has agreed to maintain the corridor over the long term, and a signed agreement confirming that CDFW will maintain the habitat for at least 15 years is a condition for awarding funding for this proposal. The project proponent plans to adapt project activities based on monitoring data. This will allow applicants to catch and mitigate for unexpected events and outcomes to insure overall project success.

Monitoring and Assessment:

The applicant has proposed monitoring that will provide data on the short- and long-term success of the project. The project's monitoring goals will help ensure that the applicant meets their planned performance measures, remain aware as unexpected situations occur, and adaptively manage their work to mitigate for unforeseen circumstances. Point Blue Conservation Science will perform wildlife monitoring for project effectiveness documentation. Monitoring data collected through this project will be shared with other local and regional biological monitoring data repositories to help shape understanding of the condition of native flora and fauna and contribute to more effective and meaningful resource management and decision-making. Monitoring will include collection of plant survival and wildlife use data. Conservancy staff recommends that the grant agreement include additional information regarding the monitoring objectives, tasks, and timeline.

Climate Change Considerations:

This project is expected to increase resilience to climate change via multiple avenues. These include: 1) promoting the restoration of landscape functionality and resilience by replacing weedy non-native vegetation with regionally native plants that are adapted to intermittent flood plain conditions and that have already adapted to wide swings in climate conditions in California; 2) providing habitat for multiple species rather than single species. Birds, mammals, reptiles, amphibians and insects will all benefit for this native plant corridor; 3) assisting wildlife in adapting to change by providing corridors that are at the same time food, cover and nesting habitat and that cross elevation lines, allowing animals to escape under cover as inundation levels change during single events and as inundation levels change over decades; 4) providing connectivity between north-south riparian corridors and non-riparian upland habitat and food sources to the west; and 5) designing long-term management that supports dynamic ecological processes.

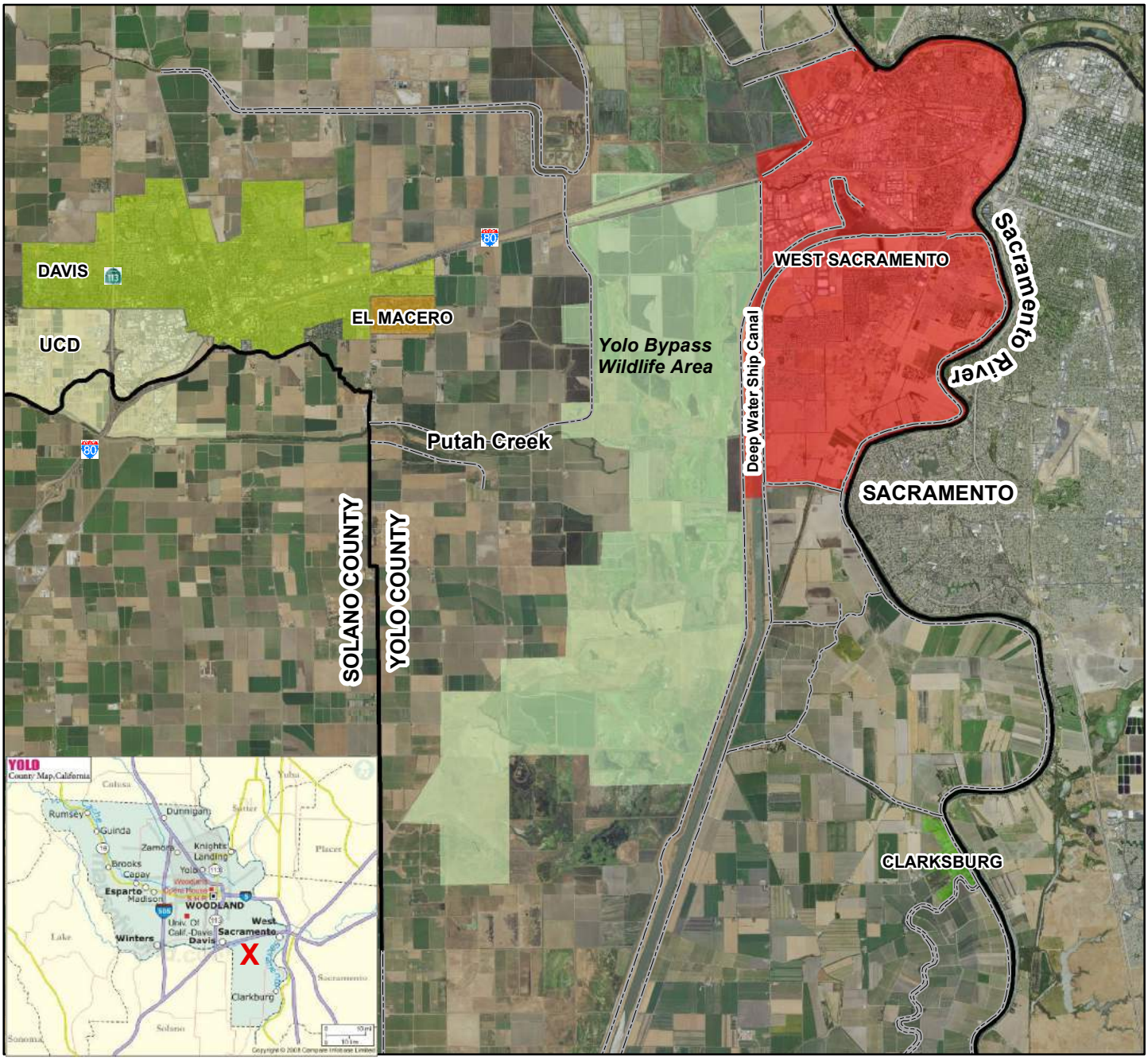
While this project is not designed to specifically mitigate climate change, its implementation will sequester carbon from the atmosphere. Analysis by the NRCS COMET-Farm whole farm carbon and greenhouse gas accounting tool estimates that the proposed 5 miles of restored habit corridor and the resulting establishment of native grasses and forbs on formerly weedy, marginal soils will improve the carbon storage capacity of soil in the project area capture and store carbon in both plants and the soil beneath them.

Yolo Bypass Wildlife Area
- Location Map -

Date: 9/12/2015

Customer(s): YOLO COUNTY RESOURCE CONSERVATION DISTRICT

Field Office: WOODLAND SERVICE CENTER
Assisted By: PHIL HOGAN
Agency: USDA Natural Resources Conservation Service



7,250 0 7,250 14,500 21,750 29,000 Feet

Legend

AREASYMBOL
- Levees

DFG_
- Yolo Bypass Wildlife Area
- Yolo_county
- UCDboundary

Cities_Towns
CITY_NAME, ACRES
- CLARKSBURG:349.82754947
- DAVIS:6353.20098136
- EL MACERO:0
- WEST SACRAMENTO:14722.6228405

USDA NRCS
U.S. Department of Agriculture
Natural Resources Conservation Service

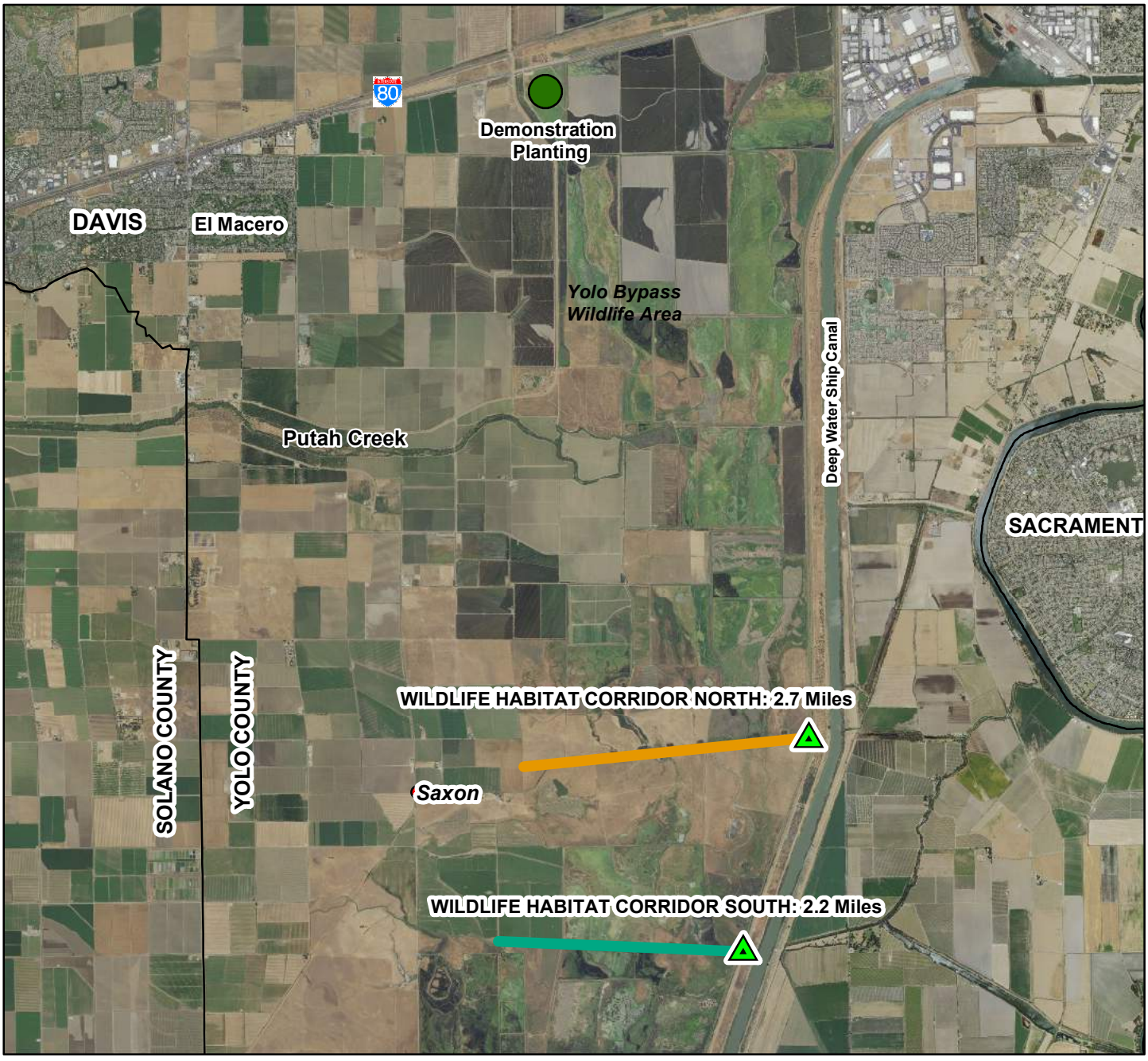
MAP:
2014 Aerial Photography
USDA Farm Service Agency
1:150,000

N

Yolo Bypass Wildlife Area - Wildlife Habitat Corridors Plan
- Corridors Site Plan & Location Map -

Customer(s): YOLO COUNTY RESOURCE CONSERVATION DISTRICT

Date: 12-17-2015
Field Office: WOODLAND SERVICE CENTER
Assisted By: PHIL HOGAN
Agency: USDA Natural Resources Conservation Service



4,300 0 4,300 8,600 12,900 17,200
Feet

Legend

NAME

- Saxon
- Yolo_county

U.S. Department of Agriculture
Natural Resources Conservation Service

MAP:
2014 Aerial Photography
USDA Farm Service Agency
1:90,000

N


YBWA - Wildlife Habitat Corridor Plan
Corridor North
- Plant 935 native riparian plants on seven trestle mounds
- Establish 20 acres understory of native floodplain meadow
Legend
Plant on old trestle mounds
Restore floodplain meadow connections
Google earth
© 2016 Google
N
1000 ft


YBWA - Wildlife Habitat Corridor Plan
Corridor South
- Plant row of 1,000 native riparian plants along 2.2 miles
- Establish 3 acres understory of native floodplain meadow
Legend
Riparian corridor planting
Google earth
© 2016 Google
600 ft
N


YBWA - Wildlife Habitat Corridor Plan
Demonstration Planting
- Plant 65 riparian plants
- Establish 0.5 acre understory of native floodplain meadow
Legend
Demonstration Planting at Parking Lot A
80
41
Google earth
© 2016 Google
N
200 ft

RCD Veg Concepts 3/12/16

Wildlife Habitat Corridor North 2.7 miles

Riparian corridor - plant the existing 7 trestle mounds with "pods" (or other configuration informed by hydraulic analyses) of understory and riparian woodland cover to include woody and non-woody native riparian species that range in height from 3 feet to 15 feet to be maintained by fencing out livestock. Species to include:

30% mugwort and deergrass
15% CA rose
15% coyotebrush
40% mulefat, quailbush and buttonwillow

Floodplain meadow restoration - connect trestle refugia with floodplain grassland complex of non-woody native grasses and forbs to be maintain at 3 feet or below by grazing (avg. 200 ft wide):

80% mix of native grasses including: creeping wild rye, meadow barley, blue wildrye, slender wheatgrass

20% mix of native forbs including gumplant, mugwort, milkweed spp., goldenrod, indian hemp

Wildlife Habitat Corridor South 2.2 miles

Riparian corridor - plant riparian woodland cover (north of road and south of irrigation ditch under powerlines) to include woody and non-woody native riparian species that range in height from 3 feet to 30 feet (width = 10-20 ft):

30% mugwort and deergrass
15% CA rose
15% coyotebrush
40% mulefat, quailbush and buttonwillow

Floodplain meadow restoration - Convert non-native annual grass and weeds with a strip of floodplain grassland complex of non-woody native grasses and forbs to be maintain at 3 feet or below by mowing during road maintenance (approximately 12 feet in width):

80% mix of native grasses including: creeping wild rye, meadow barley, blue wildrye, slender wheatgrass

20% mix of native forbs including gumplant, mugwort, milkweed spp., goldenrod, indian hemp

Demonstration Planting 0.6 acres

Plant riparian woodland cover along the south edge of Parking Lot A and the wildlife area with floodplain grassland complex using the same mix as above plantings to provide a demonstration showcase for the larger restoration project.

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PROP 1
GOVERNOR EDMUND G. BROWN, JR.
WATER BOND 2014
RELIABILITY | RESTORATION | RESILIENCE

Proposition 1 Grant Program

2015-16 Staff Recommendation

I. Project Overview

Project Title	Three Creeks Parkway Restoration Project		
Applicant	American Rivers		
Project Number	Prop 1-Y1-2015-009	**Category**	2
County	Contra Costa	**Funding Request**	$839,485
Score	86.8	**Total Project Cost**	$4,659,294
Staff Recommendation: Conditional approval of reservation of funds pending CEQA review, and conditional upon submittal of proof and verification of adequate water rights; and a signed agreement with the landowner.		**Funding Recommended**	$836,409

II. Staff Recommendations

Delta Conservancy staff recommends that the Board conditionally reserve funding for the Three Creeks Parkway Restoration Project (#Prop 1-Y1-2015-009) proposed by American Rivers for a reduced sum of $836,409. The applicant requested $839,485; from this amount $3,076 of estimated costs for three tours of the restoration site were deemed ineligible for Prop 1 funding because these tours do not contribute to planning or implementation for the project. Funding will be reserved until environmental review has been completed and the Board has approved the Responsible Agency findings. This reservation of funds does not constitute approval of the requested funding and the Board reserves the discretion to approve or reject the funding request once it reviews the CEQA documentation for the project. It is expected that the environmental document and lead agency findings will be completed by September 2016. Additionally, staff recommends that the Board's reservation of funds be conditional upon the following: (1) submittal of proof and verification of adequate water rights; and (2) a signed agreement with the landowner, the Contra Costa County Flood Control and Water Conservation District (District), that formalizes the applicant's right to implement and maintain the proposed project, and the District's role in the proposed project.

American Rivers and their partners – the District, Friends of Marsh Creek Watershed (FOMCW), and the City of Brentwood – have proposed a multibenefit ecosystem restoration project at the confluence of Marsh, Sand, and Deer Creeks (Three Creeks) that will convert a denuded flood control channel into a healthy riparian corridor. The Three Creeks Parkway Restoration Project will restore native vegetation on 12.5 acres along nearly a mile of Marsh Creek, and floodplain and riparian habitat along 4,000 linear feet of creek. These restoration actions will provide important habitat, increase flood protection, and contribute to achieving water quality objectives in the Delta.

This project is ready for implementation; it is well-supported locally and is being advanced by an effective, cross-sector partnership with a history of working together and extensive applicable expertise. The scientific foundation of the project draws on literature that extols the ecosystem benefits of floodplain restoration and habitat corridors, and the water quality benefits of riparian vegetation. The habitat restoration, habitat connectivity, and flood protection benefits of the project are being designed specifically to address the resource demands of a changing climate. Project proponents are advancing innovative, non-structural means of integrating habitat restoration, flood protection, and adaptive management into this project.

This project is well-designed and clearly consistent with Prop 1's emphasis on multiple benefits. These characteristics make this project a standard-bearer for multibenefit floodplain restoration in the Delta. By approving this project, the Conservancy will be funding a project with important ecosystem benefits and a high likelihood of success.

Staff has prepared the text and tables below based on staff's best understanding of the information provided in the application. The Conservancy has received comments on the proposal from the Delta Stewardship Council and the Delta Protection Commission. If approved, staff will work with the applicant to further refine the project's scope of work and performance measures, and to address comments prior to entering into a grant agreement.

III. Project Summary

Project Description:

The project team's overall goal is to reestablish the thriving habitat and functional floodplains that are at the heart of healthy creek and wetland ecosystems. This project will restore almost a mile of Marsh Creek, including its confluences with Sand Creek and Deer Creek, within the city limits of Brentwood, CA. By re-contouring the banks of Marsh Creek to create a floodplain bench and installing native trees and understory vegetation, project proponents will create a 4,000-foot corridor of floodplain with a shaded stream channel surrounded by 12.5 acres of native vegetation. This project is part of a larger effort by a collaborative team to restore and improve habitat along the entire length of Marsh Creek from Mount Diablo to the Delta. The overarching vision for Marsh Creek is that of a stream of clean, cold water, surrounded by stands of native trees and a spread of grasses and wildflowers – a vital and healthy habitat corridor between protected conservation areas on the Delta shoreline and Mt. Diablo State Park. Over the past decade, the project team has been working to achieve this vision, organizing community members, building a fish ladder, designing restoration projects, and restoring a two-acre site along the creek.

The proposed project will greatly enhance the habitat of the Marsh Creek watershed ecosystem and increase its resilience to climate change by allowing flood events, which are likely to become more common in California according to climate change models, to be better accommodated. It will also improve the quality of life for Delta residents in one of the most densely developed areas of the Delta by reducing flood risk, improving recreational opportunities, and providing a place to make meaningful connections with the natural world of the Delta region. Project proponents are maximizing voluntary landowner participation: the landowner (the District), and surrounding landowners are involved in and supportive of the proposed project. Prop 1 funds will allow the project team to leverage funding from other state agencies and a private developer to implement a project with many tangible benefits for the Delta ecosystem and for local communities.

Location (Site Description):

The project is located in the Marsh Creek watershed in Contra Costa County. Historically, lower Marsh Creek spread out onto an alluvial floodplain, which created rich agricultural land. Over the last 20 years, subdivisions, new roads, and a major highway have replaced agricultural land. The creek channel was straightened in the 1950s and is currently managed as a trapezoidal flood control channel that is chemically mowed to prevent riparian vegetation from decreasing flood capacity. Marsh Creek was designed to flow quickly into the Delta and the banks of the channel consist of non-native grasses without a floodplain. The project site falls within the city limits of Brentwood, CA. The applicant provided a deed as proof that the site is owned by the Contra Costa County Flood Control and Water Conservation District, and a letter from the District indicating that the applicant is working with the district to formalize the applicant's right to implement and maintain the proposed project, and the District's role in the proposed project.

IV. Implementation of California Water Action Plan and Consistency with Prop 1 and Conservancy Enabling Legislation

State Priority/Plan	Action	Project Benefits
Proposition 1	Ch. 6 79732(a)(2) Implement watershed adaptation projects in order to reduce the impacts of climate change on California's communities and ecosystem.	Contributes to a corridor of habitat for fish and wildlife that runs from the Delta to Mt. Diablo. This habitat connectivity will allow species to move along an elevational gradient in order to accommodate climate change. Further, this project will allow for greater flood protection.
	Ch. 6 79732(a)(4) Protect and restore aquatic, wetland, and migratory bird ecosystems, including fish and wildlife corridors and the acquisition of water rights for instream flow.	Contributes to a corridor of habitat for fish and wildlife that runs from the Delta to Mt. Diablo. This habitat and its connectivity between Mt. Diablo and the Delta will benefit many Delta species.

State Priority/Plan	Action	Project Benefits
Proposition 1	Ch. 6 79732(a)(11) Reduce pollution or contamination of rivers, lakes, streams, or coastal waters, prevent and remediate mercury contamination from legacy mines, and protect or restore natural system functions that contribute to water supply, water quality, or flood management instream flow.	Restores vegetation will help to remove urban and agricultural pollutants from the waterway.
	Ch. 6 79732(a)(12) Assist in the recovery of endangered, threatened, or migratory species by improving watershed health, instream flows, fish passage, coastal or inland wetland restoration, or other means, such as natural community conservation plan and habitat conservation plan implementation.	Restores habitat that will benefit a range of state and federally listed species including Chinook, Steelhead, and Swainson's Hawk.
California Water Action Plan	Action 2. Increase regional self-reliance and integrated water management across all levels of government.	Integrates water management at the level of individual development, city, county and state.
	Action 3. Achieve the co-equal goals for the Delta.	Protects and restore Delta ecosystems.
	Action 4. Protect and restore important ecosystems.	Protects and restores floodplain and riparian habitats that support several listed species.
	Action 8. Increase flood protection.	Creates floodplains that will better accommodate flood events.
Delta Conservancy Enabling Legislation	§32301(i)(1) Protect and enhance habitat and restoration.	Restores 4,000 linear feet of native vegetation.
	§32301(i)(2) Provide increased opportunities for tourism and recreation.	Shaded wildlife corridor will incorporate local trail systems to encourage community to visit the site.
	§32301(i)(3) Increase the resilience to floods.	Creates and maintains floodplains that will better accommodate flood events.
	§32301(i)(4) Protect and improve water quality.	Restores vegetation will help to remove urban and agricultural pollutants from the waterway.
	§32301(i)(6) Restore the region's physical and living resources.	Restores the creek to a more natural state both physically and biologically.

State Priority/Plan	Action	Project Benefits
Delta Conservancy Enabling Legislation	§32301(i)(7) Assist locals with NCCPs.	Project site is adjacent to and consistent with the local HCP/NCCP efforts. While this property is consistent with the local HCP, it is not serving as mitigation and therefore is eligible for Prop. 1 funds.
	§32301(i)(8) Promote environmental education.	Provides locations where communities and nearby schools can engage in environmental education in the area.
Delta Conservancy Strategic Plan	Objective 3.2: Lead Delta ecosystem restoration activities consistent with Conservancy authorities, the Delta Plan and other regional plans and guidance, through a voluntary Delta Restoration Network, and based on adaptive management. Strategy 3.2.2: Establish, enhance and maintain migratory corridors for fish, birds and other animals. Strategy 3.2.3: Protect and enhance wetland and upland habitats on subsided lands, as consistent with agricultural operations.	Establishes and maintains 4,000 linear feet of restored native habitat that will serve as a corridor for fish and wildlife. Creates floodplain habitat that will benefit wetland and aquatic species.
Delta Plan	WR R1. Implement water efficiency and water management planning laws.	Implements stormwater management plans.
	ER P2. Restore habitats at appropriate elevations.	Creates a section of habitat corridor that will help to link Mt. Diablo and the Delta.
	ER R2. Prioritize and implement projects that restore Delta habitat.	Restores 4,000 linear feet of riparian and floodplain Delta habitat.
	DP R11. Provide new and protect existing recreation opportunities.	Creates native habitat that is incorporated into existing trail systems and that will provide increasing opportunities for recreation.
	DP R14. Enhance nature-based recreation.	The native vegetation established by this project will create natural habitat that will encourage nature-based recreation.
	RR P4. Floodplain protection.	Creates and maintains floodplain habitat.

V. Outcomes/Outputs

Project Goals	Desired Project Outcomes	Output Indicators
Improve habitat, flood management, water quality, ecosystem resilience in the Marsh Creek watershed	Floodplain and native vegetation is restored along 4,000 linear feet of Marsh Creek between Dainty Avenue and the Union Pacific Railroad Habitat is improved by restoring 12.5 acres, including 3.6 acres of frequently inundated floodplain (seasonal wetland), 5.2 acres of woody riparian vegetation, and 5.3 acres of grasslands and native scrub. Improve water quality and diversity of aquatic organisms.	Excavate and widen channel by 20 – 40 feet along 4,000 linear feet 20-40 feet of new frequently inundated floodplain bench excavated along 4,000 linear feet of channel Gradual 3:1 sloped banks graded along channel from top of bank to new flood plain 13,200 Native plants planted (200 15 gal. trees, 2,000 5 gal. trees and shrubs, 11,000 1 gal. or smaller herbaceous plants) Revegetate 12.5 acres uplands, bank, floodplain and channel margin with native vegetation along 4,000 linear feet of channel Apply native hydro-seed mix of grasses and forbes over 5.3 acres Preemptive and proactive management to limit invasive plant species Create and revegetate area to improve water quality and habitat for aquatic species Revegetate area to provide habitat for a diversity of avian, fish, herp, and mammal species

VI. Budget

The total cost for this project is $4,659,294. Staff recommends approving $836,409. The Delta Conservancy is being asked to approve $839,485 in Prop 1 funds. This request includes an estimated $3,076 of funding for three tours of the creek and restoration site that were deemed ineligible for Prop. 1 funding and have been removed from the budget. The DWR Urban Stream Restoration Grant is contributing $744,404 (cash), the Contra Costa Flood Control District is contributing $2,125,405 ($1,400,000 cash and $725,405 in-kind), and American Rivers is contributing $950,000 (cash).

VII. Consistency with Grant Program Guidelines

Readiness (Including CEQA Status if Applicable):

The applicant aims to begin the project in the summer of 2017 and complete it by the end of 2018. A site plan has been created, and a construction plan is in the process of being drawn up. Subcontractors for the construction have not yet been selected. The applicant has reported that a consultant has been hired to draft the needed CEQA documents. These are scheduled to be complete by July of 2016; no public information is available about the

status of these documents. Conservancy staff will examine the CEQA documents as soon as they are made available, and, once certified, will provide proposed Responsible Agency finding to the Board for approval. All other needed permits are anticipated to be complete by January 2017.

Local Support:

The project proponents have formed partnerships with a range of partners that have a long history of successful restoration projects in the area. Through the inclusion of letters of support, the project clearly demonstrated local support. Seven letters of support accompanied this proposal; they came from one state senator, one state assemblyperson, one city government, three local districts, and one local NGO. While the application did not include a County resolution, a Resolution of Support from the Contra Costa County Flood Control & Water Conservation District was included. The applicant failed to complete the "Community Support and Integration" section of the application, and did not consult with the Delta Protection Commission (DPC) prior to submittal of their grant application, however the DPC indicated support for the project in its subsequent review.

This project will benefit the developing lands surrounding the project site. Local property owners have agreed that there will be value added to their properties if this project is completed. The project will integrate planning by local jurisdictions by expanding Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) projects that will be adjacent to, but not overlapping with, this restoration work. This restoration project is consistent with similar projects in Contra Costa County and has already been incorporated into the Contra Costa HCP/NCCP. While this property is consistent with the local HCP, it is not serving as mitigation and therefore is eligible for Proposition 1 funds.

Scientific Merit:

The scientific merit of this proposal is well supported by numerous recent scientific studies and management plans which demonstrate the importance and benefits of flood plains for fish and wildlife communities, the importance of habitat corridor for connectivity, and the benefits of floodplains and vegetation for water quality. This proposal calls for a non-structural approach to habitat restoration and flood management. Instead of focusing on the construction of levees, this proposal plans to create a situation where the creek is allowed more space to accommodate 100-year flood events within a newly created floodplain, while also supporting native vegetation and wildlife. The techniques and principles that the applicant is using to guide their approach are scientifically sound.

Long Term Management & Adaptive Management Plan:

The applicant lays out a clear approach to long-term management that is supported by the project's monitoring plan and allows for adaptive management of the site. The restored site will require little maintenance because the installed vegetation will maintain bank stability, and will not contribute significant woody debris that might interfere with flood conveyance. Long term management will be insured by an endowment of $150,000 created specifically to fund maintenance of the site. This endowment fund will support the Friends of Marsh Creek Watershed to monitor the site for invasive species and native plant mortality. This information will allow for adaptive management of the native vegetation by the District to target invasive weeds and replant native vegetation that suffers mortality.

These actions will also be supported by the endowment. The endowment will also allow the District to monitor the channel topography and adaptively manage any aggrading or degrading conditions to the channel.

Monitoring and Assessment:

The applicant has proposed a robust monitoring plan that will provide data on the short- and long-term success of the project. The primary ecological goals for the Three Creeks restoration project are to increase the area of frequently inundated floodplain and native vegetation alongside the Marsh Creek flood control channel. The purpose of monitoring the project site is to determine if the project has met or is meeting the ecological goals of the creek restoration. The objectives of the monitoring plan are to: (1) Measure the survival, vigor, and diversity of the vegetation planted on the restoration site including the presence of invasive species; (2) Measure channel stability, erosion, and floodplain aggradation over time; (3) Measure the area, frequency, timing and duration of inundation on restored floodplain; (4) Measure the impact of the project on water quality (temperature, nutrients, etc.); (5) Measure presence and diversity of species using the restored site; and (6) Measure public opinion regarding the value of the restoration.

Climate Change Considerations:

Climate change is effectively considered from several angles. This project will improve flood protection and, in doing so, help protect surrounding communities from the increasingly flashy stream system that is predicted by climate change models for central California. A habitat corridor connecting the Delta to Mount Diablo will allow for the movement of fish and wildlife along an elevational gradient which will aid the range changes that are predicted by climate change models. Additionally, the 200 large trees that will be planted on the creek banks will sequester carbon, helping to reduce the carbon contribution to the atmosphere. These trees will also shade the creek helping to buffer against the effects of a warming climate.

Project Location Map

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PROP 1
GOVERNOR EDMUND G. BROWN, JR.
WATER BOND 2014
RELIABILITY | RESTORATION | RESILIENCE

Proposition 1 Grant Program

2015-16 Staff Recommendation

I. Project Overview

Project Title	Lower Marsh Creek and Sand Creek Watershed Riparian Restoration Planning		
Applicant	American Rivers		
Project Number	Prop 1-Y1-2015-019	**Category**	1
County	Contra Costa	**Funding Request**	$78,014
Score	86.1	**Total Project Cost**	$116,568
Staff Recommendation: Approval of funds conditional upon making findings required for funding activities outside of the legal Delta.		**Funding Recommended**	$73,493

II. Staff Recommendations

Delta Conservancy staff recommends that the Board conditionally approve funding for the Lower Marsh Creek and Sand Creek Watershed Riparian Restoration Planning project (#Prop 1-Y1-2015-019) proposed by American Rivers for a reduced sum of $73,493. The applicant requested $78,014; from this amount $4,521 of costs for trail planning related tasks were deemed ineligible for Prop. 1 funding. Approval will be conditional upon the Board's finding that all conditions for funding activities outside of the legal Delta have been met. Staff anticipates providing information to the Board to make these findings by July 2016. The project to which this category 1 planning project relates is eligible for category 2 funding, should it make it to the category 2 stage. The awarding of a category 1 grant for a project does not guarantee that a category 2 grant will be awarded for the same project.

For this project, American Rivers and their partners will draft a Programmatic CEQA document that will cover restoration-related activities in the Marsh and Sand Creek watersheds, parts of which are located outside of the legal Delta, and will also develop a stormwater management plan that will be used to guide future developments in the area. This programmatic CEQA will allow for swifter action to be taken on developing and implementing restoration projects that will restore floodplain, attenuate flood flows, help improve water quality, and provide an increasingly contiguous habitat corridor for a wide range of species in a rapidly expanding urban area.

The project is ready for implementation; it is well-supported locally and is being advanced by an effective, cross-sector partnership with a history of working together and extensive applicable expertise. The applicant draws on literature to provide a sound scientific foundation for the projects that will result from this planning proposal. The habitat restoration, habitat connectivity, and flood protection benefits of the types of projects that will be designed and developed under this programmatic CEQA will specifically address the resource demands of a changing climate. This programmatic CEQA document will lead to projects that advance innovative, non-structural means of integrating habitat restoration, flood protection, and adaptive management. These characteristics make this project a standard-bearer for area-wide permitting for multibenefit riparian and floodplain habitat restoration in the Delta. By approving this project, the Conservancy will be funding a project that has a high likelihood of yielding important ecosystem benefits.

Staff has prepared the text and tables below based on staff's best understanding of the information provided in the application. The Conservancy has received comments on the proposal from the Delta Stewardship Council and the Delta Protection Commission. If approved, staff will work with the applicant to further refine the project's scope of work and performance measures, and to address comments prior to entering into a grant agreement.

III. Project Summary

Project Description:

The purpose of this project is to create a Programmatic CEQA document for future restoration activities conducted by American Rivers and their partners (Friends of Marsh Creek Watershed (FOMCW), the Contra Costa County Flood Control and Water Conservation District (District), and the City of Brentwood) in the Marsh Creek and Sand Creek watersheds. The pace and scale of restoration and conservation within the watershed are not keeping up with urban development. A programmatic CEQA will alleviate a significant bottleneck to advancing restoration activities, providing for a comprehensive, area-wide approach to planning and permitting that will facilitate more expeditious implementation.

In the next few years, a confluence of significant opportunities could allow the applicant to restore Marsh and Sand Creeks. However, under status quo conditions, these opportunities will likely be buried under the next wave of urbanization that is rolling over the watershed. This programmatic CEQA document will reduce the amount of time and resources needed to acquire needed permits and will also encourage further participation in restoration projects by developers by establishing in-place CEQA coverage. This rapid urbanization will also cause significant changes in water flow in the region due to increased stormwater runoff events. By developing a stormwater management plan for the region, these flows can be incorporated into the creek and the restoration projects there on.

Location (Site Description):

The planning area includes the Marsh and Sand creeks watershed, but will focus on the lower portions of Marsh and Sand creeks, downstream of Balfour Avenue on Marsh Creek and the Hwy. 4 bypass on Sand Creek, and includes the cities of Brentwood, Oakley, and

Antioch. Marsh Creek flows from Mt. Diablo to the Delta through protected park land in the upper watershed and the rapidly growing cities of Brentwood, Antioch, and Oakley in the lower watershed. The creek channel was straightened in the 1950s and is currently managed as a trapezoidal flood control channel that is chemically mowed to prevent riparian vegetation from decreasing flood capacity. There are several undeveloped parcels along the creek suitable for expanding the channel to allow enough room for riparian vegetation and flood conveyance.

IV. Implementation of California Water Action Plan and Consistency with Prop 1 and Conservancy Enabling Legislation

State Priority/Plan	Action	Project Benefits
Proposition 1	Ch. 6 79732(a)(2) Implement watershed adaptation projects in order to reduce the impacts of climate change on California's communities and ecosystem.	Contributes to corridors of habitat for fish and wildlife that run from the Delta to the Diablo Range. This habitat connectivity will allow species to move along an elevational gradient in order to accommodate climate change. Further, these opportunities will allow for greater flood protection.
	Ch. 6 79732(a)(4) Protect and restore aquatic, wetland, and migratory bird ecosystems, including fish and wildlife corridors and the acquisition of water rights for instream flow.	Contributes to corridors of habitat for fish and wildlife that runs from the Delta to the Diablo Range. This habitat and its connectivity between the Diablo Range and the Delta will benefit many Delta species.
	Ch. 6 79732(a)(11) Reduce pollution or contamination of rivers, lakes, streams, or coastal waters, prevent and remediate mercury contamination from legacy mines, and protect or restore natural system functions that contribute to water supply, water quality, or flood management instream flow.	Restores vegetation that will help to remove urban and agricultural pollutants from the waterway.
	Ch. 6 79732(a)(12) Assist in the recovery of endangered, threatened, or migratory species by improving watershed health, instream flows, fish passage, coastal or inland wetland restoration, or other means, such as natural community conservation plan and habitat conservation plan implementation.	Restores habitat that will benefit a range of state and federally listed species including Chinook salmon, steelhead, and Swainson's hawk.

State Priority/Plan	Action	Project Benefits
California Water Action Plan	Action 2. Increase regional self-reliance and integrated water management across all levels of government.	Integrates water management at the level of individual developments, cities, counties and the state.
	Action 3. Achieve the co-equal goals for the Delta.	Protects and restores Delta ecosystems.
	Action 4. Protect and restore important ecosystems.	Protects and restores floodplain and riparian habitats that support several listed species.
	Action 8. Increase flood protection.	Creates floodplains that will better accommodate flood events.
Delta Conservancy Enabling Legislation:	§32301(i)(1) Protect and enhance habitat and restoration.	Protects and restores Delta habitat and ecosystems.
	§32301(i)(2) Provide increased opportunities for tourism and recreation.	Creates shaded wildlife corridors that will incorporate local trail systems and will encourage community to visit the site.
	§32301(i)(3) Increase the resilience to floods.	Creates and maintains floodplains that will better accommodate flood events.
	§32301(i)(4) Protect and improve water quality.	Restores vegetation that will help to remove urban and agricultural pollutants from the waterway.
	§32301(i)(6) Restore the region's physical and living resources.	Restores two creeks to more natural states both physically and biologically.
	§32301(i)(7) Assist locals with NCCPs.	Creates opportunities for project sites to be incorporated with the local HCP/NCCP efforts. While this property is consistent with the Yolo HCP, it is not serving as mitigation and therefore is eligible for Prop. 1 funds.
	§32301(i)(8) Promote environmental education.	Provides locations where communities and nearby schools can engage in environmental education in the area.

State Priority/Plan	Action	Project Benefits
Delta Conservancy Strategic Plan	Objective 3.2: Lead Delta ecosystem restoration activities consistent with Conservancy authorities, the Delta Plan and other regional plans and guidance, through a voluntary Delta Restoration Network, and based on adaptive management. Strategy 3.2.2: Establish, enhance and maintain migratory corridors for fish, birds and other animals. Strategy 3.2.3: Protect and enhance wetland and upland habitats on subsided lands, as consistent with agricultural operations.	Creates native habitat corridors that will connect protected lands and allow fish and wildlife to move across the landscape. Creates floodplain habitat that will benefit wetland and aquatic species.
Delta Plan	ER R2. Prioritize and implement projects that restore Delta habitat	Restores riparian and floodplain Delta habitat.
	DP R11. Provide new and protect existing recreation opportunities	Creates native habitat that will be incorporated into existing trail systems and that will provide increasing opportunities for recreation.
	DP R14. Enhance nature-based recreation.	Restores native vegetation that will create natural habitat that will encourage nature-based recreation.
	RR P4. Floodplain protection.	Creates opportunities for projects to create and maintain floodplain habitat.

V. Outcomes/Outputs

Project Goals	Desired Project Outcomes	Output Indicators
Goal 1. Restore floodplain and riparian habitats in Marsh and Sand Creek flood control channel to improve water quality, flood management and ecosystem resilience to climate change in the Marsh Creek watershed.	Permitting is streamlined for multi-benefit projects that will improve water quality, enhance flood protection and restore habitat. Multiple on-the-ground projects are shovel-ready, increasing the pace of restoration in the watershed.	Programmatic CEQA document is complete for the lower Marsh and Sand Creek watersheds.
Goal 2. Reduce discharge of polluted urban run-off to Marsh Creek	Integrate stormwater treatment requirements required under provision C3 (new development) of the recently revised Municipal Regional Permit with channel restoration projects	Design criteria is complete that integrates new stormwater treatment rules and wetland restoration on creek-side parcels

VI. Budget

The total cost for this project is $116,568. Staff recommends approving $73,493 for a programmatic CEQA and stormwater management plan. Project proponents are requesting $78,014 from the Conservancy. This request includes $4,521 of funding for trail planning tasks that were deemed ineligible by Conservancy legal staff and have been removed from the budget. The remaining project funding will come from American Rivers and Pulte Homes (from the Marsh Creek Funding Agreement) who are providing a cost share of $28,554 (cash), Friends of Marsh Creek Watershed who are providing a cost share of $2,500 (in-kind), and Contra Costa Flood Control District who are providing a cost share of $7,500 (in-kind).

VII. Consistency with Grant Program Guidelines

Readiness (Including CEQA Status if Applicable):

The applicant effectively demonstrates that this category 1 planning project is set to begin in the summer of 2016 and will be completed by the end of 2018. Because much of the project is identified as a priority restoration area in the East Contra Costa County Habitat Conservation Plan (HCP), and due to the very poor quality of existing habitat at the project site, project proponents may be able to file a programmatic mitigated negative declaration. While this property is consistent with the Contra Costa HCP, it is not advancing any mitigation and therefore is eligible for Prop. 1 funds. Because this is a planning grant to prepare a CEQA document, award of the grant is not a "project" for purposes of CEQA.

This project will take place, in part, outside of the legal Delta. Public Resources Code section 32360.5 requires the Board make certain findings if it approves funding for activities outside the Delta. Conservancy staff will give notice to and review comments from the Coastal Conservancy, the State conservancy that covers eastern Contra Costa County, the location where the project is proposing to work outside the Delta. Once that condition is met, staff anticipates recommending that the Board make the following findings: (1) the project implements the ecosystem goals of the Delta Plan by improving important habitats and water quality in the Delta; (2) the project is a category 1 planning project and therefore does not require any state or federal permits at this time; (3) the Conservancy has given notice to affected local jurisdictions and has received no comments, and staff will work with the applicant to address any comments received from the Delta Protection Commission prior to entering into a grant agreement; (4) the Conservancy has given notice to and reviewed comments from the Coastal Conservancy; and (5) the project will provide significant ecosystem restoration and water quality benefits in the Delta.

Local Support:

This project has strong local support from the community and will integrate planning by local jurisdictions in a manner that helps restore habitat, improve water quality, and enhance recreational opportunities. Four letters of support accompanied this proposal. They came from one state senator, one state assemblyperson, one city government, and one local NGO. The application also included a resolution of support from the Contra Costa Flood Control District. No County resolution was included, nor was the Delta Protection Commission (DPC) consulted, however the DPC indicated support for the project in its subsequent review.

This project will create benefits to the developing lands surrounding the project site. Local property owners have agreed that there will be value added to their properties if this project in completed. FOMCW is a community group whose mission is to protect and restore the watershed. Since 2004, FOMCW has restored vacant land adjacent to the creeks one parcel at a time. Local residents that make up the FOMCW are supportive of a planning effort that will create a programmatic CEQA document for restoration along the entire creek, building and expanding on their past efforts.

Scientific Merit:

The scientific merit of this proposal is well supported. This planning proposal advances innovative non-structural approaches to flood management and habitat restoration. Instead of trying to control the creeks in narrow zones with levees and floodwalls, this proposal will cover projects that will focus on giving the creeks more room to safely convey flood waters while also providing habitat for aquatic and terrestrial species. The programmatic CEQA document would facilitate projects to expand the channel. The main function of expanding the channel is to create enough conveyance capacity to allow for the planting of woody riparian vegetation (trees) while also safely conveying large flood flows.

Long Term Management & Adaptive Management Plan:

The programmatic CEQA document will provide guidance on how to plan and permit future projects in a manner that includes well supported long-term management plans, and will include adaptive management in future projects.

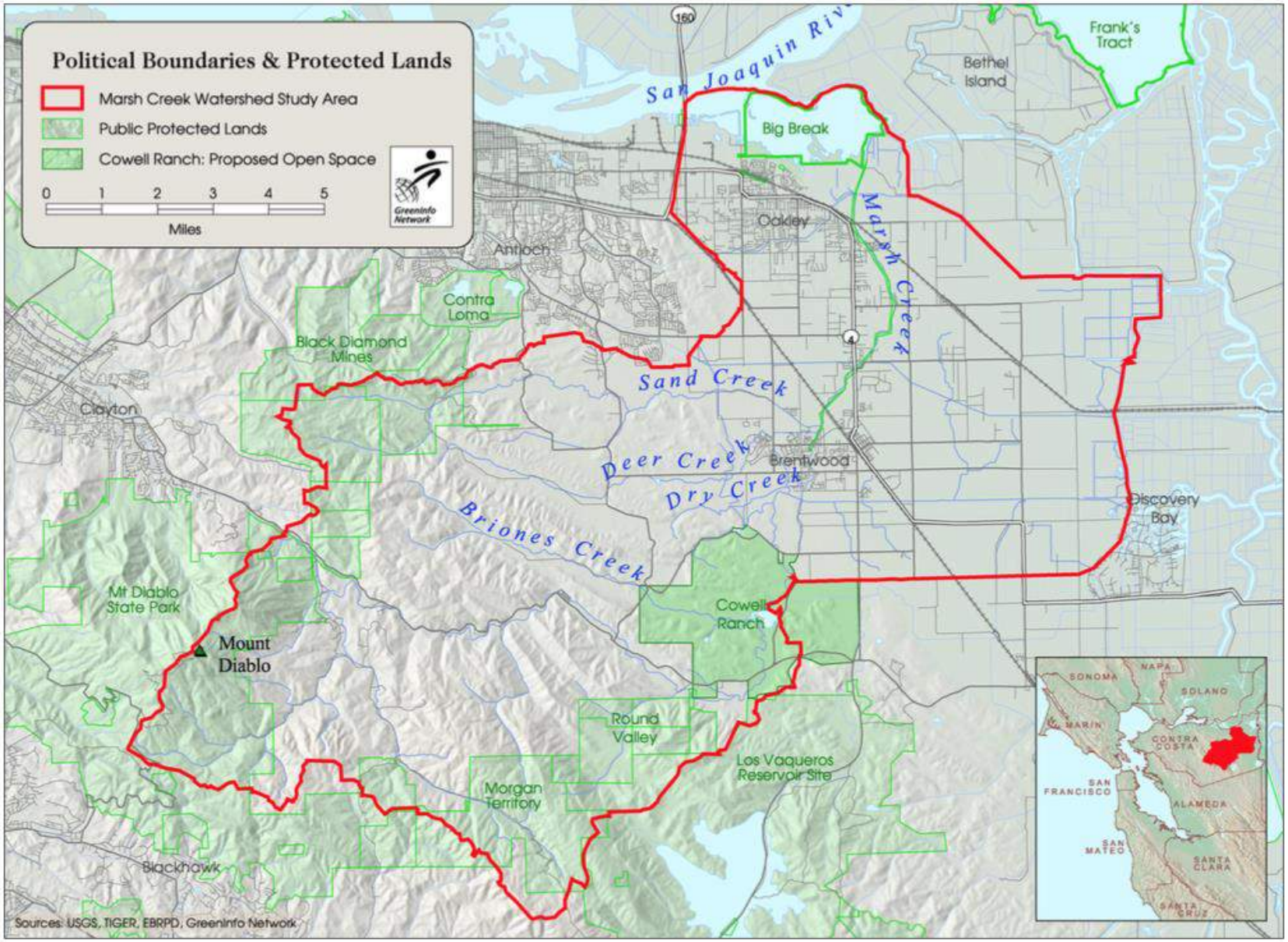
Monitoring and Assessment:

As this is a planning proposal, with no physical modifications being made, no specific monitoring or assessment plans were included for the planning project. However, the applicant provided a robust monitoring and assessment plan to be used once on-the-ground projects are identified and approved. This plan focuses on monitoring creek restoration projects to insure that projects meet ecological goals. A primary goal is to increase the area of frequently inundated floodplain and native vegetation along Marsh and Sand Creeks. A secondary goal will be for projects to provide native habitat for a diversity of native avian, fish, herp, and mammal species covered by the East Contra Costa habitat Conservation Plan. These monitoring and assessment plans will provide data on short-and long-term success of these future projects.

Climate Change Considerations:

Climate change is effectively considered from several angles. The planning project will increase adaptability to climate change by enabling managers to more easily widen Marsh and Sand Creek to accommodate larger runoff events, provide shade along the creeks, create a wildlife corridor, and establish native plants in lieu of traditional landscape plants that require irrigation. There are currently no trees at all along Marsh Creek and the adjacent regional trail. The project will strive to create a nearly continuous shade and habitat corridor from Mt. Diablo to the Delta, sequestering atmospheric carbon dioxide and helping species adapt to climate change. The project will also enable the creek channel to convey larger flood events that are expected to occur as a result of climate change.

Project Location Map - Marsh Creek Watershed



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Proposition 1 Grant Program

2015-16 Staff Recommendation

I. Project Overview

Project Title	Paradise Cut Conservation and Flood Management Plan		
Applicant	San Joaquin County Resource Conservancy District		
Project Number	Prop 1-Y1-2015-012	**Category**	1
County	San Joaquin	**Funding Request**	$99,924
Score	86.0	**Total Project Cost**	$199,924
Staff Recommendation: Approval of funds conditional upon receipt and approval of a monitoring plan.		**Funding Recommended**	$99,924

II. Staff Recommendations

Delta Conservancy staff recommends that the Board conditionally approve funding for the Paradise Cut Conservation and Flood Management Plan planning project (#Prop 1-Y1-2015-012) proposed by the San Joaquin County Resource Conservation District (SJCRCD). Approval will be conditional upon receipt of a monitoring plan and approval of the plan by the Program and Policy Subcommittee of the Board. Conservancy staff anticipates that the monitoring plan will be received by July of 2016. The project to which this category 1 planning project relates is eligible for category 2 funding, should it make it to the category 2 stage. The awarding of a category 1 grant for a project does not guarantee that a category 2 grant will be awarded for the same project.

The Paradise Cut Conservation and Flood Management Plan proposes to develop plans for a new flood bypass that will reduce flood risk, improve habitat, and maintain agricultural land in San Joaquin County along the San Joaquin River south of Paradise Cut. This planning project will develop a compliance and permitting strategy, scope of work, and budget; prepare a conceptual design and project description needed for CEQA/NEPA; quantify project costs and benefits; identify and advance near-term opportunities for restoration; and conduct outreach to agencies, officials, and landowners. The project is clearly aligned with Proposition 1's multibenefit emphasis, as it will pave the way for flood protection, water management flexibility, climate change adaptation, habitat restoration, improved ecosystem function, and watershed health. It is consistent with State plans and priorities,

including the Delta Conservancy's enabling legislation and strategic plan, as well as the Delta Plan, which specifically describes and maps an expanded flood bypass south of Paradise Cut as is described by this proposal.

The project proponents are ready to begin planning. The project is well-supported locally and is being advanced by an effective, cross-sector partnership with a history of working together and applicable expertise. The scientific foundation of the project draws on literature that extols the ecosystem benefits of floodplain restoration, and it draws on models that indicate the flood attenuation benefits of the bypass. Both the habitat restoration and flood attenuation benefits of the project are being designed specifically to address the resource demands of a changing climate. Project proponents are advancing innovative means of integrating adaptive management into project planning, and, while their monitoring plan has not been included, the importance and benefits of the project outweigh this oversight, and the project will not move forward until the monitoring plan has been provided and approved.

The project proponents endeavor to advance a significant, complex, and important project that is not without proportional risks. This proposal demonstrates the promising work that has been done to date and the momentum that is building around this project. In funding the strong team of project proponents advancing this project, the Conservancy has the opportunity to catalyze a project that could yield vital multiple benefits.

Staff is also recommending for funding a separate proposal to the Conservancy for a category 2 acquisition grant to purchase flood easements in the Paradise Cut expansion area. Each project has independent utility and is not dependent upon the other being funded. If they are both funded, this planning effort will occur in parallel with the acquisition grant.

Staff has prepared the text and tables below based on staff's best understanding of the information provided in the application. The Conservancy has received comments on the proposal from the Delta Stewardship Council and the Delta Protection Commission. If approved, staff will work with the applicant to further refine the project's scope of work and performance measures, and to address comments prior to entering into a grant agreement.

III. Project Summary

Project Description:

The proposed project is a category 1 planning grant application to advance plans for a new flood bypass that will reduce flood risk, improve habitat, and maintain agricultural land along the San Joaquin River south of Paradise Cut. The proposed project will lay the foundation necessary to move the Paradise Cut floodway into the CEQA and permitting phase of the project, although a CEQA application will not result from the project as proposed to the Delta Conservancy.

The project team includes the South Delta Water Agency, Reclamation District 2062, River Islands Development LLC, American Rivers, Natural Resource Defense Council, ESA, and MBK Engineering. The Department of Water Resources (DWR) has agreed to assign both

flood planning and environmental stewardship staff to participate in this planning effort as an in-kind contribution.

The new bypass to which this planning grant relates will reduce flood risk to farms and cities while improving habitat for native species. Extensive modeling analyses conducted by DWR and others indicate that the proposed design will lower the flood stage by over two feet where Interstate Highway 5 crosses the San Joaquin River. This will substantially reduce flood risk for the river between I-5 and Stockton. By expanding the floodplain, the bypass will also provide floodplain and riparian habitat for a variety of sensitive species including riparian brush rabbit, giant garter snake, Sacramento splittail, and juvenile Chinook salmon. The project proponents will achieve these outcomes by protecting agricultural land in perpetuity. To achieve these multiple benefits of statewide importance, project proponents have proposed a planning project that will advance the project toward implementation.

Location (Site Description):

The project is located in an unincorporated portion of San Joaquin County immediately southwest of Paradise Cut and the San Joaquin River between the cities of Lathrop and Tracy. The Paradise Cut expansion area is flat, low-elevation farmland (seasonal forage crops). The entire site is within the 100-year floodplain and provides high-quality Swainson's hawk habitat (numerous roosting trees exist along Paradise Cut). Paradise Cut provides the most important remaining refugia habitat for riparian brush rabbit and consists of perennial channel, abundant riparian vegetation, and seasonal agriculture.

IV. Implementation of California Water Action Plan and Consistency with Prop 1 and Conservancy Enabling Legislation

State Priority/Plan	Action	Project Benefits
Proposition 1	Ch. 6 79732 (a)(1) Protect and increase the economic benefits arising from healthy watersheds, fishery resources, and instream flow.	Protects agricultural land and urban areas from catastrophic flooding.
	Ch. 6 79732(a)(2) Implement watershed adaptation projects in order to reduce the impacts of climate change on California's communities and ecosystem.	Provides flood protection for the more extreme flood events projected to occur due to climate change.
	Ch. 6 79732(a)(4) Protect and restore aquatic, wetland, and migratory bird ecosystems, including fish and wildlife corridors and the acquisition of water rights for instream flow.	Expands and restores floodplain and aquatic habitat.

State Priority/Plan	Action	Project Benefits
Proposition 1	Ch. 6 79732(a)(11) Reduce pollution or contamination of rivers, lakes, streams, or coastal waters, prevent and remediate mercury contamination from legacy mines, and protect or restore natural system functions that contribute to water supply, water quality, or flood management instream flow.	Restores natural riverine processes that enhance ecosystem function and increase flood attenuation.
	Ch. 6 79732(a)(12) Assist in the recovery of endangered, threatened, or migratory species by improving watershed health, instream flows, fish passage, coastal or inland wetland restoration, or other means, such as natural community conservation plan and habitat conservation plan implementation.	Consistent with the San Joaquin County Habitat Conservation Plan. While this property is consistent with the local HCP, it is not serving as mitigation and therefore is eligible for Prop. 1 funds.
California Water Action Plan	Action 3. Achieve the co-equal goals for the Delta.	Restores floodplain habitat in the Delta and along the San Joaquin River.
	Action 4. Protect and restore important ecosystems.	Restores floodplain habitat in the Delta and along the San Joaquin River.
	Action 6. Expand water storage capacity and improve groundwater management.	Expands the floodway to increase groundwater recharge and flexibility for managing upstream reservoirs for water supply and flood control.
	Action 8. Increase flood protection.	Lowers flood stage.
	Action 9. Increase operational and regulatory efficiency.	Restores endangered species that constrain flood system improvements.
Conservancy's enabling legislation	§32301(i)(1) Protect and enhance habitat and restoration.	Restores floodplain habitat.
	§32301(i)(2) Protect and preserve Delta agriculture and working landscapes.	Protects working lands through easements and flood protection.
	§32301(i)(5) Increase the resilience of the Delta to the effects of natural disasters such as floods.	Provides flood protection to urban and rural areas in San Joaquin County.

State Priority/Plan	Action	Project Benefits
Conservancy's Strategic Plan	Goal 1. Establish the Conservancy as a valuable partner with Delta growers, agriculture-related businesses, and residents in protecting and enhancing the Delta's agricultural and working landscapes and sense of place.	Significantly reduces flood risk for thousands of acres of agricultural land in the South Delta.
	Goal 2. Lead economic enhancement activities that support the Delta ecosystem and economy.	Significantly reduces flood risk for thousands of acres of agricultural land in the South Delta.
	Goal 3. Lead efforts in protecting, enhancing and restoring the Delta ecosystem in coordination with other governmental and non-governmental entities and citizens in the Delta. 3.2.1 Protect, enhance and restore large areas of interconnected intertidal marsh, floodplain, transitional and upland habitats. 3.7.1 Design restoration projects that allow for activities that create revenue, including wildlife-friendly farming practices, boating, and bird-watching, to help pay for long-term maintenance and stewardship of the property.	Restores floodplain habitat and integrating agricultural land preservation and conservation into floodway design.
Delta Plan	ER R2. Prioritize and Implement Projects that Restore Delta Habitat.	Advances the protection of the Lower San Joaquin River Floodplain priority habitat restoration area.
	ER P3. Protect Opportunities to Restore Habitat.	Advances the protection of the Lower San Joaquin River Floodplain priority habitat restoration area.
	ER P4. Expand Floodplains and Riparian Habitats in Levee Projects.	Proposes flood protection alternatives to levee enhancement along Paradise Cut.
	RR P4. Floodplain Protection.	Advances the protection of the Lower San Joaquin River Floodplain Bypass.
	RR R5. Fund and Implement San Joaquin River Flood Bypass.	Funds planning for the San Joaquin River Flood Bypass.

V. Outcomes/Outputs

Project Goals	Desired Project Outcomes	Output Indicators
Goal 1. Protect lives and property from catastrophic flooding.	State and local leaders have the information they need to invest in the development of a new flood bypass that will significantly reduce flood risk.	Conceptual plan and project description sufficient for CEQA analysis. Cost effective proposal for developing a new flood bypass. Work plan and budget for completing CEQA. Strategic plan to expedite a successful Section 408 permit.
Goal 2. Restore large areas of floodplain and riparian habitat in the next decade as part of a new bypass.	State and local leaders understand the habitat benefits of a new flood bypass.	Quantitative projection of the habitat benefits of a new flood bypass.
Goal 3. Restore floodplain and riparian habitat in the South Delta over the next five years that is consistent with long-term plan for a new bypass.	Strong , well-funded partnerships to implement at least three significant multibenefit flood and ecosystem restoration project s in the next 5 years.	Conceptual plans for three promising restoration opportunities. Quantitative analyses of the habitat and flood risk reduction benefits of at least three promising restoration project opportunities. Inform local residents and officials so they understand the pros and cons of the project.

VI. Budget

The total project cost is $199,924. Project proponents are requesting $99,924 from the Conservancy. $100,000 (cash) of private cost share dollars are being provided by the River Islands Settlement Fund, a private settlement fund that must be used to advance the floodway and that is unrelated to mitigation.

VII. Consistency with Grant Program Guidelines

Readiness (Including CEQA Status if Applicable):

The project, as proposed, is poised to begin upon execution of a grant agreement. Over the last ten years the project team has successfully worked with numerous state and local entities to inform local stakeholders, evaluate the technical feasibility of the project, quantitatively model the impacts and benefits, and build broad support. Because the project involves modifying a federal flood control facility to redirect flood waters, project permitting will be very complex. This planning grant will generate the information

necessary to efficiently navigate that complex permitting process. The project is within the Central Valley Flood Protection Board's jurisdiction pursuant to Title 23, California Code of Regulations Section 112 and may require encroachment permits prior to project construction. Award of this planning grant is not a "project" for purposes of CEQA.

Local Support:

This project has a long history of stakeholders working together with the community to build support and integrate the project into local, regional, and state plans. The project has been vetted at public meetings, with no expressed opposition, and the applicant has consulted with the Delta Protection Commission. Although a County resolution was not included with the proposal, project proponents have briefed County supervisors and the City of Lathrop, and the latter submitted comments in favor of the project as part of the Conservancy's local notification process. Six letters of support accompanied the proposal; they came from one national NGO, two local districts, the county Council of Governments, one local developer, and one state agency.

The project proponents are working in close partnership with local and state entities, NGOs, and private firms. The partnerships are long-standing and well-formed, with clear roles and responsibilities, governance and decision-making structures to effectively implement the project.

The project as proposed will not impact neighboring lands, and is an effort to design and floodway that maximizes benefits while minimizing impacts to agricultural production and neighboring lands.

Scientific Merit:

The proposal demonstrates through a well-cited discussion the scientific merit of floodplain restoration and the flood attenuation benefit of the Paradise Cut bypass. Numerous peer-reviewed articles have documented the multiple benefits of floodplain restoration in the Central Valley, and as a result, several restoration plans including the Department of Fish and Wildlife's Ecosystem Restoration Plan and the Central Valley Flood Protection Plan Conservation Strategy (DWR, 2015) have identified floodplain restoration has a high priority for species recovery.

The hydraulic performance of the proposed project has been modeled and refined several times with state of the art modeling tools. Over seven different modeling studies, dating back to 2006, on different modeling platforms all show the same consistent results: expanding Paradise Cut significantly lowers flood stage along the San Joaquin River.

Long Term Management & Adaptive Management Plan:

Long term management is not explicitly mentioned in the proposal. However, the proposal describes an engaged coalition that is well-positioned to carry out the next phases of project, beyond the term of the grant. If funded, this planning proposal would provide resources to describe how the project should be adaptively implemented and managed as it goes forward. Project proponents propose to use the recently developed Habitat Quantification Tool (HQT) to evaluate and document project performance in terms of the number functional acres of habitat generated for multiple species, allowing them to quantify how different land and flood management practices or conservation actions such

as the new bypass could benefit special status species. These quantitative tools will allow the project team to quantify linkages in accordance with step 3 of the nine step framework for adaptive management included in the Delta Plan.

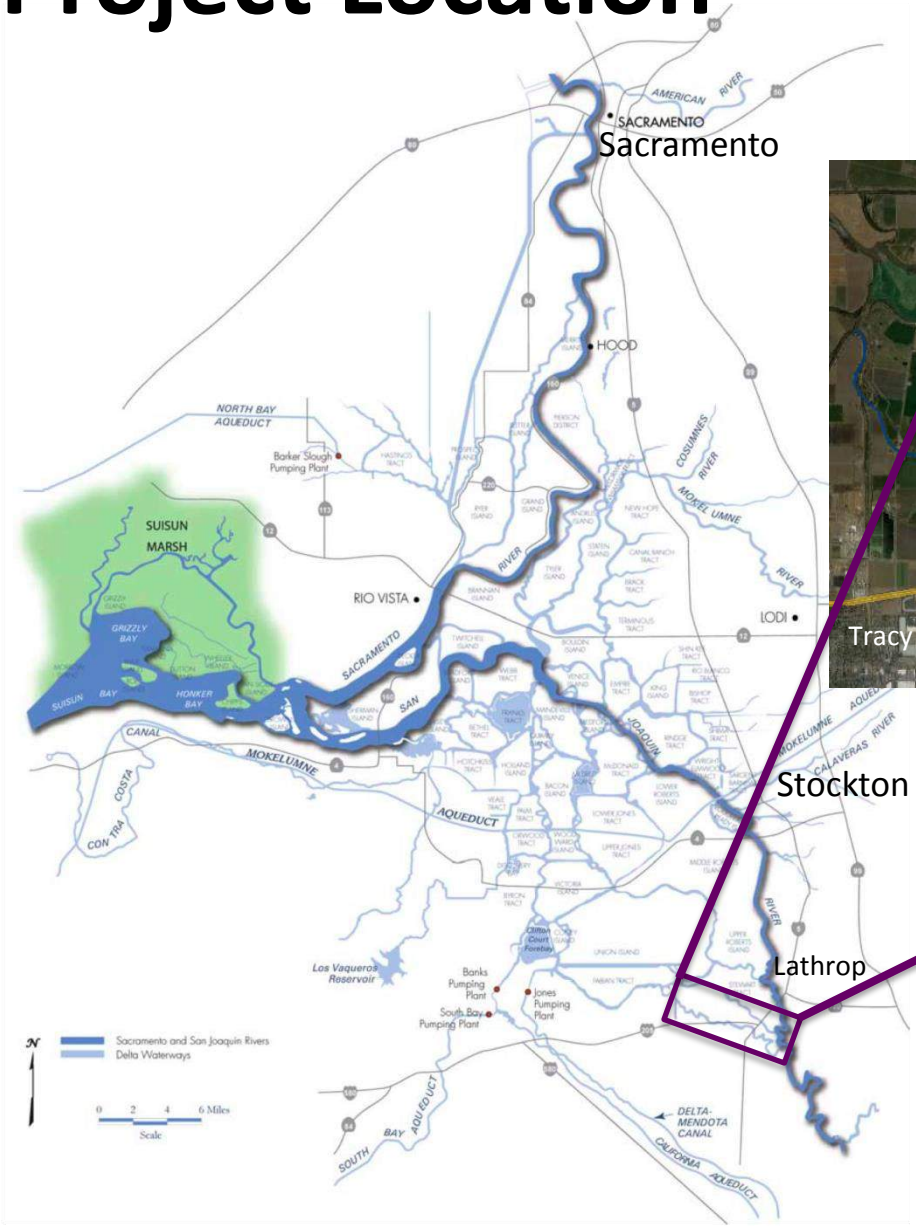
Monitoring and Assessment:

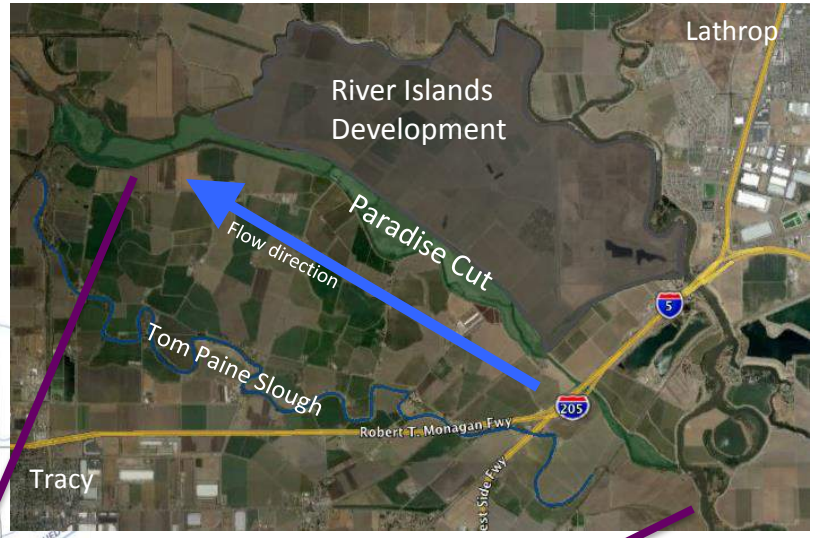
The applicant inadvertently attached the incorrect Monitoring and Assessment plan to this application, including instead one for another proposal submitted to the Conservancy's program. The Performance Measures table for this project outlines some components of a monitoring plan, such as the indicators that the applicant will be measuring and using to gauge success. If approved, Conservancy staff will ask the applicant to submit a relevant monitoring plan for a planning project. The Program and Policy Subcommittee will review and approve the monitoring plan prior to entering into a grant agreement.

Climate Change Considerations:

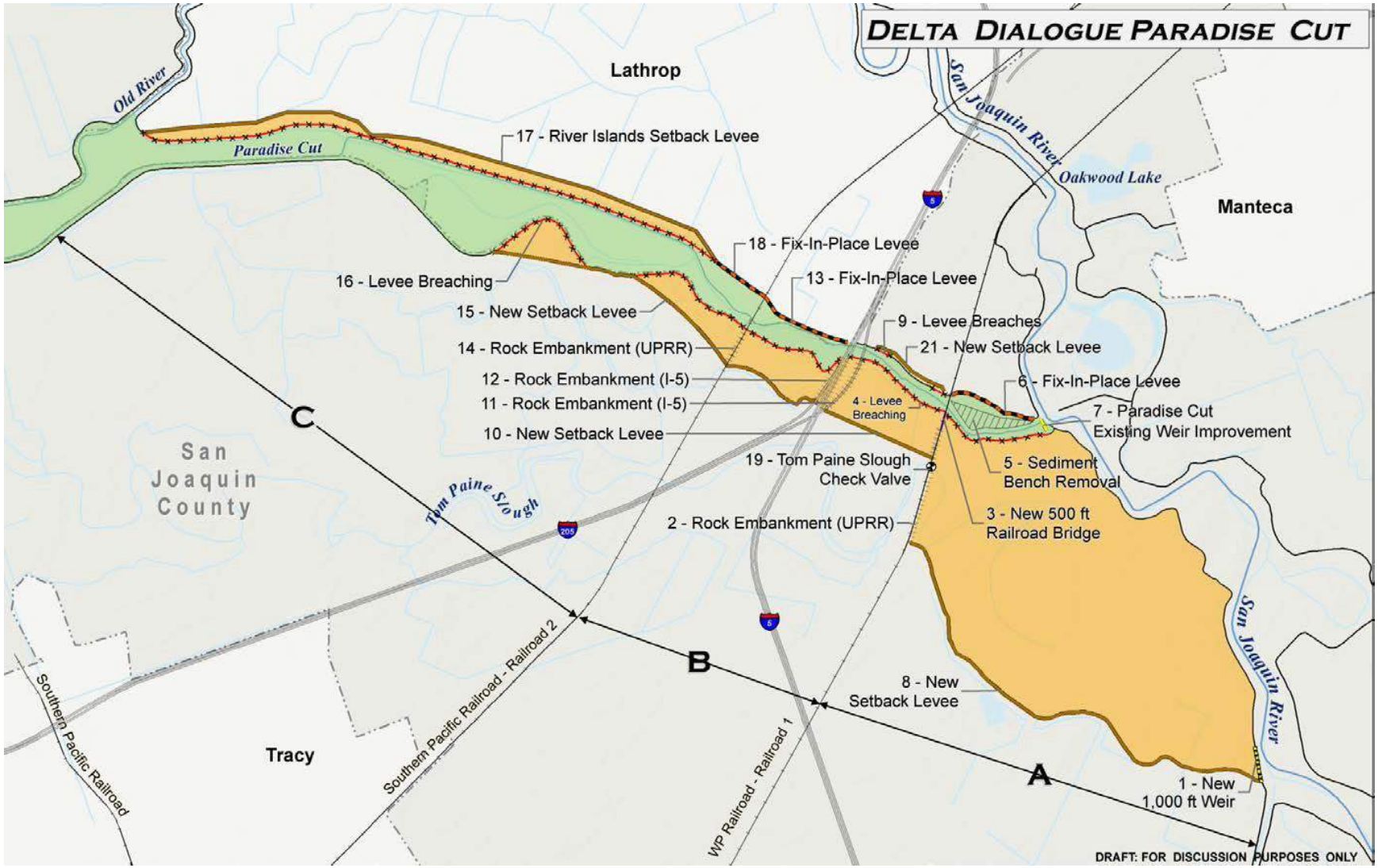
The flood bypass project was conceived and specifically designed to adapt to a changing climate. Expanding the floodway will significantly lower risks to communities and ecosystems from both floods and drought. Under climate change, peak floods on the San Joaquin River are expected to increase; these increases will not only exceed the safe flood conveyance capacity of the lower San Joaquin River, but they will also place increased pressure on the region's water supply. Expanding the floodway downstream of reservoirs will increase flexibility for managing upstream reservoirs to optimize water supply. The project will significantly increase groundwater recharge during floods due to the sandy soil.

Project Location





Base Map Source: Delta Vision Strategic Plan


DELTA DIALOGUE PARADISE CUT
Lathrop
Old River
Paradise Cut
17 - River Islands Setback Levee
San Joaquin River
Oakwood Lake
Manteca
18 - Fix-In-Place Levee
16 - Levee Breaching
13 - Fix-In-Place Levee
15 - New Setback Levee
9 - Levee Breaches
14 - Rock Embankment (UPRR)
21 - New Setback Levee
12 - Rock Embankment (I-5)
6 - Fix-In-Place Levee
11 - Rock Embankment (I-5)
4 - Levee Breaching
7 - Paradise Cut Existing Weir Improvement
C
10 - New Setback Levee
San Joaquin County
19 - Tom Paine Slough Check Valve
5 - Sediment Bench Removal
Tom Paine Slough
2 - Rock Embankment (UPRR)
3 - New 500 ft Railroad Bridge
B
8 - New Setback Levee
Southern Pacific Railroad
Tracy
Southern Pacific Railroad - Railroad 2
WP Railroad - Railroad 1
A
1 - New 1,000 ft Weir
DRAFT: FOR DISCUSSION PURPOSES ONLY

SACRAMENTO - SAN JOAQUIN DELTA CONSERVANCY
A California State Agency

PROP 1
GOVERNOR EDMUND G. BROWN, JR.
WATER BOND 2014
RELIABILITY | RESTORATION | RESILIENCE

Proposition 1 Grant Program

2015-16 Staff Recommendation

I. Project Overview

Project Title	Paradise Cut Flood and Conservation Easement Acquisition		
Applicant	San Joaquin County Resource Conservancy District		
Project Number	Prop 1-Y1-2015-010	**Category**	2
County	San Joaquin	**Funding Request**	$2,000,000.00
Score	85.6	**Total Project Cost**	$2,500,000.00
Staff Recommendation: Conditional approval of reservation of funds pending submission of additional land transaction documents and determination that the project is categorically exempt from CEQA.		**Funding Recommended**	$2,000,000.00

II. Staff Recommendations

Delta Conservancy staff recommends that the Board conditionally reserve funding for the Paradise Cut Flood and Conservation Easement Acquisition project (#Prop 1-Y1-2015-010) proposed by the San Joaquin County Resource Conservation District (SJCRCD). Approval of the funds is conditional upon receipt of the items as required on the attached checklist, and on determination by the lead agency that the project is categorically exempt from environmental review pursuant to CEQA. Conservancy staff anticipates that the items required to approve funding will be received by June of 2017.

The proposed project is a category 2 acquisition grant to acquire flood and conservation easements needed to protect Swainson's hawk habitat and to build a new flood bypass along the San Joaquin River south of Paradise Cut. Acquisition of flood and conservation easements will enable managers to ensure that the land can be managed as floodplain-compatible agriculture and habitat that will not be converted to perennial crops inconsistent with habitat requirements for Swainson's hawk and the development of a flood bypass. The attached map illustrates the priority acquisition area for the project. The grant proposal does not specify which parcels will be purchased, but does include letters from three landowners willing to consider selling an easement on their land. Project proponents expect the total acquisition costs to range from $8 to $16 million, and will use

Delta Conservancy funding to leverage other state funds to purchase flood and conservation easements on up to 2,000 acres within the acquisition area. The project team will use private cost-share dollars ($500,000 from the River Islands Settlement Fund) to acquire options to purchase easements, and then will use state funds to execute the options and acquire the easements. The applicant will not spend any of the Conservancy's funding until the necessary approvals to close escrow are in place; Delta Conservancy funds will be transferred directly into an escrow account only when all requisite conditions and tasks are fulfilled, and required documents are approved by the Conservancy's legal counsel and, where warranted, the Department of General Services (DGS). Prior to transferring money into escrow for this project, DGS will review and approve an appraisal of the fair market value of the land proposed for acquisition. If the appraised fair market value, as stated in the DGS-approved appraisal, exceeds the cost estimated by the applicants and subsequently reserved by the Board, the Conservancy will not fund any amount beyond the original reservation of funds.

The specific outputs of this project include: final appraisals and all necessary reviews from the Department of General Services; options purchased for flood and conservation easements on up to 2,000 acres; the Department of Water Resources and other funding agencies join with the Delta Conservancy in financing acquisition of up to 2,000 acres; and easements are purchased and recorded. The project is clearly aligned with Proposition 1's multibenefit emphasis, as it will pave the way for flood protection, water management flexibility, climate change adaptation, habitat restoration, improved ecosystem function, and watershed health. It is consistent with State plans and priorities, including the Delta Conservancy's enabling legislation and strategic plan, as well as the Delta Plan, which specifically describes and maps an expanded flood bypass south of Paradise Cut as is described by this proposal.

The proposed project is well-aligned with state priorities. It is supported locally and is being advanced by an effective, cross-sector partnership with a history of working together and extensive applicable expertise. The proposal notes the importance of the South Delta for Swainson's hawk habitat. The preservation of Swainson's hawk habitat is consistent with the local Habitat Conservation Plan, but is not serving as mitigation and therefore is eligible for Proposition 1 funds. The proposed short-term habitat protection project and the long-term flood bypass project are being designed specifically to address the resource demands of a changing climate. Project proponents are advancing innovative means of monitoring and integrating adaptive management into the project.

The long-term goal of this project, the flood bypass, is a significant, complex, and important project that is not without proportional risks. Those risks are mitigated by the no-regrets nature of preserving the land in question as habitat for Swainson's hawk and other species. This proposal demonstrates the momentum that is building around the floodway project, and, if funded, provides a means for making the primary capital investments needed to advance the floodway. Purchasing land is a necessary first step in the construction of the flood bypass.

Staff is also recommending for funding a separate proposal to the Conservancy for a category 1 planning grant to advance the design, environmental compliance, and stakeholder engagement for the flood bypass. Each project has independent utility and is

not dependent upon the other being funded. If they are both funded, this acquisition project effort will occur in parallel with the planning effort.

Staff has prepared the text and tables below based on staff's best understanding of the information provided in the application. The Conservancy has received comments on the proposal from the Delta Stewardship Council and the Delta Protection Commission. If approved, staff will work with the applicant to further refine the project's scope of work and performance measures, and to address comments prior to entering into a grant agreement.

III. Project Summary

Project Description:

The Paradise Cut Flood and Conservation Easement Acquisition project proposes to acquire flood and conservation easements to build a new flood bypass that will reduce flood risk, improve habitat and maintain agricultural land in San Joaquin County, along the San Joaquin River south of Paradise Cut. The easements will protect habitat for Swainson's hawk and other species whether the flood bypass is built or not.

Consistent with the Delta Conservancy's enabling legislation (Public Resources Code Section 32364.5 (b)), the project proposal explains that the property over which an easement will be acquired will be used as agricultural land consistent with providing Swainson's hawk habitat; the land will be managed by the landowner or the landowner's designee; the easement holder - Southern Delta Levee Protection and Channel Maintenance Authority – will manage the easements, ensuring that the land is managed consistent with the easement terms; The landowner will bear the costs of maintaining the agricultural operation, and the cost of managing the easement will be funded by an endowment, for which money is already in-hand; and the landowner will continue to pay taxes and assessments to local government.

Over the last four years, the project team—which includes the SJCRCD, South Delta Water Agency, Reclamation District 2062, Southern Delta Levee Protection and Channel Maintenance Authority, River Islands LLC, American Rivers, and Natural Resources Defense Council—has worked with the Department of Water Resources (DWR) and other agencies and stakeholders to develop a conceptual design for expanding Paradise Cut to create a flood bypass (see attached site plan). Extensive modeling analyses indicate that the design will lower the flood stage by over two feet where Interstate 5 crosses the San Joaquin River. This will substantially reduce flood risk for the rapidly urbanizing reach of river between I-5 and Stockton. Further, expanding the floodway will significantly improve habitat for several sensitive species without changing agricultural production in most years. DWR's hydraulic analyses indicate that farmland incorporated into an expanded floodway would only be inundated once every 12 years. Moreover it should be possible to plant crops even in those infrequent years when the area is inundated during the spring. Expanding the floodway will enable managers to create more functional riparian and floodplain habitat along the channel margins of the river through a reach that is now characterized by heavily armored levees. Acquiring easements will preserve farmland and habitat and maintain the option to construct a flood bypass.

Location (Site Description):

The project is located in an unincorporated portion of San Joaquin County immediately southwest of Paradise Cut and the San Joaquin River between the cities of Lathrop and Tracy. The land over which the applicant is proposing to place an easement is owned by several private landowners; land tenure will be substantiated through the acquisition process, as outlined in the attached checklist. The Paradise Cut expansion area is flat, low-elevation farmland (seasonal forage crops). The entire site is within the 100-year floodplain and provides high-quality Swainson's hawk habitat (numerous roosting trees exist along Paradise Cut). Paradise Cut provides the most important remaining refugia habitat for riparian brush rabbit and consists of perennial channel, riparian vegetation, and seasonal agriculture. Paradise Cut is separated from the acquisition area by a federal project levee that also separates the acquisition area from the San Joaquin River.

IV. Implementation of California Water Action Plan and Consistency with Prop 1 and Conservancy Enabling Legislation

State Priority/Plan	Action	Project Benefits
Proposition 1	Ch. 6 79732(a)(1) Protect and increase the economic benefits arising from healthy watersheds, fishery resources, and instream flow.	Protects agricultural land and urban areas from catastrophic flooding.
	Ch. 6 79732(a)(2) Implement watershed adaptation projects in order to reduce the impacts of climate change on California's communities and ecosystem.	Provides flood protection for the more extreme flood events projected to occur due to climate change.
	Ch. 6 79732(a)(4) Protect and restore aquatic, wetland, and migratory bird ecosystems, including fish and wildlife corridors and the acquisition of water rights for instream flow.	Expands and restores floodplain and aquatic habitat.
	Ch. 6 79732(a)(11) Reduce pollution or contamination of rivers, lakes, streams, or coastal waters, prevent and remediate mercury contamination from legacy mines, and protect or restore natural system functions that contribute to water supply, water quality, or flood management instream flow.	Restores natural riverine processes that enhance ecosystem function and increase flood attenuation.

State Priority/Plan	Action	Project Benefits
	Ch. 6 79732. (a) (12) Assist in the recovery of endangered, threatened, or migratory species by improving watershed health, instream flows, fish passage, coastal or inland wetland restoration, or other means, such as natural community conservation plan and habitat conservation plan implementation.	Consistent with the San Joaquin County Habitat Conservation Plan. While this property is consistent with the local HCP, it is not serving as mitigation and therefore is eligible for Prop. 1 funds.
California Water Action Plan	Action 3. Achieve the co-equal goals for the Delta.	Restores floodplain habitat in the Delta and along the San Joaquin River.
	Action 4. Protect and restore important ecosystems.	Restores floodplain habitat in the Delta and along the San Joaquin River.
	Action 6. Expand water storage capacity and improve groundwater management.	Expands the floodway to increase groundwater recharge and flexibility for managing upstream reservoirs for water supply and flood control.
	Action 8. Increase flood protection.	Lowers flood stage.
	Action 9. Increase operational and regulatory efficiency.	Restores endangered species that constrain flood system improvements.
Conservancy's enabling legislation	§32301(i)(1) Protect and enhance habitat and restoration.	Restores floodplain habitat.
	§32301(i)(2) Protect and preserve Delta agriculture and working landscapes.	Protects working lands through easements and flood protection.
	§32301(i)(5) Increase the resilience of the Delta to the effects of natural disasters such as floods.	Provides flood protection to urban and rural areas in San Joaquin County.
Conservancy's Strategic Plan	Goal 1. Establish the Conservancy as a valuable partner with Delta growers, agriculture-related businesses, and residents in protecting and enhancing the Delta's agricultural and working landscapes and sense of place.	Significantly reduces flood risk for thousands of acres of agricultural land in the South Delta.
	Goal 2. Lead economic enhancement activities that support the Delta ecosystem and economy.	Significantly reduces flood risk for thousands of acres of agricultural land in the South Delta.

State Priority/Plan	Action	Project Benefits
Conservancy's Strategic Plan	Goal 3. Lead efforts in protecting, enhancing and restoring the Delta ecosystem in coordination with other governmental and non-governmental entities and citizens in the Delta. 3.2.1 Protect, enhance and restore large areas of interconnected intertidal marsh, floodplain, transitional and upland habitats. 3.7.1 Design restoration projects that allow for activities that create revenue, including wildlife-friendly farming practices, boating, and bird-watching, to help pay for long-term maintenance and stewardship of the property.	Restores floodplain habitat and integrates agricultural land preservation and conservation into floodway design.
Delta Plan	ER R2. Prioritize and Implement Projects that Restore Delta Habitat.	Advances the protection of the Lower San Joaquin River Floodplain priority habitat restoration area.
	ER P3. Protect Opportunities to Restore Habitat.	Advances the protection of the Lower San Joaquin River Floodplain priority habitat restoration area.
	ER P4. Expand Floodplains and Riparian Habitats in Levee Projects.	Proposes flood protection alternatives to levee enhancement along Paradise Cut.
	RR P4. Floodplain Protection.	Advances the protection of the Lower San Joaquin River Floodplain Bypass.
	RR R5. Fund and Implement San Joaquin River Flood Bypass.	Funds planning for the San Joaquin River Flood Bypass.

V. Outcomes/Outputs

Project Goals	Desired Project Outcomes	Output Indicators
Goal 1. Protect lives and property from catastrophic flooding	Flood easements needed to stimulate development of new flood bypass are acquired	Options to purchase flood easements secured Final appraisals and other documents approved Funding secured for acquisition Flood easements negotiated, approved and purchased/ recorded
Goal 2. Conserve seasonal farmland and associated habitat	Conservation easements needed to protect seasonal agricultural land and associated habitat for Swainson's hawk and other species are is acquired	Options to purchase conservation easements secured Final appraisals and other documents approved Funding secured for acquisition Conservation easements negotiated, approved and purchased/recorded

VI. Budget

The total project cost is $2,500,000. Project proponents are requesting $2,000,000 from the Conservancy. $500,000 (cash) of private cost share dollars are being provided by the River Islands Settlement Fund, a private settlement fund that must be used to advance the floodway and that is unrelated to mitigation.

VII. Consistency with Grant Program Guidelines

Readiness (Including CEQA Status if Applicable):

The project is in the early stages of a real estate transaction, but, by requesting that Conservancy funds only be used to close escrow, the deal is structured so that the Conservancy bears minimal risk should the proposed acquisitions fail to materialize. While the land transaction is not ready to be executed immediately, the assembled project team is well-equipped to begin the process of advancing the easement purchase by utilizing the real estate transaction experience of team members. The project proponents have identified landowners who may be willing to sell an easement on their property, and are actively engaging the largest of those landowners as their top priority acquisition. The project proposal includes an acquisition schedule that includes a timeframe for completing an appraisal by June of 2017. Proponents have money in-hand to purchase option agreements, engage landowners and other stakeholders, and complete the necessary pre-closing tasks (conduct appraisal and baseline monitoring, review title report, draft easement terms and management plan, etc.). The project team has successfully worked with numerous state and local entities to inform local stakeholders, evaluate the technical

feasibility of the bypass, quantitatively model the impacts and benefits, and build broad support. The proposed project is a critical component to advancing the bypass project.

Prior to awarding funding, Conservancy staff will work with the applicant to determine whether the project is categorically exempt from environmental review pursuant to CEQA. The presumption is that the applicant will serve as the lead agency. Land acquisition for habitat protection is categorically exempt from the provisions of CEQA pursuant to 14 Cal. Code of Regulations sections 15313 and 15325. Because the award of funds is for acquisition of an easement for fish and wildlife conservation purposes in order to preserve habitat, and no habitat enhancements or construction work will occur with project funds, the award is expected to be exempt from CEQA.

Local Support:

The acquisition of easements is a component of the flood bypass project, which has a long history of stakeholders working together with the community to build support and integrate the project into local, regional, and state plans. To date, project proponents have worked closely with DWR to hold seven public meetings, integrate the project into the Delta Plan, evaluate project alternatives, and refine the proposal through the Delta Dialogues process. The project team briefed landowners in the acquisition zone, and landowners outside the acquisition zone to ensure there is local support. No one has expressed opposition and several entities and landowners have expressed support. The Delta Protection Commission has been consulted. Although a County resolution was not included with the proposal, project proponents have briefed County supervisors and the City of Lathrop, and the latter submitted comments in favor of the project as part of the Conservancy's local notification process. Six letters of support accompanied the proposal; they came from two national NGOs, two local districts, one local developer, and one local water agency.

The project proponents are working in close partnership with local and state entities, NGOs, and private businesses. The partnerships are long-standing and well-formed, with clear roles and responsibilities, governance and decision-making structures to effectively implement the project.

Scientific Merit:

The applicant indicates the scientific basis for Swainson's hawk preservation at the proposed project site. In the South Delta, lands are above sea level, and thus one of the best places to conserve habitat for the endangered Swainson's hawk. Many acres of Swainson's hawk habitat are likely to be lost in the future due to tidal marsh restoration, levee failure in the Delta, or crop conversion to orchards or vineyards.

Long Term Management & Adaptive Management Plan:

The proposal identifies an entity to hold and manage the easements, and the project team has already secured funding for an easement endowment. The South Delta Levee and Channel Maintenance Authority (SDLCMA) will hold title to the easements and the landowners will own and farm the land under the terms of the easements. The project team has reserved $130,000 for a long-term management endowment and will work with

landowners to develop a detailed long-term management and finance plan for each parcel before any property interest is acquired.

This project is a land acquisition project, and the conservation and flood easements acquired will allow managers to adaptively manage the property interests acquired, consistent with the purposes of the grant and the preferences of the underlying landowner. Project proponents propose to use the recently developed Habitat Quantification Tool (HQT) to evaluate and document project performance in terms of the number of functional acres of habitat generated for multiple species, allowing them to quantify how different land and flood management practices or conservation actions such as the new bypass could benefit special status species. This quantitative tools will allow the project team to quantify linkages in accordance with step 3 of the adaptive management planning circle in the Delta Plan.

Monitoring and Assessment:

The proposal provides a draft monitoring plan that explains how the project team will use the innovative HQT to establish a habitat baseline against which future conditions can be monitored. The HQT will be used to assess the physical characteristics of the site to determine the quantity and quality of habitat on acquired lands and to quantify how those physical characteristics will change under future management scenarios including construction of a flood bypass or changes in cropping patterns.

The primary purpose of the monitoring program for this acquisition project is to document baseline habitat conditions for a few sensitive species, including Swainson's hawk. The secondary purpose of the monitoring program is to use this baseline information to project the quality and quantity of habitat that would be created by a new bypass or under alternative agricultural practices. The project team will measure the total number of acres or easements acquired, provide a detailed description of baseline conditions and a basis for quantitatively predicting how baseline conditions will or could change over time. The team's methods and results will be subject to third party review.

As easements are acquired, conditions on the parcel will be monitored annually or according to the terms of the conservation easement, and compared with baseline conditions during the grant period. Monitoring data will be shared with the Conservancy. The monitoring plan is in draft form, and will be finalized as part of the easement negotiation.

Climate Change Considerations:

The South Delta lands that project proponents propose to protect are particularly well-suited to serve as in-perpetuity Swainson's hawk habitat. These lands are above sea level, and thus are not likely to be lost in the future due to levee failure in the Delta.

Delta Conservancy Proposition 1 Grant Program
Checklist for Conservation Easement Proposals

Project No: _____ **Project Name:** _____

I. Information Submitted with Application:

- ☐ A table including: parcel numbers, acreage, willing seller name and address, breakdown of how the funds will be budgeted, and an acquisition schedule
- ☐ Copy of the Purchase Agreement or a Willing Seller Letter
- ☐ Appraisal or Estimation of Fair Market Value
- ☐ Preliminary Title Report
- ☐ Letter stating that applicant will directly pay DGS for review of appraisal and associated materials
- ☐ Map of plotted easements
- ☐ Underlying documents to title exceptions, upon request
- ☐ Analysis of mineral rights issues, if applicable

II. Staff Review and Evaluation*:*

- ☐ Staff will review and evaluate all submitted information and work with Legal Counsel to determine if these supporting documents are adequate and consistent with the requirements of the grant funds

POLICIES GOVERNING GRANT AGREEMENT FOR CONSERVATION EASEMENT

III. Board Approval:

Staff recommendations for Board Approval include the following:

- ☐ A copy of the table including: parcel numbers, acreage, willing seller name and address, breakdown of how the funds will be budgeted, and an acquisition schedule
- ☐ A copy of the Purchase Agreement or a Willing Seller Letter
- ☐ A copy of the Appraisal or Estimation of Fair Market Value
- ☐ A copy of the Preliminary Title Report
- ☐ A copy of the map of plotted easements
- ☐ A copy of underlying documents to title exceptions, if requested
- ☐ A copy of the analysis of mineral rights issues, if applicable

IV. Before Execution of Agreement*:*

☐ Applicant submits the appraisal to the Conservancy for DGS review and approval
DGS APPRAISAL GUIDELINES

☐ Staff reviews State Lands Commission holdings, if applicable

☐ Applicant submits draft grant deed or conservation easement

☐ Applicant provides any updates to PTR

☐ Applicant's board provides a resolution for Grant Authority certifying that:
- Signatory has authority
- Acceptance of grant
- Acceptance of property interest

SAMPLE RESOLUTION DOCUMENT

☐ Staff reviews mineral rights, if applicable

☐ Applicant submits Phase 1 Environmental Site Assessment for review/approval by DC PL

☐ Applicant submits stewardship plan

☐ Applicant submits escrow instructions for review/approval by DC PL

☐ Applicant submits an original, certified copy of the fully executed grant deed or conservation easement certified by the escrow officer holding the document

☐ Applicant submits Disbursement Request with an original signature of Grantee's authorized signatory
SAMPLE DISBURSEMENT REQUEST DOCUMENT

☐ Board approved the project (Date:_____)

☐ Grant Agreement must be fully executed by Grantee & DC Executive Officer

V. Conservation Easement Grant - Closing Escrow *(Before final invoice is paid):*

DC PL must review/approve:

☐ Baseline report
MINIMUM REQUIREMENTS FOR BASELINE REPORTS

☐ Monitoring protocol
MINIMUM REQUIREMENTS FOR MONITORING PROTOCOLS

VI. CLOSING THE PROJECT. After COE, applicant submit the following to DC PL *(Before grant is closed):*

☐ A copy of the recorded deed

☐ A copy of the recorded NUGA *(original to follow via County Recorder)*

☐ A copy of the title insurance policy

☐ Escrow closing statement

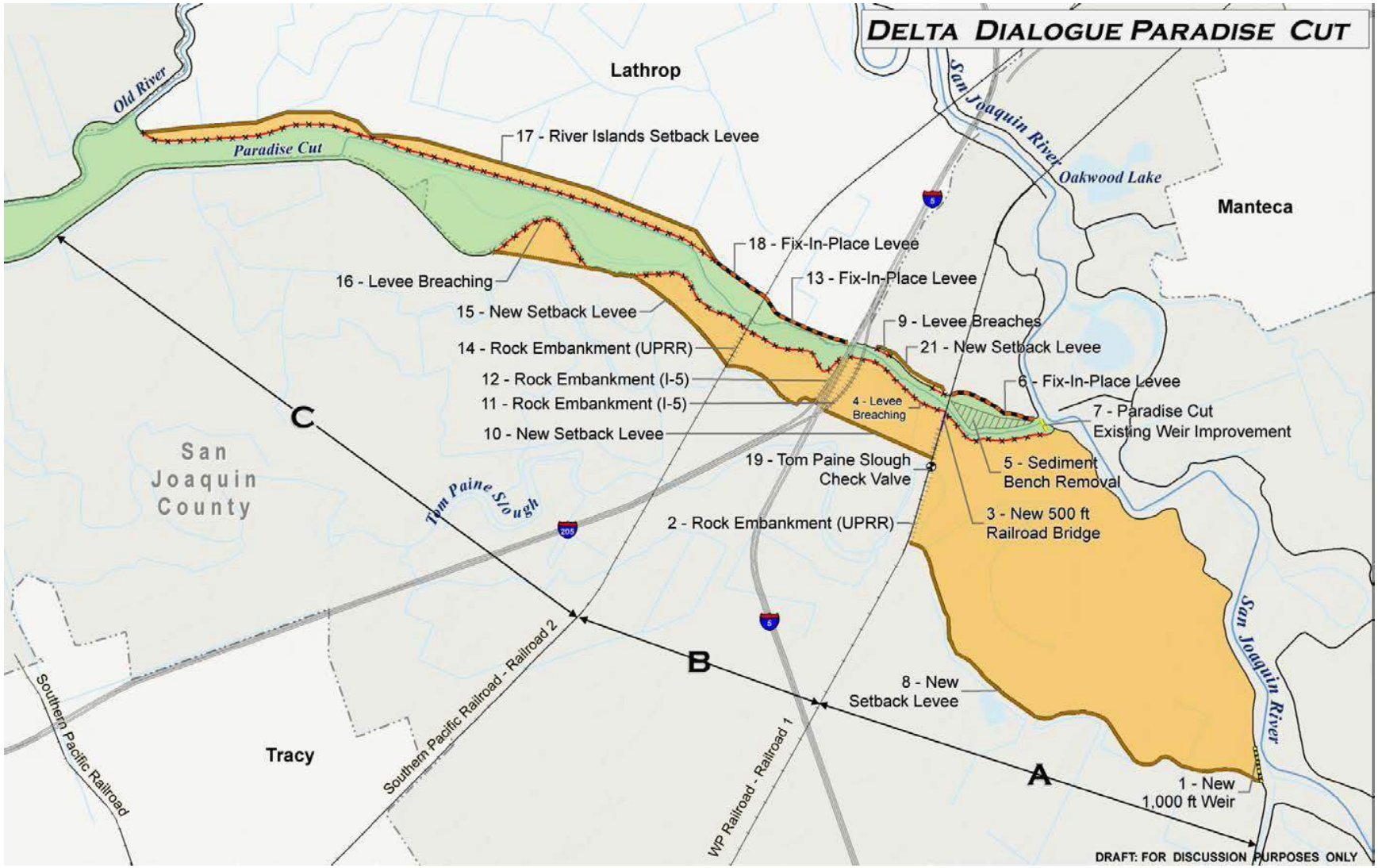
LOWER SAN JOAQUIN RIVER FLOODPLAIN PROTECTION

EASEMENT ACQUISITION PROJECT, SAN JOAQUIN COUNTY

THE TRUST *for* PUBLIC LAND

LAND FOR PEOPLE

October 16, 2015


DELTA DIALOGUE PARADISE CUT
Lathrop
Old River
Paradise Cut
17 - River Islands Setback Levee
San Joaquin River
Oakwood Lake
Manteca
18 - Fix-In-Place Levee
16 - Levee Breaching
13 - Fix-In-Place Levee
15 - New Setback Levee
9 - Levee Breaches
14 - Rock Embankment (UPRR)
21 - New Setback Levee
12 - Rock Embankment (I-5)
6 - Fix-In-Place Levee
11 - Rock Embankment (I-5)
4 - Levee Breaching
7 - Paradise Cut Existing Weir Improvement
C
10 - New Setback Levee
San Joaquin County
19 - Tom Paine Slough Check Valve
5 - Sediment Bench Removal
Tom Paine Slough
2 - Rock Embankment (UPRR)
3 - New 500 ft Railroad Bridge
B
8 - New Setback Levee
Southern Pacific Railroad
Tracy
Southern Pacific Railroad - Railroad 2
WP Railroad - Railroad 1
A
1 - New 1,000 ft Weir
DRAFT: FOR DISCUSSION PURPOSES ONLY

SACRAMENTO - SAN JOAQUIN DELTA CONSERVANCY
A California State Agency

PROP 1
GOVERNOR EDMUND G. BROWN, JR.
WATER BOND 2014
RELIABILITY | RESTORATION | RESILIENCE

Proposition 1 Grant Program

2015-16 Staff Recommendation

I. Project Overview

Project Title	Habitat Enhancement for Swainson's Hawk at Elliott Ranch		
Applicant	Environmental Defense Fund		
Project Number	Prop 1-Y1-2015-014	**Category**	2
County	Yolo	**Funding Request**	$378,308
Score	85.4	**Total Project Cost**	$559,074
Staff Recommendation: Determination that the project is categorically exempt from CEQA, and approval of funds conditional upon extension of monitoring to 15 years; verification of adequate water rights for the project; and receipt and approval of landowner contract.		**Funding Recommended**	$378,308

II. Staff Recommendations

Delta Conservancy staff recommends that the Board conditionally approve funding for the Habitat Enhancement for Swainson's Hawk at Elliott Ranch project (#Prop 1-Y1-2015-014) proposed by the Environmental Defense Fund. Approval of the funding is conditional upon the following: (1) proof of water rights for irrigation purposes; (2) increasing the monitoring timeline from 10 years, as currently outlined in the proposal, to 15 years, to ensure compliance with the general bond obligation law (Gov. Code 16.725); and (3) receipt and approval of the contract with the landowner. Conservancy staff anticipates receiving the items above by August 2016. Staff also recommends that the Board determine that the project is categorically exempt from environmental review pursuant to CEQA

The Habitat Enhancement for Swainson's hawk at Elliott Ranch project proposes to create meaningful habitat outcomes for Swainson's hawk, a state-listed species, in the Sacramento-San Joaquin Delta by partnering with a private landowner interested in habitat conservation that maintains agriculture productivity. This restoration effort will generate: (1) 188 acres of functional Swainson's Hawk habitat, representing 159 habitat acres of enhanced above baseline conditions, and 29 acres of habitat that are already high quality

foraging habitat that will be maintained as such; and (2) six acres of hedgerows created and maintained for the benefit of prey for Swainson's Hawk and for beneficial insect communities. The project will be integrated into the landowner's agricultural operation, and will be maintained by the landowner for a specified number of years (10 years has been proposed by the applicant; the Delta Conservancy is requesting to extend that to 15 years). Habitat values created in Year 1 of the project will be maintained throughout the term of the project, providing much-needed habitat for a listed species without removing land from production or limiting private property rights.

The project is ready for implementation; it is well-supported locally and is being advanced by a consortium of non-profit organizations working together as the Central Valley Habitat Exchange, as well as county supervisors and local landowners. The project team has thoroughly vetted the scientific foundation of the project, drawing on extensive literature review and expert consultation to create the innovative Habitat Quantification Tool that is being used to quantify the habitat improvements of the project and to adaptively manage its outcomes. Based on modelling and mapping submitted by the applicant, Yolo County is an area where habitat restoration and enhancement for Swainson's hawks, such as that proposed by this project, is an especially high priority in the face of a changing climate.

This project is well-designed and will be shovel ready upon execution of the grant agreement. Project proponents are advancing an innovative means of implementing and quantifying habitat creation by working within the agricultural landscape to carefully measure key habitat parameters. These characteristics make this project a standard-bearer for multibenefit upland habitat enhancement in the Delta. By approving this project, the Conservancy will be funding a project with important ecosystem benefits and a high likelihood of success.

Staff has prepared the text and tables below based on staff's best understanding of the information provided in the application. The Conservancy has received comments on the proposal from the Delta Stewardship Council and the Delta Protection Commission. If approved, staff will work with the applicant to further refine the project's scope of work and performance measures, and to address comments prior to entering into a grant agreement.

III. Project Summary

Project Description:

This project proposes to improve breeding and foraging habitat for Swainson's hawks on the Elliott Ranch in Yolo County. This project is being advanced by the Environmental Defense Fund and partners, including Stillwater Sciences, California Agricultural Properties, Inc., and the landowner. The project is consistent with the Delta Conservancy's Proposition 1 grant program in that it involves voluntary landowner participation in the restoration of important species and habitats within the legal Delta.

This project will be conducted on private working lands with the support of a conservation-minded landowner. The project site is contiguous to, and integrated with, Yolo County Habitat Conservation Plan (HCP) properties. While this property is consistent with the Yolo HCP, it is not serving as mitigation and therefore is eligible for Proposition 1 funds. Yolo

County has been identified as a high priority area for Swainson's hawk habitat restoration due to its predicted stability in the face of climate change. The project site consists of 300 acres of low- to moderate-quality habitat for Swainson's Hawks. This restoration effort will be based on a contract with the landowner that will commit the landowner to generate: (1) 188 acres of functional Swainson's hawk habitat, representing 159 acres of habitat enhanced above baseline conditions, and 29 acres of habitat that are already high quality foraging habitat that will be maintained as such; and (2) six acres of hedgerows created and maintained for the benefit of Swainson's hawk prey and for beneficial insect populations. The project, including the crop conversion, will be integrated into the landowner's agricultural operations, and will be maintained by the landowner for a specified number of years (10 years have been proposed by the applicant, the Delta Conservancy is requesting that be extended to 15 years). By converting melon and safflower fields to flood irrigated pastures, and by planting hedgerows along field edges, this project will enhance habitat for a listed species in a priority restoration area. The proposed schedule indicates that implementation of this project can begin as soon as funds are made available, and the construction of the project will be finished in 2017. This will be followed by monitoring that will occur annually for the first three years after implementation, and then regularly until year 15.

Location (Site Description):

The 1,000-acre Elliott Ranch is a privately owned farm in Yolo County just south of the City of West Sacramento and just east of the Sacramento Deep Water Shipping Channel. This project will take place on the northern-most 300 acres of the farm. This land is currently being used to grow row crops such as melons, grain, and safflower. Riparian woodland runs along South Fork Putah Creek to the east of the property. There are several other tree groves and tree rows in the one-mile buffer around the property. An agreement with the landowner confirming the right to do the project will be provided as a condition of approval of funding.

IV. Implementation of California Water Action Plan and Consistency with Prop 1 and Conservancy Enabling Legislation

State Priority/Plan	Action	Project Benefits
Proposition 1	Ch. 6 79732(a)(2) Implement watershed adaptation projects in order to reduce the impacts of climate change on California's communities and ecosystem.	Creates 188 acres of high quality Swainson's Hawk habitat in Yolo County. Based on modelling and mapping submitted by the applicant, Yolo County is an area where habitat restoration and enhancement for Swainson's Hawks, such as that proposed by this project, is an especially high priority in the face of a changing climate.

State Priority/Plan	Action	Project Benefits
Proposition 1	Ch. 6 79732(a)(4) Protect and restore aquatic, wetland, and migratory bird ecosystems, including fish and wildlife corridors and the acquisition of water rights for instream flow.	Creates 188 acres high quality Swainson's Hawk habitat. The Swainson's hawk is a migratory bird that is listed as threatened by the State of California.
	Ch. 6 79732(a)(12) Assist in the recovery of endangered, threatened, or migratory species by improving watershed health, instream flows, fish passage, coastal or inland wetland restoration, or other means, such as natural community conservation plan and habitat conservation plan implementation.	The restored habitat will benefit the state listed Swainson's Hawk. This project is also adjacent to, and incorporated with, the Yolo County HCP/NCCP. While this property is consistent with the Yolo HCP, it is not serving as mitigation and therefore is eligible for Prop. 1 funds.
California Water Action Plan	Action 3. Achieve the co-equal goals for the Delta.	Restores Delta ecosystems.
	Action 4. Protect and restore important ecosystems.	Protects and restores the ecosystem (specifically the breeding and foraging habitat) of an important species.
Delta Conservancy Enabling Legislation	§32301(i)(1) Protect and enhance habitat and restoration.	Restores 188 acres of Swainson's Hawk habitat and six acres of native hedgerow.
	§32301(i)(6) Restore the region's physical and living resources.	Restores upland habitat to a more natural state both physically and biologically.
	§32301(i)(7) Assist locals with NCCPs.	Supports local HCP/NCCP efforts. While this property is consistent with the Yolo HCP, it is not serving as mitigation and therefore is eligible for Prop. 1 funds.
Delta Conservancy Strategic Plan	Objective 3.2. Lead Delta ecosystem restoration activities consistent with Conservancy authorities, the Delta Plan and other regional plans and guidance, through a voluntary Delta Restoration Network, and based on adaptive management. Strategy 3.2.3: Protect and enhance wetland and upland habitats on subsided lands, as consistent with agricultural operations.	Establishes and maintains 188 acres of upland habitat in the form of pasture and native hedgerow vegetation that will serve as high quality breeding and foraging habitat for Swainson's Hawks and that will benefit numerous other species.

State Priority/Plan	Action	Project Benefits
Delta Plan	ER P2. Restore habitats at appropriate elevations.	Converts 188 acres of row crops into flood irrigated pastures and native hedgerows for Swainson's hawk. Yolo County has been identified as a priority area for Swainson's Hawk conservation due to appropriate geographic characteristics such as elevation and it predicted resilience to climate change.
	ER R2. Prioritize and implement projects that restore Delta habitat.	Restores 188 acres of Delta habitat to a more natural state.
	DR-R10. Encourage Wildlife-friendly Farming.	Restores 188 acres of row crops to flood irrigated pasture and native hedgerow vegetation. This property will be used both as Swainson's Hawk habitat and as grazing land.

V. Outcomes/Outputs

Project Goals	Desired Project Outcomes	Output Indicators
Goal 1. Create meaningful habitat outcomes for Swainson's Hawk, a state-listed species, in the Sacramento-San Joaquin Delta by partnering with a private working landowner interested in voluntary habitat conservation that maintains agriculture productivity, and by using a scientifically rigorous and consistent method to maximize habitat restoration outcomes.	Functional acres of Swainson's Hawk habitat created, evaluated and protected.	Acres restored. HQT pre- and post-restoration assessments completed. Management and crop conversion plans completed.
Goal 2. Ensure durable, verified and sustainable habitat outcomes by maintaining benefits for Swainson's Hawk over the full 10 year contract term by tracking and reporting on functional acres over time, and using a clear and actionable management plan, landowner contract, and financial assurance package.	Habitat values maintained on-site, and a defined adaptive management process is implemented to share lessons learned and manage the site over time.	Management Plan completed. Participant contract completed. Financial assurance package completed. Verification reports completed and submitted in Years 5, 10 and 15 (to be requested) of the contract agreement.

Project Goals	Desired Project Outcomes	Output Indicators
Goal 3. Maintain or increase economic and habitat values on a working North Delta farm through crop conversion and management.	Revenue opportunity for working agricultural lands, while also increasing habitat value for at-risk species.	Crop conversion plan completed. Irrigated pasture land managed for income.
Goal 4. Understand habitat value provided on-site for species beyond Swainson's Hawk, and explore a multi-species parcel evaluation approach.	Understanding of functional habitat for pollinator species, such as Monarch butterfly, provided as a co-benefit to Swainson's Hawk restoration.	Hedgerows planted. HQT assessments completed.

VI. Budget

The total cost for this project is $559,074. The Delta Conservancy is being asked to provide $378,308. The remainder will come from the Environmental Defense Fund, providing a cost share of $173,066 (cash), and California Agriculture Properties, Inc., providing a cost share of $7,700 (in-kind).

VII. Consistency with Grant Program Guidelines

Readiness (Including CEQA Status if Applicable):

The applicant effectively demonstrates that this category 2 implementation project is set to begin in the fall of 2016 and will be completed in fall of 2019. If there are no issues with water rights or extending the monitoring term, the project is ready to begin as soon as funds are made available. The pre-project site assessment was completed by Stillwater Sciences and the applicants have contracted with Stillwater Sciences to develop a planting plan and post-project third party monitoring. The applicants have contracted with California Agricultural Properties, Inc. to develop a crop conversion plan. The landowner is intent on pursuing implementation of the project.

This habitat enhancement project is categorically exempt from the provisions of CEQA pursuant to 14 California Code of Regulations sections 15304 and 15378. Because the award of funds is for new gardening or landscaping or normal agricultural maintenance activities, the award is exempt from CEQA. Further, none of the exceptions to the exemptions identified in 14 California Code of Regulations Section 15300.2 apply. Staff, therefore, recommends that the Board determine that the project is categorically exempt from CEQA.

Local Support:

This project has strong local support from the community. The project received support letters from Yolo County Supervisor Oscar Villegas, the property owner, and the owner of the only adjoining property. This effort is consistent with similar efforts in Yolo County and has already been incorporated into the Yolo HCP/NCCP. A county resolution was not included. Applicants consulted with the Delta Protection Commission.

Scientific Merit:

The scientific merit of this proposal is well supported. The Swainson's hawk Habitat Quantification Tool (HQT) is an innovative use of the best available scientific knowledge and practices to track impact (positive and negative) to Swainson's hawk habitat in the Delta. The HQT has been developed through review of the scientific literature on Swainson's hawk habitat needs and consultation with a broad group of Swainson's hawk experts with experience in the Central Valley. Stillwater Sciences was the lead developer of the HQT. The tool has been field-tested on working lands in California, reviewed, and modified with input from a Technical Advisory Committee consisting of representatives from California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, California Department of Water Resources, Audubon, Golden Gate Raptor Observatory, Point Blue Conservation Science, and private consultants.

Long Term Management & Adaptive Management Plan:

The applicant lays out a clear approach for a 10-year management plan that is supported by the project's monitoring plan and allows for adaptive management of the site. Per the general bond obligation, monitoring should be sustained for 15 years. The Conservancy will work with the applicant to expand the monitoring for an additional five years, applying the same management and monitoring principles outlined in their proposal. The proposal clearly explains plans for long-term management and sustainability beyond the term of the grant: the landowner will be responsible for managing the habitat that has been created for the duration of the contract with the landowner, and the project team will assess the habitat quality regularly using the HQT.

The proposal lays out a clear adaptive management plan using the Plan-Do-Evaluate-Respond approach. The project team will conduct an on-site HQT assessment following project implementation to confirm final habitat function scores, and adjust the management plans as needed to generate and maintain expected post-project habitat function. The management plans will also be adapted based on the results of HQT monitoring in years five and ten. Stillwater Sciences will perform third-party monitoring of the project each of the three years following project implementation. This will include one site visit per year and a report on native plant species density, weed cover, and other pertinent observations on site conditions. These observations and evaluations will provide EDF and the landowner with the information needed to make management or maintenance changes to ensure the site is meeting the expected post-project functional habitat target.

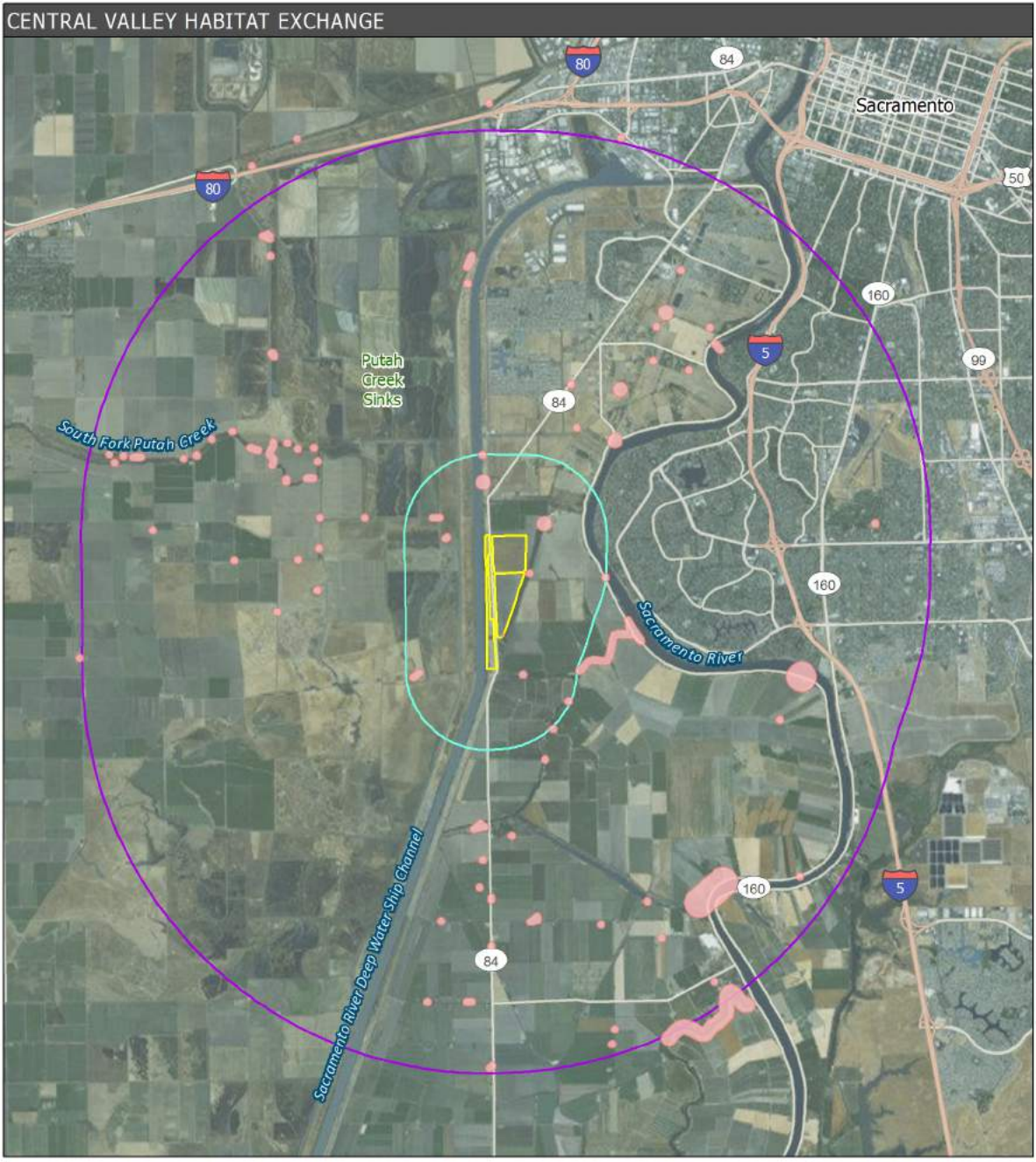
Monitoring and Assessment:

The applicant will use the innovative Habitat Quantification Tool to monitor the project. The Swainson's hawk HQT enables quantification, verification, and tracking of improvements in Swainson's hawk habitat on existing working lands. The HQT uses the average of three scores given to aspects of a landscape: (1) the function and value of the surrounding landscape, (2) nesting habitat; and (3) foraging habitat. This average allows for a quantitative measure of the suitability of an area for Swainson's hawks. These scores can then be compared to other scores to assess the relative quality of habitats across a landscape.

Third-party pre-project monitoring has already been conducted. EDF is funding HQT assessment in years five and ten, and then, as proposed here, regularly until year 15 to comply with the general bond obligation (California Government Code 16.725).The HQT reports will be used to determine whether the projected functional acres of habitat to be created by the restoration plan have been maintained.

Climate Change Considerations:

Based on modelling and mapping submitted by the applicant, Yolo County is an area where habitat restoration and enhancement for Swainson's hawks is an especially high priority in the face of a changing climate. Because habitat is likely to remain stable despite a changing climate, Yolo County is a good place to create habitat for Swainson's hawk so that they can withstand climate change effects.



Elliott Ranch- 5 Mile Buffer

- SWHA occurences within the last 10 years*
- Elliott Ranch Fields
- 1 mile buffer
- 5 mile buffer

Map Sources: Elliott Ranch, Buffers:Stillwater Sciences. Imagery, Roads, Cities: ESRI. SWHA occurrences: CNDDB Nov, 2014

*CNDDB data is confidential

N

0 0.75 1.5 3 Kilometers

0 0.5 1 2 Miles

Stillwater Sciences

Map Location

SACRAMENTO - SAN JOAQUIN DELTA CONSERVANCY
A California State Agency

PROP 1 GOVERNOR EDMUND G. BROWN, JR. WATER BOND 2014 RELIABILITY | RESTORATION | RESILIENCE

Proposition 1 Grant Program

2015-16 Staff Recommendation

I. Project Overview

Project Title	Yolo Bypass Wildlife Area Habitat and Drainage Improvement Project		
Applicant	Ducks Unlimited		
Project Number	Prop 1-Y1-2015-003	**Category**	2
County	Yolo	**Funding Request**	$2,000,000
Score	85.4	**Total Project Cost**	$2,295,944
Staff Recommendation: Conditional approval of reservation of funds pending CEQA review, and conditional upon submittal of proof and verification of adequate water rights; the applicant's bylaws; and a signed agreement with the landowner.		**Funding Recommended**	$2,000,000

II. Staff Recommendations

Delta Conservancy staff recommends that the Board conditionally reserve funding for the Yolo Bypass Wildlife Area Habitat and Drainage Improvement Project (#Prop 1-Y1-2015-003) proposed by Ducks Unlimited. Funding will be reserved until environmental review has been completed and the Board has approved the Responsible Agency findings. This reservation of funds does not constitute approval of the requested funding and the Board reserves the discretion to approve or reject the funding request once it reviews the CEQA documentation for the project. It is expected that the environmental document and lead agency findings will be completed by the spring of 2017. Additionally, staff recommends that the Board's reservation of funds be conditional upon the following: (1) submittal of proof and verification of adequate water rights; (2) the applicant's bylaws; and (3) a signed agreement with the landowner, the California Department of Fish and Wildlife, giving the applicant the right to access the project site in order to implement and maintain the proposed project, and verifying the agency's role in the long-term and adaptive management of the project. Staff anticipates receiving these items by spring of 2017.

The proposed project will create 220 acres of new wetlands and improve water management on 1,250 acres of exiting wetlands and 540 acres of agricultural land in the Yolo Basin Wildlife Area (YBWA). CEQA and permitting for this project is being funded by a California Department of Fish and Wildlife Proposition 1 grant. The project team anticipates finalizing CEQA and securing all necessary permits and environmental documents by spring of 2017, with construction occurring June through October 2017, during the typical YBWA work window. The applicant is seeking implementation funding from the Delta Conservancy during this grant cycle so that they are able to begin implementation immediately upon completion of CEQA, avoiding a two-year delay in implementation.

This project has strong local support and has been identified as a priority in local and regional planning efforts. This proposal contributes to multiple state priorities including goals to protect and restore wetland and migratory bird habitat, assist in water-related agricultural sustainability projects, encourage wildlife-friendly farming and achieve the co-equal goals from the Delta. In anticipation of resource conflicts associated with climate change, this project will improve water management, including increasing capacity to recirculate water, which will reduce the competition for water supply between agricultural operations and wildlife management. In addition, water management is important for limiting avian- and mosquito-borne disease transmission and protecting water quality, both of which are important climate change impact considerations associated with warmer water temperatures.

The main objectives of the project are supported with scientific information. The applicant details how water infrastructure improvements support moist-soil management, and the related ecosystem and agricultural benefits. Adaptive management is expected to be implemented by CDFW in accordance with the Yolo Bypass Wildlife Area Land Management Plan. The applicant identifies monitoring focused on improvements to flooding, drainage, and irrigation abilities, and of wetland creation.

YBWA is a thriving example of how flood control, agriculture, wildlife habitat, and public health can successfully co-exist. Water management is a key part of meeting all of these land use objectives. This project's proposed improvements to water infrastructure will create new wetlands and provide farmers and wetland managers with the needed tools to manage water.

Staff has prepared the text and tables below based on staff's best understanding of the information provided in the application. The Conservancy has received comments on the proposal from the Delta Stewardship Council and the Delta Protection Commission. If approved, staff will work with the applicant to further refine the project's scope of work and performance measures, and to address comments prior to entering into a grant agreement.

III. Project Summary

Project Description:

This project will create new wetland habitat and provide key water infrastructure improvements which will greatly improve the ability to manage the draining and filling of

wetlands and agricultural fields in the YBWA. The expected benefits of this project include the creation of new habitat, enhancement of existing habitat, and improvements in agricultural sustainability. Project partners have a well-established history of collaborating in the YBWA, having worked together since the development of the YBWA.

The existing water infrastructure in the northern region of the YBWA consists of multiple drainage and water supply systems that have never been fully integrated and currently compromise agricultural production and wetland management in this region. The existing system was originally designed for agricultural operations with several dual supply/drain canals that can cause issues for coordinated water management in a multi-use area. When agricultural operations need water supply for irrigation, wetlands may need to drain, and the existing system is not currently capable of serving both needs.

The proposed water infrastructure improvements reduce this conflict between wetlands and agricultural operations by improving the capacity to manage the wetland ponds individually. Individual management of each wetland unit is a key element of creating diverse habitat while also maximizing vegetation productivity, controlling the germination and growth of noxious weeds, minimizing mosquito larvae populations and controlling avian disease during specific times of the year. The water infrastructure improvements outlined in this proposal benefit the working agricultural landscapes in the YBWA as improved drainage and flow conveyance for flood-irrigated agriculture is expected to result in greater flexibility for harvest and may potentially improve yield. In addition, improving flood management is expected to improve flood protection for agriculture, and aid in weed and other pest control which further reduces conflict between agriculture and habitat on the YBWA.

Location (Site Description):

The project is located within the northern portion of the YBWA on California Department of Fish and Wildlife (CDFW) lands, which is currently managed for multiple uses, including rice farming and wetlands. Execution of the grant agreement is contingent upon the applicant providing an agreement with CDFW giving the applicant the right to access the project site in order to implement the proposed project. The project site is comprised of very flat terrain with rice fields, emergent wetland, native grasslands, ruderal upland and associated ditches, utilities, and infrastructure.

IV. Implementation of California Water Action Plan and Consistency with Prop 1 and Conservancy Enabling Legislation

State Priority/Plan	Action	Project Benefits
Proposition 1	Ch. 6 79732(a)(4) Protect and restore aquatic, wetland, and migratory bird ecosystems, including fish and wildlife corridors and the acquisition of water rights for instream flow.	Creates new and enhances existing wetlands through improvements in ability to manage water supply, contributing to protecting and restoring wetlands and multibenefit land uses in the YBWA.

State Priority/Plan	Action	Project Benefits
Proposition 1	Ch. 6 79732(a)(13) Assist in water-related agricultural sustainability projects.	Improves water supply efficiency and drainage for agricultural fields and creates new water efficiencies, contributing to water-related agricultural sustainability.
California Water Action Plan	Action 1. Make conservation a way of life.	Improves water efficiencies for wetlands and agricultural areas on YBWA.
	Action 3. Achieve the co-equal goals for the Delta.	Serves the operational needs of both farmers and wetland managers, and contributes to multibenefit land uses of YBWA into the future.
Conservancy's Enabling Legislation	§32322(b)(1) Protect and enhance habitat and habitat restoration.	Creates new and enhances existing wetlands.
	§32322(b)(2) Protect and preserve Delta agriculture and working landscapes.	Improves ability to manage both wetlands and agricultural fields which serve as important habitat in the YBWA.
	§32322(b)(3) Provide increased opportunities for tourism and recreation.	Increases the number of days that the public can access YBWA by alleviating localized flooding that occurs due to insufficient infrastructure.
	§32322(b)(12) Promote environmental education.	
Conservancy's Strategic Plan	Objective 3.2: Lead Delta ecosystem restoration activities consistent with Conservancy authorities, the Delta Plan and other regional plans and guidance, through a voluntary Delta Restoration Network, and based on adaptive management. Strategy 3.2.2: Establish, enhance and maintain migratory corridors for fish, birds and other animals. Strategy 3.2.3: Protect and enhance wetland and upland habitats on subsided lands, as consistent with agricultural operations.	Enhances habitat in an important migratory corridor by improving moist-soil management that promotes natural production of beneficial plants. Improves ability to manage both wetlands and agricultural fields, which serve as important habitat in the YBWA.

State Priority/Plan	Action	Project Benefits
Delta Plan	ER-R2. Prioritize and Implement Projects that Restore Delta Habitat.	The project is located in a Priority Habitat Restoration Area.
	DR-R10. Encourage Wildlife-friendly Farming.	Drainage infrastructure and habitat improvements proposed in this project simultaneously produce both environmental and agricultural benefits.
	DR-R14. Enhance Nature-based Recreation.	Working landscape enhancements in the YBWA will increase public access, thus expanding nature-based recreation opportunities.

V. Outcomes/Outputs

Project Goals	Desired Project Outcomes	Output Indicators
Goal 1. Provide water supply to new wetlands acres in the Yolo Bypass Wildlife Area by the end of 2017.	220 acres of new managed seasonal wetlands.	Acres of new managed seasonal wetlands.
Goal 2. Enhance drainage and water supply management on existing wetlands acres in the Yolo Bypass Wildlife Area by the end of 2017.	1,250 acres of enhanced seasonal and semi-permanent wetlands.	Increase consistency in flood depth to provide more reliable habitat for waterfowl nesting and feeding throughout the year, decrease noxious weeds, increase vegetation desirable for waterfowl, such as swamp timothy, watergrass, and smart weed, and control avian diseases on 1,250 acres of existing wetlands.
Goal 3. Enhance drainage and water supply for wildlife-friendly agriculture in the Yolo Bypass Wildlife Area by the end of 2017.	540 acres of enhanced wildlife –friendly agriculture.	Improved planting and harvest efficiency on 540 acres, as well as improved water management for waterfowl habitat and vector control. Farmers will be able to plant and harvest earlier than may otherwise be possible, as well as improve water management for habitat and vector control. Resolve water management conflicts with wetlands resulting from circumstances in which agricultural operations need to use canals to fill fields and wetlands may need to drain.

Project Goals	Desired Project Outcomes	Output Indicators
Goals 4. Increase public access in the Yolo Bypass Wildlife Area by the end of 2017.	Improved capacity of canals and elevated roads to decrease localized flooding that prevents public access.	Increase number of days the YBWA is open for public access for educational tours, hunting, and other recreation.

VI. Budget

The total project cost is $2,295,944. The project proponents are requesting $2,000,000 from the Conservancy. The cost-share consists of $10,000 provided in-kind from the applicant, $140,000 cash from Metropolitan Water District of Southern California, and $145,944 cash from a CDFW Proposition 1 grant to fund CEQA and permitting related to this project.

VII. Consistency with Grant Program Guidelines

Readiness (Including CEQA Status if Applicable):

This project cannot begin until the applicant has secured several environmental documents and complied with CEQA. The project team anticipates having all permits and approved environmental documents needed by spring of 2017. Environmental permitting is planned as a part of phase 1 of this project. This project consists of four distinct project delivery phases: 1) design/engineering phase; 2) permitting/environmental document phase; 3) construction phase; and 4) monitoring and adaptive management phase. Ducks Unlimited is requesting funding from the Conservancy for Phase 3 (construction). Construction will occur from June 1, 2017 to October 1, 2017. This is the typical window for working in the YBWA. Phase 1 (design) is being completed by the environmental consulting firm, CBEC, as funded by Metropolitan Water District and is interrelated with Phase 2 (permitting), which is being completed through a Proposition 1 grant from CDFW. Before this project can begin, the design and permitting phases must be completed. Work on Phase 2 (permitting) is anticipated to begin in June 2016 under CDFW's Proposition 1 grant to Ducks Unlimited. The team plans to make a determination as to whether the project will be deemed to be beyond the scope and analysis of the existing Initial Study/Mitigated Negative Declaration under CEQA prepared for the Yolo Bypass Land Management Plan in 2008. If it is determined that a subsequent CEQA document review will be needed and the project team will complete the needed environmental document by spring of 2017. No construction will occur prior to the completion of CEQA and subsequent determination of Responsible Agency findings and approval of funding by the Conservancy's Board. If it is determined that the project can move forward under the existing CEQA document from 2008, the Board will still need to make Responsible Agency findings and approve funding for this project.

Several environmental documents are already in place such as the US Fish and Wildlife Services and National Oceanic and Atmospheric Association Biological Opinions. Ducks Unlimited plans to prepare and submit the US Army Corps of Engineers 404 and Regional Water Quality Control Board 401 applications within three months from executing the grant agreement with CDFW. A Lake and Streambed Alteration Permit will also need to be issued by CDFW. The project is within the Central Valley Flood Protection Board's jurisdiction pursuant to Title 23, California Code of Regulations Section 112 and may require encroachment permits prior to project construction.

Local Support:

This project has strong local support and the partnerships necessary for success. Project partners have worked together since the development of the YBWA. Letters of support were included from Yolo County, one local NGO, one water district, and one farmer. CDFW has been identified as a project partner as well, and has provided a letter to confirm that a grant has been awarded to support CEQA and permitting for the project. A resolution in support of the project from Yolo County was included in this application, and the applicant has consulted with the Delta Protection Commission.

This project has been identified as a priority in local and regional planning efforts with stakeholder input. This project is the top priority in the 2014 Yolo Bypass Drainage and Water Infrastructure Improvement Study, was included in the Lower Sacramento/Delta North Regional Flood Management Plan, and is one of the 65 projects identified by the Coalition to Support Delta Projects. These plans represent the engagement and support of regulatory agencies, local agencies and governments, farmers and landowners, wetlands managers, water agencies and contractors, and other NGOs. Ducks Unlimited plans to coordinate closely with Yolo County and provide regular updates to the Yolo Bypass Working Group, a longstanding forum of Yolo Bypass stakeholders facilitated by the Yolo Basin Foundation.

The project is consistent with surrounding land use. Ducks Unlimited will also reach out to individual stakeholders, including farmers, as necessary to ensure sufficient input on the project.

Scientific Merit:

The main objectives of the project are supported with scientific information, however the section on scientific basis does not include citations backing up some statements in all instances where citations are appropriate. The applicant details the importance of moist-soil management. Moist-soil management refers to management of land to provide moist soil conditions during the growing season to promote the natural production of beneficial plants. Seeds produced by these plants often attract and concentrate waterfowl, water birds, shorebirds, and other wetland wildlife species. The decomposing vegetative parts of moist-soil plants also provide substrata for invertebrates, which are critical food for wetland wildlife. Factors that determine the success of moist-soil management include: the timing and rate of the de-watering; soil disturbance and the stages of plant succession; and the timing and rate of re-flooding. Best success is achieved when water levels can be controlled. This project provides the necessary infrastructure via water control structures,

pumps, and grading to achieve the desired management capabilities to implement best moist soil management practices.

Long Term Management & Adaptive Management Plan:

Adaptive management will occur as part of Phase 4 (monitoring and adaptive management), and will be implemented by CDFW in accordance with the Yolo Bypass Wildlife Area Land Management Plan. Reservation of funding is conditional upon securing an agreement from the applicant that verifies CDFW's role in the long-term and adaptive management of the project.

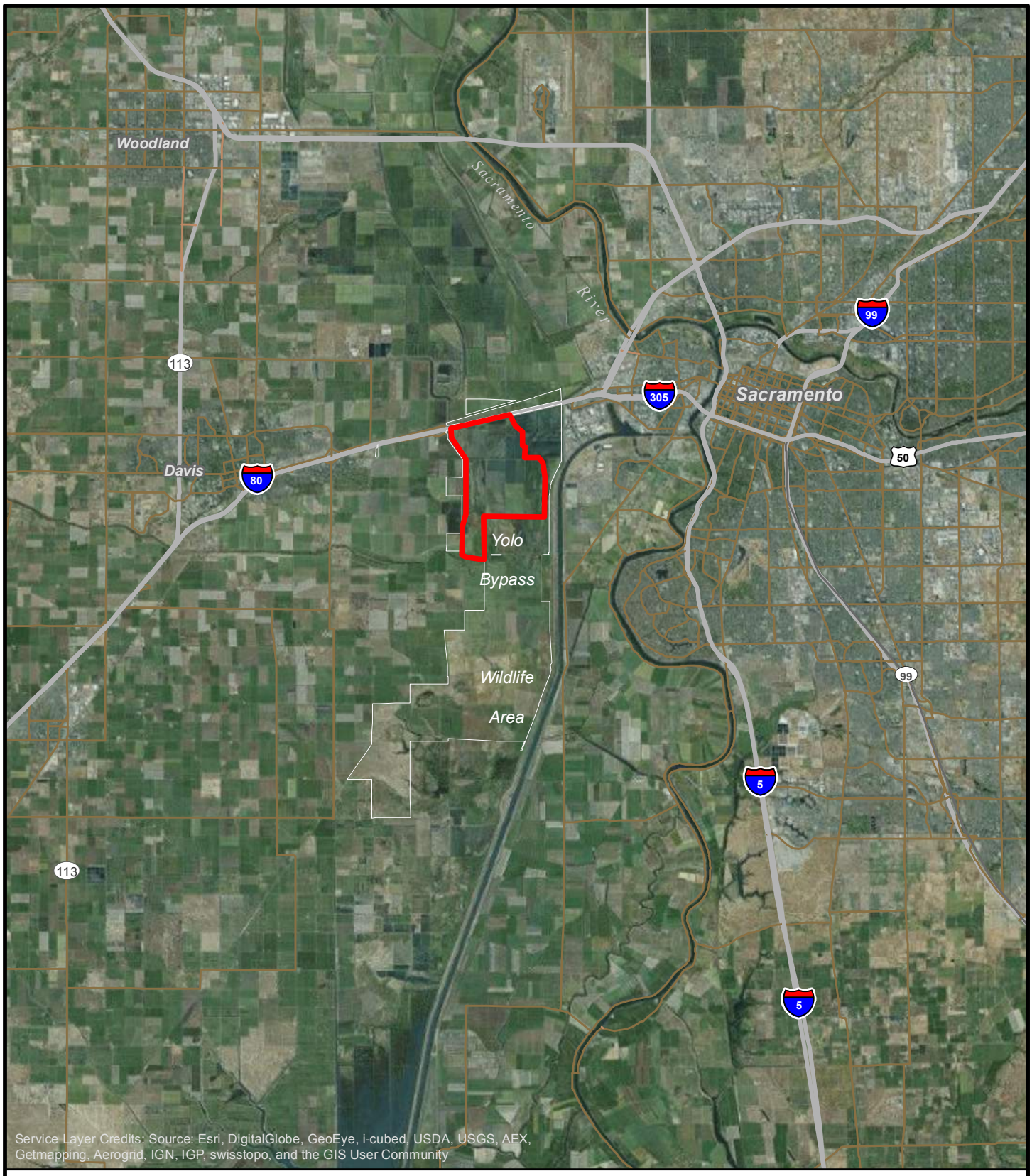
Monitoring and Assessment:

The project proponent has a well thought out plan for monitoring and assessment. Ducks Unlimited plans to coordinate the monitoring and assessment with the agencies and stakeholders that currently participate in Yolo Bypass Wildlife Area activities.

The project will have consistency with the YBWA Land Management Plan, which identifies all current monitoring practices and permitted activities. The project proponent identified the guidelines under the State Wetland and Riparian Area Monitoring Program (WRAMP) Framework, Level 2 methods for rapid field assessments of wetlands as most appropriate for monitoring and assessing this project. Wetland enhancement monitoring will focus primarily on the improvements to flooding, drainage and irrigation abilities on the specific wetland and agricultural units within the Yolo Bypass, and secondarily on identification of noxious weed reduction and increases in suitable wetland plant species since uncontrollable variables such as weather conditions play key roles in plant growth. Wetland creation monitoring will focus on wetland indicators including hydrology, soils, and indicator plant species in accordance with standard protocols. Ducks Unlimited will map the extent of the area created as a deliverable for this project. Ducks Unlimited intends to monitor for three years post-construction to ensure grant objectives are reached.

Climate Change Considerations:

This project has several benefits for increasing resilience to climate change. Improving water management, including increasing capacity to recirculate water, in the YBWA reduces competition between land management for agriculture and habitat, directly addressing findings in the 2009 Climate Adaptation Strategy report, which states that California must change its water management and uses because climate change will likely create greater competition for limited water supplies needed by the environment, agriculture, and cities. In addition, when considering climate change impacts associated with increasing water temperature, water management infrastructure capable of fast flood up and draw down for summer irrigations is important for limiting mosquito larva production, reducing pesticide application (protecting water quality), and decreasing risk of West Nile virus transmission, all of which are important climate change impact considerations.



Project Location Map

Project Name: Yolo Bypass Wildlife Area Habitat and Drainage Improvement Project

Applicant Name: Ducks Unlimited, Inc.

Project Area

0 1.5 3 6 9 12 Miles

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Proposition 1 Grant Program

2015-16 Staff Recommendation

I. Project Overview

Project Title	Fish Friendly Farming Certification Program for the Sacramento-San Joaquin Delta		
Applicant	California Land Stewardship Institute		
Project Number	Prop 1-Y1-2015-005	**Category**	1
County	Delta-wide	**Funding Request**	$89,450
Score	85.1	**Total Project Cost**	$134,175
Staff Recommendation: Making findings required for funding activities outside of the legal Delta, and approval of funding.		**Funding Recommended**	$89,450

II. Staff Recommendations

Delta Conservancy staff recommends that the Board make findings required for funding activities outside of the legal Delta, and approve funding for the Fish Friendly Farming Certification Program for the Sacramento-San Joaquin Delta project (#Prop 1-Y1-2015-005) proposed by the California Land Stewardship Institute. The project to which this category 1 planning project relates to is eligible for category 2 funding, should it make it to the category 2 stage. The awarding of a category 1 grant for a project does not guarantee that a category 2 grant will be awarded for the same project.

This project will take place, in part, outside of the legal Delta. Public Resources Code section 32360.5 requires the Board make certain findings if it approves funding for activities outside the Delta. Staff recommends making the following findings: (1) the project implements the ecosystem goals of the Delta Plan by improving water quality and encouraging wildlife-friendly farming; (2) the project is a Category 1 planning project and therefore does not require any state or federal permits at this time; (3) the Conservancy has given notice to affected local jurisdictions and has received no comments, and staff will work with the applicant to address any comments received from the Delta Protection Commission prior to entering into a grant agreement; (4) there is no State conservancy covering Suisun Creek and Putah Creek, the locations where the project is proposing to

work outside the Delta, and (5) the project will provide significant benefits to water quality and agricultural sustainability in the Delta.

This certification program is a planning project that will advance implementation of Best Management Practices (BMPs) on private agricultural land that will lead to water quality improvements in the Delta. The Fish Friendly Farming (FFF) program uses science-based assessment and management methods that provide for an effective program to improve water quality, enhance habitat, and preserve agriculture. The applicant has reached out to landowners and identified at least one who has expressed interest in enrolling 650 acres in the program once BMPs have been developed, thus linking this planning project to capital outlay associated with agricultural sustainability and water quality improvement in Delta waterbodies. The collaborative approach employed by FFF is already successful in Napa, Sonoma, Mendocino, and El Dorado counties, both in terms of its adoption by private landowners, and its positive impact on water quality. Through this project, the applicant will develop the Best Management Practices and Farm Plan Template needed to adapt the Fish Friendly Farming program to cover crops currently grown in the Delta, conduct outreach and facilitate involvement of growers and agricultural organizations, and enroll sites for implementation of the program.

This proposal is consistent with the multiple state priorities to protect the beneficial uses of water, achieve the co-equal goals for the Delta, as well as manage and prepare for dry periods. The Delta is listed in the Federal Clean Water Act, section 303(d) for multiple impairments of water quality related to agriculture. The state and federal practice for addressing water quality impairments is the use of BMPs, which must be implemented in the Delta. The applicant has identified a plan and has the expertise to use best available science and grower feedback to tailor BMPs that are practical and impactful in the Delta. Climate change is expected to impact California water supply by impacting flow and exacerbating impairments. The FFF program addresses both issues through development of BMPs expected to alleviate impacts of drought and to conserve water.

Having successfully implemented the FFF program and multiple related projects in nearby watersheds, the applicant is leveraging existing processes and expertise and is ready to proceed right away to adapt the program for the Delta. The applicant demonstrates strong local support for both existing FFF programs and for initiating the program in the Delta. Involving the grower community in the development of the FFF certification program and garnering further local support are main elements of this planning project.

The California Land Stewardship Institute has strong collaborative relationships with private landowners and farmers, and has built a reputation for success in working with private landowners to improve habitat and water quality. The FFF certification is widely recognized by the National Oceanic and Atmospheric Administration, the State Water Resources Control Board, and the California Department of Fish & Wildlife as an effective method to cooperatively implement water quality and habitat improvements on agricultural plans. While the grower support necessary for a successful implementation of a Category 2 project cannot be guaranteed, the applicant has identified the appropriate partners and a fitting approach, and has the qualifications and experience necessary for this project to be a success and lead to measurable benefits in water quality.

Staff has prepared the text and tables below based on staff's best understanding of the information provided in the application. The Conservancy has received comments on the proposal from the Delta Stewardship Council and the Delta Protection Commission. If approved, staff will work with the applicant to further refine the project's scope of work and performance measures, and to address comments prior to entering into a grant agreement.

III. Project Summary

Project Description:

The Fish Friendly Farming Certification Program invites voluntary participation of landowners who will help reduce nonpoint source pollution by implementing Best Management Practices on their farms. Proposed project activities include: collecting information on crop types, chemicals used, integrated pest management (IPM) methods and water quality data in the Delta; coordinating with agricultural organizations and forming an Advisory Committee; coordinating with agricultural and water quality professionals; developing a BMP workbook for the Delta; developing a Farm Conservation Plan template; working with growers to field test the draft program and revise it to address grower comments; and initiating grower signups to obtain FFF certification.

It is well substantiated that water quality in the Delta is affected by numerous dispersed sources, including agricultural runoff. Agricultural lands actively apply organophosphate as well as nitrogen fertilizers. These substances can reach surface water through drift during application, return irrigation flows, pumping to manage island water levels, and stormwater runoff. Agricultural soils also harbor legacy organochloride pesticides which bind to clay particles. Soil erosion or pumping of turbid water can transport these pesticides into waterways. Pollutants also leach into groundwater or enter through unbermed wells. All of these pathways will be evaluated as part of the development of the FFF program.

Development of the FFF program for the Delta will follow a series of steps and analyses that include the use of best-available science and information. The applicant has identified robust information sources and the appropriate agencies and organizations to collaborate with for gathering information regarding current cultivation practices, water management, and pesticide and fertilizer use in the Delta. These analyses will provide the basis for the inventory/assessment in the Farm Plan template as well as the basis for the Best Management Practices of the FFF program. These BMPs will include soil erosion control measures such as filter strips or buffers, dust control, cover crops, reduced tillage; drainage and irrigation measures such as reduced flood irrigation and increased use of soil moisture monitoring systems to reduce the frequency and volume of irrigation; low flow sprinklers and drip irrigation to reduce the need to discharge return flows, use of settling basins to remove soil particles from return flows; chemical reduction measures such as integrated pest management (IPM) for each major crop to reduce the use of broad-spectrum pesticides and increase the use of natural enemy insects; more precise application methods to avoid drift of pesticides; relocation of mix and load sites away from wells and surface water channels; and restrictions on use of certain chemicals known to leach in to groundwater. Additional BMPs will address soil and water conservation practices, invasive

species control, native plant revegetation, field road erosion control, protection of wells from contaminant runoff, fertilizer type, application methods and quantities used.

Through this project, the applicant will play an important role in liaising between growers and agricultural and water quality professionals to identify BMPs that are most effective and practical for making measurable changes in water quality in the Delta. The project proponent will reach out to UC Cooperative Extension farm advisors, the Nature Resources Conservation Service, Agricultural Commissioners, Central Valley Regional Water Quality Control Board staff, Irrigated Lands Water Quality coalitions, Resource Conservation Districts and local Pest Control Advisors to discuss the program, cultivation methods and chemicals used for major crops, chemical and fertilizer application methods, and water quality monitoring.

While the applicant has completed similar projects in nearby regions, the applicant is cognizant that grower participation in the Delta is a unique challenge. The proposal demonstrates that one farmer is interested in implementing the FFF program on 650 acres of land as soon as the planning phase is complete. The applicant will work through entities, such as county Farm Bureaus and Agricultural Commission, with an established history of working with growers. The applicant will investigate how FFF certification may aid the grower in fulfilling other regulatory requirements, which has been done in other regions, as well as bring in growers from other regions to share their successes in how this program has benefited them.

Location (Site Description):

This planning grant will cover agricultural lands in the legal Delta as well as the floodplains of Suisun Creek and Putah Creek, which drain into the Yolo Bypass and Suisun Marsh. The project will include growers along Cache and Lindsey Sloughs, which drain into the Cache Slough, a priority restoration area.

IV. Implementation of California Water Action Plan and Consistency with Prop 1 and Conservancy Enabling Legislation

State Priority/Plan	Action	Project Benefits
Proposition 1	Ch. 6 79732(a)(1) Protect and increase the economic benefits arising from healthy watersheds, fishery resources, and instream flow.	Improves water quality and reduces further impairments; protects valuable ecosystem services that provide economic benefits to society.

State Priority/Plan	Action	Project Benefits
Proposition 1	Ch. 6 79732(a)(4) Protect and restore aquatic, wetland, and migratory bird ecosystems, including fish and wildlife corridors and the acquisition of water rights for instream flow.	Reduces pesticide load and nutrient runoff entering Delta waterways and improves water quality, a critical component of protecting and restoring Delta ecosystems.
	Ch. 6 79732(a)(11) Reduce pollution or contamination of rivers, lakes, streams, or coastal waters, prevent and remediate mercury contamination from legacy mines, and protect or restore natural system functions that contribute to water supply, water quality, or flood management.	Reduces agricultural pollutants that currently contribute to Delta waterbody contamination.
California Water Action Plan	Action 3. Achieve the Coequal goals for the Delta.	Improves water quality, an essential component of achieving the coequal goals for the Delta as improved water quality is necessary for supporting a healthy ecosystem and the multiple beneficial uses of water in the Delta.
	Action 4. Protect and Restore Important Ecosystems.	Reduces pesticide load and nutrient runoff entering Delta waterways and improves water quality, a critical component of protecting and restoring Delta ecosystems.
	Action 5. Prepare and Manage for Dry Periods.	Develops BMPs that address drought preparedness and water conservation, which will assist landowners in preparing and managing for dry periods.
Conservancy's Enabling Legislation	§32322(b)(2) Protect and preserve Delta agriculture and working landscapes.	Addresses sources of water quality degradation while working collaboratively with farmers to make them more sustainable.
	§32322(b)(6) Protect and improve water quality.	Reduces pesticide load and nutrient runoff entering Delta waterways by creating crop specific BMPs for the Delta.

State Priority/Plan	Action	Project Benefits
Conservancy's Strategic Plan	Objective 1.3. Aid in protecting and improving water quality to protect the Delta ecosystem and economy. Strategy 1.3.1: Adopt policies, including restoration criteria, and support projects that contribute to Delta water quality conditions that support the Conservancy's mission.	Reduces pesticide load and nutrient runoff entering Delta waterways by creating crop specific BMPs for the Delta.
Delta Plan	WQ R1. Protect Beneficial Uses.	BMPs are a well-established method for improving water quality.
	DP R10. Encourage Wildlife-friendly Farming.	BMPs promote wildlife-friendly farming practices which have benefits for both the ecosystem and agricultural operations.

V. Outcomes/Outputs

Project Goals	Desired Project Outcomes	Output Indicators
Goal 1. Increase the ability of agricultural operations to improve Delta water quality.	Completed FFF program for the Delta.	Development of BMPs for the Delta FFF Program. Development of the Farm Plan Template for the Delta FFF Program. 50 growers in support of the FFF project.
Goal 2. Support and sustain agriculture in the Delta.	Growers involved in the FFF program development and signing up for the implementation phase.	Growers and agricultural organizations attending Advisory Committee meetings.

VI. Budget

The total project cost is $134,175, of which the applicant is requesting $89,450 from the Conservancy and providing $44,725 in cost-share. Cost share includes $22,362.50 in cash and $22,362.50 derived from in-kind services provided by the applicant, California Land Stewardship Institute.

VII. Consistency with Grant Program Guidelines

Readiness (Including CEQA Status if Applicable):

Having successfully completed multiple projects in nearby watersheds, the applicant is leveraging their existing protocol and process and applying it in a new area. The applicant is ready to proceed with program development; no permits are needed at this stage of the project. The project is within the Central Valley Flood Protection Board's jurisdiction pursuant to Title 23, California Code of Regulations Section 112 and implementation of BMPs at specific sites may require encroachment or other environmental permits prior to project construction. The requested funding will not be used to install BMPs. Award of the planning grant is not a "project" for purposes of CEQA.

Local Support:

The applicant demonstrates strong local support for both existing FFF programs and for initiating the program in the Delta. The applicant has consulted with the Delta Protection Commission. The applicant did not provide a County resolution. However, five letters of support are included from one state senator, one federal agency, one local NGO, one local district, and from the landowner interested in signing up for the FFF program once it is in place. The applicant states that the California Farm Bureau is supportive of this project moving forward.

Community involvement and collaboration are a main element of this planning proposal and therefore growing local support is a main element of this project. Project tasks include transferring the applicant's extensive work with Farm Bureaus in other counties to the Delta. The applicant includes collaboration with grower groups, agricultural commissioners, water quality coalitions, local water and reclamation districts, and others as a substantial element of the project. The project is consistent with surrounding land use and promotes sustainable farming.

Scientific Merit:

The scientific merit of using BMPs to improve water quality is well established, as is the impairment of Delta waterbodies by agricultural chemicals. The applicant included authoritative sources of literature to substantiate the scientific basis for this project. A wide variety of State and federal agencies mandate the use of BMPs for addressing water quality impairments. Many different entities have described BMPs to improve water quality. The applicant proposes to evaluate these existing BMPs and adapt them to the Delta to ensure that they are practical and effective in this region.

Long Term Management & Adaptive Management Plan:

The FFF program employs a long term management approach by requiring re-certifications every 5 years.

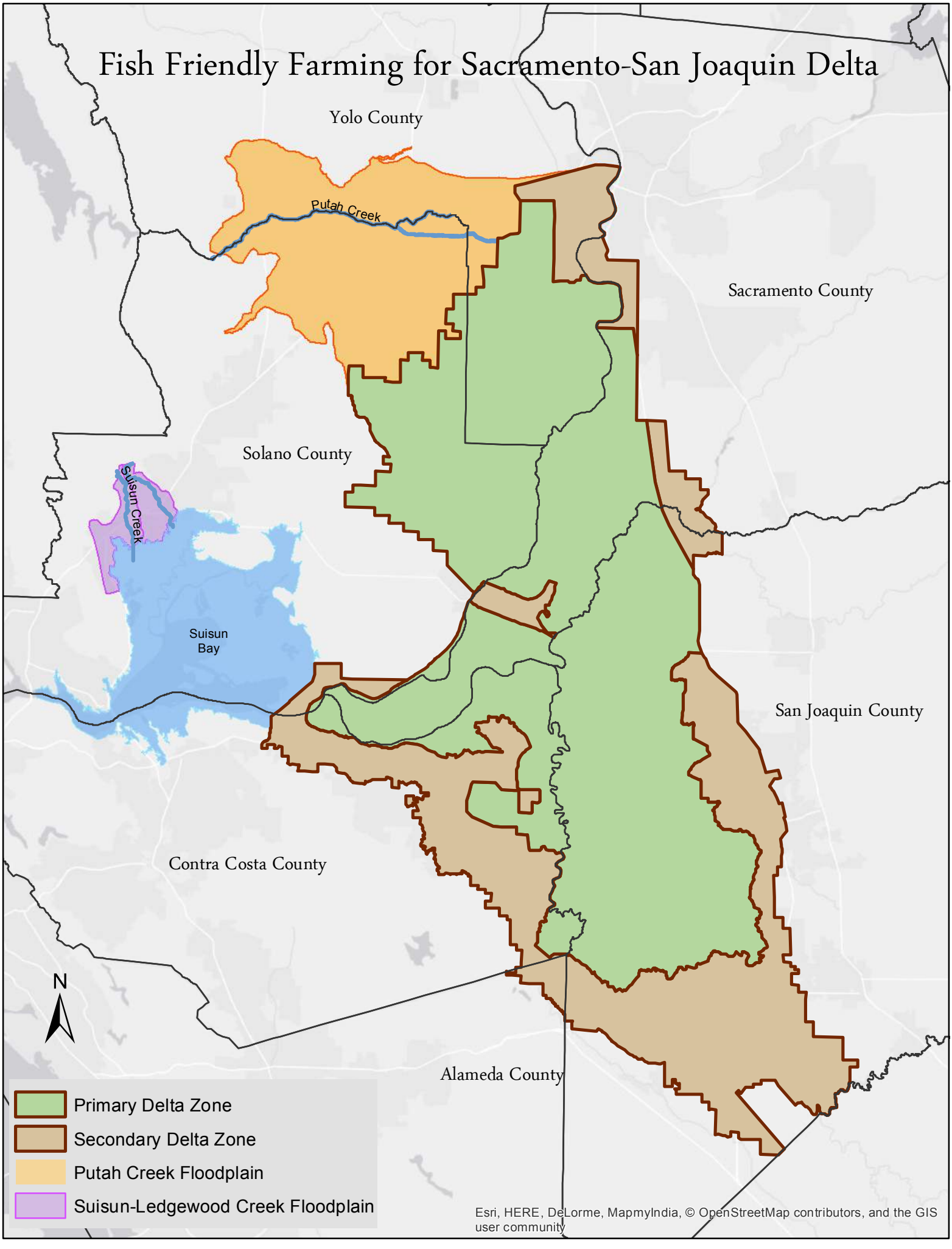
Monitoring and Assessment:

The FFF program is being designed so that, at full scale implementation, the program will result in an improvement of long-term water quality trends as measured by regional monitoring programs over time. For this planning project, the project proponent intends to

monitor participation in the Advisory Committee and the rate of initial sign ups to assess the success of the planning effort.

Climate Change Considerations:

The FFF program will address adaptation of agricultural production to a changing climate. Climate change predictions for California include longer, more extreme droughts, during which water for irrigation may be limited. During these future drought periods, growers will need to precisely apply water for crops by using soil moisture meter systems, low flow sprinklers, and drip irrigation and other technologies. The FFF program will include a series of measures to reduce overall irrigation water use and use more precise water application methods.


Fish Friendly Farming for Sacramento-San Joaquin Delta
Yolo County
Putah Creek
Sacramento County
Solano County
Suisun Creek
Suisun Bay
San Joaquin County
Contra Costa County
N
Alameda County
Primary Delta Zone
Secondary Delta Zone
Putah Creek Floodplain
Suisun-Ledgewood Creek Floodplain
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

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Proposition 1 Grant Program

2015-16 Staff Recommendation

I. Project Overview

Project Title	Sherman Island Wetland Restoration Project Phase III		
Applicant	Ducks Unlimited		
Project Number	Prop 1-Y1-2015-008	**Category**	1
County	Sacramento	**Funding Request**	$100,000
Score	85.1	**Total Project Cost**	$200,000
Staff Recommendation: Approval of funds conditional upon submittal of a copy of the applicant's bylaws.		**Funding Recommended**	$100,000

II. Staff Recommendations

Delta Conservancy staff recommends that the Board conditionally approve funding for the Sherman Island Wetland Restoration Project Phase III project (#Prop 1-Y1-2015-008) proposed by Ducks Unlimited. This approval will be conditional upon the applicant providing a copy of their bylaws to staff prior to execution of the grant agreement. Staff anticipates receiving the bylaws by July 2016. The project to which this category 1 planning project relates to is eligible for category 2 funding, should it make it to the category 2 stage. The awarding of a category 1 grant for a project does not guarantee that a category 2 grant will be awarded for the same project.

This category 1 proposal focuses on planning and pre-project work for a restoration project that would restore up to 1,600 acres of palustrine emergent wetlands, reverse subsidence while sequestering carbon, and improve the habitat value of land on Sherman Island. The outputs of the planning grant will be a wetland delineation report and map, as well as a 60 percent engineering design for the restoration project. These baseline documents are critical for preparing the project for environmental review, permitting the project, and moving forward to break ground on restoration. Planning will begin upon execution of a grant agreement. The project is consistent with ongoing carbon sequestration efforts on Sherman Island and nearby on Twitchell Island.

This project contributes to multiple state priorities to restore habitat, increase resilience to and mitigate for climate change, and reduce subsidence. This project is consistent with the

goal of reducing carbon emissions stated in California Executive Order S-3-05. Carbon sequestration projects through wetland restoration are also recommended in the 2009 California Climate Adaptation Plan as an opportunity to provide significant reduction of emissions and sequester greenhouse gases while simultaneously providing habitat necessary for the long-term conservation of California's biodiversity. In the Delta this would serve to reverse subsidence and create equilibrium between land and estuary elevations along select Delta fringes and islands. Best available science substantiates that restoration of wetlands reduces atmospheric carbon dioxide through carbon sequestration while providing additional ecosystem benefits. Project team members have an existing robust monitoring program in place. It is the expectation that as the proposed project is developed, further monitoring and assessment components will be developed. Conservancy staff recommends that the grant agreement include provisions for the development of an adaptive management plan, which will be needed before the project is constructed.

This project contributes significantly to acting on climate change in California. In the Delta, carbon sequestration projects through wetland restoration are recognized as key opportunities to provide significant reduction of emissions, and to capture and sequester greenhouse gases while simultaneously reversing subsidence and providing habitats necessary for the long-term conservation of California's biodiversity. In addition, this project, in the context of other immediately adjacent project sites, is part of a mosaic of carbon sequestration wetlands on Sherman Island. The project partners have a track record of success in completing extremely similar projects on Sherman Island and have program infrastructure in place for the monitoring, assessment, and management of these wetlands.

Staff has prepared the text and tables below based on staff's best understanding of the information provided in the application. The Conservancy has received comments on the proposal from the Delta Stewardship Council and the Delta Protection Commission. If approved, staff will work with the applicant to further refine the project's scope of work and performance measures, and to address comments prior to entering into a grant agreement.

III. Project Summary

Project Description:

This project will conduct planning and pre-project work necessary to restore up to 1,600 acres of palustrine emergent wetlands on Sherman Island that would reverse subsidence while sequestering carbon. The applicant will work closely with the Department of Water Resources (DWR), the landowner. The documents produced by this project – a wetland delineation report and map, as well as a 60 percent engineering design – are critical for permitting the project and taking a baseline measurement to establish wetland acres created moving forward. The restoration design focuses on palustrine emergent wetlands, complemented with upland riparian forest, scrub shrub, and grassland to add diversity of structure and habitat to the site. Upland vegetation planting will be planned for higher elevation area adjacent to the wetland. The restoration design includes upgrading existing water management infrastructure and installing new infrastructure such as water control

structures and water conveyance channels and swales. This project advances the combined benefits of wetland restoration for wildlife with the importance of reversing Delta island subsidence and acting to arrest climate change.

Location (Site Description):

The project is located on Sherman Island within Reclamation District 341. Sherman Island is located southwest of the city of Rio Vista and northeast of the city of Antioch, and lies within the jurisdiction of Sacramento County. Sherman Island is significantly subsided, with land elevations between 10 and 25 feet below sea level. The restoration site is located on a portion of Sherman Island owned by DWR, an active partner in this project. The property is currently managed for flood irrigated pasture. The proposed project site is immediately adjacent to 907 acres of restored wetlands on Sherman Island, which Ducks Unlimited has worked with DWR to restore. The proposed project is also immediately adjacent to another 1,500 acres being planned for the Whale's Belly restoration project. Together this suite of projects restores the southern portion of Sherman Island immediately northeast of the Lower Sherman Island Wildlife Area.

IV. Implementation of California Water Action Plan and Consistency with Prop 1 and Conservancy Enabling Legislation

State Priority/Plan	Action	Project Benefits
Proposition 1	Ch. 6 79732(a)(1) Protect and increase the economic benefits arising from healthy watersheds, fishery resources, and instream flow.	Close coordination for this project is ongoing with efforts to develop a GHG protocol for California wetlands, which will provide economic benefits from sequestering carbon by resorting wetlands in the Delta.
	Ch. 6 79732(a)(2) Implement watershed adaptation projects in order to reduce the impacts of climate change on California's communities and ecosystems.	Reverses subsidence and acts to ameliorate climate change (and therefore climate change impacts) while simultaneously providing habitat necessary for the long-term conservation of California's biodiversity threatened by climate change impacts.
	Ch. 6 79732(a)(4) Protect and restore aquatic, wetland, and migratory bird ecosystems, including fish and wildlife corridors and the acquisition of water rights for instream flow.	Restores up to 1,600 acres of palustrine emergent wetlands. The project will be designed to combine the wildlife benefits of wetland restoration with the importance of reversing Delta island subsidence.

State Priority/Plan	Action	Project Benefits
Proposition 1	Ch. 6 79732(a)(9) Protect and restore rural and urban watershed health to improve watershed storage capacity, forest health, protection of life and property, stormwater resource management, and greenhouse gas reduction.	This greenhouse gas and wetland restoration project contributes to protecting and restoring the Delta watershed.
California Water Action Plan	Action 3. Achieve the co-equal goals for the Delta.	Restores/enhances approximately 1,600 acres of wetland habitat.
	Action 4. Protect and restore important ecosystems.	Restores/enhances approximately 1,600 acres of wetland habitat. This wetland will include tule marsh, once prevalent throughout the historical Delta but now extremely rare.
Conservancy's Enabling Legislation	§32320(b)(1) Protect and enhance habitat and habitat restoration.	Restores, 1,600 acres of wetland habitat and enhances the existing wetland restoration/carbon sequestration projects immediately adjacent to project site.
	§32320(b)(9) Protect, conserve, and restore the region's physical, agricultural, cultural, historical, and living resources.	Restores wetland habitat and soil that have been lost due to oxidation.
Delta Conservancy Strategic Plan	Objective 1.4: Aid in protecting and improving water quality to protect the Delta ecosystem and economy. Strategy 1.4.2: Collaborate on development of eco-friendly levee designs and subsidence reversal for incorporation into Conservancy projects or projects of the Delta Restoration Network. Strategy 1.4.4: Work with Delta growers and landowners and the Independent Technical Advisory Board to identify areas for implementation of subsidence mitigation, potentially including rice and carbon sequestration wetlands, and promote best management practices resulting from current research on subsidence reversal.	Reverses subsistence on Sherman Island. Mitigates for subsidence while sequestering carbon and restoring wetlands on land owned by DWR. This proposal describes using best-available science and management practices as well as leveraging lessons learned from existing carbon sequestration wetland projects on Sherman Island.

State Priority/Plan	Action	Project Benefits
Delta Conservancy Strategic Plan	Objective 3.2: Lead Delta ecosystem restoration activities consistent with Conservancy authorities, the Delta Plan and other regional plans and guidance, through a voluntary Delta Restoration Network, and based on adaptive management. Strategy 3.2.3: Protect and enhance wetland and upland habitats on subsided lands, as consistent with agricultural operations.	Restores wetland habitat. State-owned lands are the best place to restore wetlands for consistency with agricultural operations in the Delta.
Delta Plan	DP R7. Subsidence Reversal and Reduction.	Supports significantly expanding the acreage on Sherman Island devoted to subsidence reversal.
	ER P2. Restore Habitats at Appropriate Elevations.	Subsidence reversal/carbon sequestration on deeply subsided islands is consistent with the Conservation Strategy for Restoration of the Sacramento-San Joaquin Delta Ecological Management Zone and the Sacramento and San Joaquin Valley Regions.

V. Outcomes/Outputs

Project Goals	Desired Project Outcomes	Output Indicators
Goal 1. Develop critical baseline documents to support permitting efforts.	60 % Engineering Design. Wetland Delineation and Report.	Conceptual Engineering Design. 30% Engineering Design. 60% Engineering Design. Preliminary Wetland Delineation Report.

VI. Budget

Total cost for this proposal is $200,000. The Delta Conservancy is being asked to approve $100,000 in Prop 1 funds. The remainder will come from DWR, which is contributing a cost share of $100,000 (in-kind).

VII. Consistency with Grant Program Guidelines

Readiness (Including CEQA Status if Applicable):

Once the grant agreement is executed, Ducks Unlimited will be ready to proceed with planning. As soon as funds are awarded, DWR will conduct a topographic survey of the project area to support the engineering design, as funded by a portion of DWR's in kind services contribution. Ducks Unlimited will utilize the topographic survey to develop the conceptual, 30 percent, and 60 percent engineering designs collaboratively with DWR. Additionally, Ducks Unlimited staff will conduct a wetland delineation of the project area to facilitate submission of the US Army Corps of Engineers 404 permit and other environmental documents. The wetland delineation determines the location of existing wetlands and upland areas and functions as a baseline for new acres of wetland restored to be identified. With the 60 percent engineering design and wetland delineation completed, the project proponent will be able to apply for the permits necessary to implement the construction and restoration.

The project has well established practices and methodologies that have been successfully utilized throughout the restoration community and, specifically, for three extremely similar projects recently completed by the partners. Ducks Unlimited and the project partners have the expertise and capacity to develop all needed environmental documents and engineering plans as exhibited by the previous three projects. The CEQA environmental document for the restoration project will be prepared with RD 341 as the lead agency and DWR as the responsible agency. The project is within the Central Valley Flood Protection Board's jurisdiction pursuant to Title 23, California Code of Regulations Section 112 and may require encroachment permits prior to project construction. Award of the planning grant is not a "project" for purposes of CEQA.

Local Support:

The restoration project for which the proposed project is planning is well-supported locally. It was included as one of the 65 projects identified by the Coalition to Support Delta Projects, an ad hoc group representing a broad cross section of Delta stakeholder interests. The applicant has consulted with the Delta Protection Commission regarding this project. A letter of support was submitted by DWR, the landowner, as a part of this application. The applicant indicated that a resolution from local government supporting this project was secured, but it was not provided as a part of the application. As described in previous sections, the project proponents are part of an effective partnership working to advance the project, and the project is consistent with local land use.

Scientific Merit:

DWR and collaborating partners have been studying carbon sequestration on Sherman and Twitchell Island since the 1990s. The best available science substantiates that restoration of freshwater wetlands reduce atmospheric carbon dioxide through carbon sequestration in the long-term. Additionally, best available science substantiates that wetland restoration can also provide many other ecosystem services including land surface accretion, and relieving hydrostatic pressure on flood control infrastructure thus improving flood protection, and improving water quality. Recent studies have called for the need to quantify

the short-term carbon balance and have highlighted the need for long-term continuous monitoring of these restoration/carbon sequestration projects.

While there is a paucity of literature on the habitat benefit of carbon capture wetlands, it follows that balancing the wetland design for carbon sequestration and habitat benefit will provide substantive habitat benefits. Ducks Unlimited has extensive background designing wetland for habitat. The wetland design includes a mosaic of open water channels and emergent vegetation comprised predominantly of species such as California bulrush and narrow leaved cattails. Other native plant restoration components will include installation of native trees and shrubs as well as a substantial amount of upland transitional area, all of which will provide increased diversity and habitat opportunity for wildlife.

Long Term Management & Adaptive Management Plan:

Long term management, operation, and maintenance of the restoration project will be conducted by DWR. Previous projects that are very similar to this have developed Habitat and Water Management Plans. They will be the foundation of the future Habitat and Water Management and Adaptive Management Plan for the proposed project. Currently, the Twitchell Island East End project's Management Plan is being updated to include a more robust adaptive management plan. This project will utilize that ongoing effort in the future development of a management plan. Conservancy staff recommends that the applicant develop an adaptive management plan as part of its project development.

Monitoring and Assessment:

The restoration project builds upon a Delta-wide monitoring program for carbon dioxide, methane and nitrous oxide, which utilizes data already collected by DWR and UC Berkeley. These data sets will be used to further develop and calibrate models allowing for greenhouse gas predictions of both baseline and treatment impacts Delta-wide. This project is also being closely coordinated with other Delta efforts to develop a protocol for both the voluntary and regulatory compliance markets. Short- and long-term monitoring to quantify greenhouse gas emission and uptake by wetlands is stressed as critical in recent studies, and is expected to be a rigorous part of the implementation of a category 2 project related to this category 1 project.

DWR biologists will monitor and assess native plant species annually within these restoration areas, and bi-annual bird surveys will be conducted and compared to pre-project conditions. DWR engineers will monitor subsidence reversal rates by utilizing survey techniques. Project team members have an existing robust monitoring program in place. It is highly likely that as the proposed project is developed, further monitoring and assessment will be developed.

Climate Change Considerations:

In the Delta, the specter of sea level rise and its impact upon terrestrial habitats is particularly taxing due to the continuing subsidence of Delta islands. Through the subsidence reversal projects, rising land elevations will provide marsh habitats that will be at less risk in the case of levee failure. Not only do these projects increase land elevations and the subsequent decrease of future flood risk, they also provide sustainable freshwater tule marsh, once prevalent throughout the historical Delta but now extremely rare. The

freshwater marsh created will have increasing elevations and provide viable habitat in the present and refugia well into the future.

The 2009 California Climate Adaptation Plan summarizes the best known science on climate change impacts to California and outlines strategies to increase California's resiliency from the impacts from climate change. Carbon sequestration projects through wetland restoration is recommended in this plan as an opportunity to provide significant reduction of emissions, capture and sequestration of greenhouse gases while simultaneously providing habitats necessary for the long-term conservation of California's biodiversity. This plan also recommends prioritizing and expanding Delta island subsidence reversal and land accretion projects to create equilibrium between land and estuary elevations along select Delta fringes and islands, and identifies further degradation of water quality and the Delta ecosystem as significant impacts of climate change.

Project Location Map

Project Name: Sherman Island Wetland Restoration Project Phase III
Applicant Name: Ducks Unlimited, Inc.

Project Area

0 0.75 1.5 3 4.5 6 Miles