NORTH AMERICAN WETLANDS CONSERVATION ACT PROPOSAL

PROJECT OFFICER'S PAGE

What is the proposal title? California Central Valley Coastal Wetlands Project

What is the date you are submitting the proposal? July 10, 2020

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What are the geographical landmarks for the proposal?

1. State(s): California
2. County(ies): San Joaquin, Solano, Yolo
3. Congressional District(s): 3, 9
4. JV(s): Central Valley
5. BCR(s): 32

Project Officer Information:

1. Name: Robert Eddings
2. Title: Regional Manager
3. Organization: California Waterfowl Association
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9. DUNS Number: 1970514770000

Please answer the following questions:

Is an Optional Matching Contributions Plan (MCP) submitted with the proposal? *No*
Does the proposal contain match associated with a previously submitted MCP? *No*

Are you requesting that this proposal be considered as a continuation of a previous grant agreement (a Programmatic Project Proposal)? *No*
If yes, provide the title and grant agreement number of the previous grant agreement.
Do you expect this project to be the first phase of a Programmatic Project? *No*

How many more proposals are planned for the same proposal area?

Will any of the NAWCA funds requested as part of this proposal be received or spent by the U.S. Fish and Wildlife Service or another Federal agency? *No*

Does this proposal include acquisition activities that will add to the National Wildlife Refuge System (NWRS)? *No*

Are carbon sequestration credits involved in your proposal? *No*

Will any portion of any tract or activities associated with any tract be used to satisfy wetland or habitat mitigation requirements under Clean Water Act, Rivers and Harbors Act, Fish and Wildlife Coordination Act, Water Resources Development Act, ecological service credits or other related statutes now or in the future? *No*

Have you confirmed that all partners, key personnel, and contractors are eligible to participate in Federal grants? *Yes*

To ensure that the proposal complies with available guidelines and that partners are aware of their responsibilities, the Project Officer certifies to the following statement: I have read the 2020 U.S. Standard Grant proposal instructions, eligibility information, and applicable U.S. grant administration policies and informed partners or partners have read the material themselves. To the best of my knowledge, this proposal is eligible and complies with all NAWCA, North American Wetlands Conservation Council, and Federal grant guidelines and the information submitted herein is true and correct. The work in this proposal consists of allowable and eligible work and costs associated with long-term wetlands and migratory bird habitat conservation.

Audit reports. The latest report was completed for the fiscal year ending on March 31, 2019 and is attached to this proposal.

Required Overlap/Duplication Statement: There is no overlap of the proposed activities in this application with any other proposals or requests to other granting agencies.

Do you have any comments about, or suggestions for, the NAWCA program? Thank you for the opportunity to continue benefiting habitat and wildlife within the State of California.

NORTH AMERICAN WETLANDS CONSERVATION ACT PROPOSAL SUMMARY
California Central Valley Coastal Wetlands Project, California

COUNTY(IES), STATE(S), CONGRESSIONAL DISTRICT(S):
San Joaquin, Solano and Yolo Counties, California
Congressional Districts 3 & 9

GRANT AMOUNT		**$1,000,000**
Allocation: California Waterfowl Association	$1,000,000	
MATCHING PARTNERS		**$1,506,459**
California Waterfowl Association (CWA):	$447,170	
Wildlife Conservation Board (WCB):	$510,000	
H Pond	$164,139	
Glide-In	$114,649	
Conservation Farms & Ranches (CFR)	$100,000	
CA Department of Fish and Wildlife (CDFW)	$87,501	
Empire Tract	$75,000	
Tree Slough Farms (TSF)	$8,000	

GRANT AND MATCH - ACTIVITIES, COSTS AND ACRES		**$2,506,459 / 1,036(2,894) acres**
Restored	$686,146 / 71 acres	
Enhanced	$1,570,673 / 965(2,894) acres	
Other	$21,807	
Indirect Costs	$170,548	

NON-MATCHING PARTNERS		**$78,000**
California Waterfowl Association (CWA):	$0	
Natural Resource Conservation Service (NRCS)	$53,000	
USFWS Partners Program	$25,000	

PROPOSAL PURPOSE AND DESCRIPTION: California's Central Valley has one of the greatest concentrations of migratory birds in all of the world. But the wetland and riparian habitats that were once plentiful throughout California are now fragmented and scarce. It is estimated that California has lost over 90% of its wetlands and 98% of its riparian forests. The Central Valley Joint Venture has identified the Central Valley as one of the most important habitat grounds for birds in all of North America. Every year millions of migratory waterfowl, shorebirds and songbirds travel down the Pacific Flyway from their northern breeding grounds in Alaska and Canada to the Central Valley where they stay during the winter months. In addition to these aerial migrators, the coastal waters of the Central Valley also support annual migrations of millions of anadromous fish and resident native fish. Many of these species are seriously threatened and depend on these waters at some point during their life cycle.

This proposal will focus on the coastal region of the Central Valley in the Yolo-Delta and Suisun basins (Project Area). These basins contain a wide variety of habitat including dense riparian forests, perennial streams and rivers, seasonal wetland floodplains, tule-lined tidal sloughs (both freshwater and brackish) and brackish wetlands; all blended into a landscape of heavy agricultural production and urban development. These habitats support an equally diverse suite of migratory and resident birds including waterfowl (over 25 species), shorebirds, waterbirds, raptors, owls, riparian songbirds, neotropical migrants and passerines.

The tracts included in this proposal are representative of the habitat diversity of the region and are designed to address the regional priorities established in the recently completed 2020 Central Valley Joint Venture Implementation Plan (Plan). The Plan identifies habitat needs in order to support target waterfowl

populations for each basin of the Central Valley including; securing adequate water supply, wetland restoration, wetland enhancement, increasing semi-permanent wetlands and winter-flooded agricultural fields.

There has been increasing government oversight, regulation and monitoring of surface water and even subsurface water supplies in California over the past several years. Increasing urban needs, continuing agricultural needs and increasing environmental needs are stretching the hypervariable water supply increasingly thin. Although the Project Area includes some of the lowest elevation areas of the Central Valley, water supplies are limited by regulation, surrounding land uses and variation in annual precipitation and runoff. The project priority for the nine northern-most tracts (2, 7, 10, 11, 13-17) is water supply. Two of the tracts include pumps and/or wells to stabilize or increase water supply and seven of the tracts include infrastructure modifications to maximize the efficiency of the existing water supplies.

According to the CVJV Plan, most waterfowl food resources in the Yolo-Delta basin are provided by agricultural fields. This is understandable considering the volume of corn that is produced in the region. However, the highly organic peat soils in certain portions of the Project Area the that make it such a prolific agricultural area are threatening the sustainability of the resource. Cultivation practices necessary to farm corn are causing the highly organic soils to oxidize and subside, which has resulted in most Delta islands subsiding many feet below sea level. This increases energy consumption and pumping costs necessary to keep the islands dry and increases stress on the surrounding levees that protect not only the islands themselves but the entire Delta system which is critical to the California's water supply. Finding alternative crops or cropping methods is imperative to maintaining the viability of agricultural resources to waterfowl. Tract 8 on Staten Island will convert 650 acres of intensively cultivated corn fields to rice production which will stop, and possibly even reverse, soil subsidence while simultaneously increasing the wildlife value. Both corn and rice provide habitat for wintering waterfowl, but rice also provides summer-flooded habitat for breeding waterfowl.

Suisun Marsh, located in the Suisun Basin, is a brackish tidal estuary made up of primarily managed wetlands. The variably brackish waters and daily tidal flows create challenging conditions for wetland managers in regard to water delivery, circulation and drainage. These variables require not only the ability to convey and control water levels, but to do so quickly. Higher water exchange rates between managed wetlands and tidal sloughs allows habitat managers to take advantage of local rain and runoff events and scheduled pulse flows, which can have significant impact on local water salinities. The ability to flood or "flush" managed wetlands with occasional and relatively unpredictable fresher flows can have profound impact on the production of moist soil food plants fed on by wintering waterfowl. Higher exchange rates also result in increased aquatic food resources for native fish being exported into the adjacent water bodies while simultaneously preventing water with low dissolved oxygen levels from being discharged into tidal sloughs, which can be detrimental to those same native fish, several of which are threatened or endangered. In order to effectively manage seasonal wetlands under these conditions, all aspects of the water conveyance systems (pipes, levees, ditches, swales, etc.) must be designed and constructed properly. All proposed actions on tracts in the Suisun Marsh were developed through field data collection and analysis specifically designed to identify inadequacies in water conveyance and exchange rates that could be addressed by modifying the existing or installing new infrastructure.

Most riparian habitat in the project area is limited to thinly tree-lined channels and sloughs where agricultural production and development were not feasible. The riparian restoration proposed on Staten Island is a rare opportunity to restore riparian forests along the banks of a natural slough channel in an area that agriculture has given up on. Riparian restorations are generally very small and very costly due to the logistics and steps involved. The proposed project is unique in that a highly functional native riparian forest can be restored relatively inexpensively due to the cooperation of the landowner, The Nature Conservancy (TNC). In addition to providing nesting and roosting habitat for many species of birds, the new trees will help combat climate change by sequestering several hundred tons of carbon.

California Waterfowl Association (CWA) has worked with all the project partners to address the highest priority needs in the region within the scope that is feasible within a Standard NAWCA application. We believe the proposed projects represent the best available habitat restoration and

enhancement projects in the region that will provide significant and meaningful expansion and enhancement to wetland habitats.

HABITAT TYPES AND WILDLIFE BENEFITTING: This proposal will result in the restoration of 23 acres of palustrine forested wetlands, 48 acres of palustrine emergent wetlands, the enhancement of 315(2,894) acres of palustrine emergent wetlands, (9) acres of uplands and 650 acres of flooded croplands. The proposed activities will benefit **5 High Priority** waterfowl species, **7 Other Priority** waterfowl species, **8 BCR 32 Priority** bird species and **8 Federally listed** species.

PUBLIC BENEFITS/PUBLIC ACCESS: Seven of the proposed tracts are owned by public agencies and are open to public access. Six of the proposed tracts (3, 5, 6,10-12) are part of state-owned wildlife areas that are open to public waterfowl and upland bird hunting. One of those tracts (tract 5) is also open to other public access throughout the year including elk hunting, hiking, wildlife viewing and fishing. Tract 2 is within the city limits of Woodland and will be open to public access for day-use hiking and wildlife viewing once the project is completed. Tracts 1 and 8 are owned by The Nature Conservancy (TNC) and, although they are not openly accessible to the public, TNC hosts several regular wildlife viewing tours that are open to the public. TNC also began a partnership with CWA in 2017 to provide limited public waterfowl hunting on portions of property, including some of the recently converted winter-flooded rice fields. The remainder of the tracts (4, 7, 9, 13- 18) are privately owned and are not open to public access.

NEW PARTNERS: This proposal includes two new partnerships for CWA. Tract 2 (match only) is owned by the City of Woodland, which is a new partner to NAWCA and with CWA. Tracts 1 & 8 and owned by The Nature Conservancy (TNC), who we can only assumed has partnered with NAWCA at some point, is a new partner with CWA in regard to habitat restoration and enhancement. Conservation Farms and Ranches, who operates Staten Island, is also a new partner to NAWCA and to CWA.

RELATIONSHIP TO PREVIOUSLY FUNDED NAWCA PROPOSALS: CWA has implemented 10 Standard NAWCA grants and several Small NAWCA grants in the region, which is reflected in the proportion of non-additive acres in this proposal. NAWCA has been a key funding source for restoration and enhancement activities in the region and has contributed to significant habitat expansion and increases in wildlife diversity and quantity. This proposal will further those efforts by building on existing partnerships, forging new ones and implementing actions identified by current science to improve the quality and sustainability of the wetland and wildlife resources, and prior investments, within the region.

THREATS AND SPECIAL CIRCUMSTANCES: Millions of dollars and thousands of man-hours have been spent by state, federal and local agencies as well as local interest groups to discuss and develop plans to improve the stability, water quality and wildlife habitat values of the Project Area. To date, there have been very few changes made because projects with willing landowners that are economically and logistically feasible are very difficult to identify. CWA received a grant from a private foundation in 2017 to specifically develop and implement wetland habitat projects in the in the Project Area. Some of these funds are included in this proposal as match. The number of non-additive acres in the proposal is a testament to the difficulty in identifying new project partners. We believe that the projects included in this proposal will provide significantly increased habitat resources for waterfowl and other wetland dependent wildlife in the region and are representative of the types of projects available that are possible within reach of normal NAWCA funding levels.

If this proposal is not funded, approximately $400,000 in old-match will be lost. In addition to new project partners, non-federal match has been a challenge to secure. This will likely prove even harder in the near future due to the financial impacts of COVID-19 in both the public and private sector.

PROPOSAL FINANCIAL TABLE

DIRECT and INDIRECT COST ACTIVITIES	GRANT $	MATCHING and NONMATCHING PARTNERS				TOTAL$	TRACT ID
		PARTNER NAME	OLD MATCH	NEW MATCH	NON-MATCH		
RESTORATION							
Contracts	$33,635.00						1
Contracts	$0.00	WCB	$94,744	$325,256		$420,000	2
Contracts	$0.00	CWA		$30,000		$30,000	2
Contracts	$0.00	CWA	$40,320			$40,320	15
Contracts	$0.00	H Pond	$40,320			$40,320	15
Contracts	$0.00	CWA	$39,306			$39,306	17
Materials & Equipment	$2,200.00	USFWS			$15,000	$17,200	1
Non-Contract Personnel & Travel	$14,000.00	USFWS			$10,000	$24,000	1
Non-Contract Personnel & Travel	$0.00	WCB		$90,000		$90,000	2
Non-Contract Personnel & Travel	$0.00	CWA		$10,000		$10,000	2
TOTAL RESTORED	**$49,835.00**		**$214,690**	**$455,256**	**$25,000**	**$711,146**	
ENHANCEMENT							
Contracts	$0.00	CDFW	$55,134			$55,134	12
Contracts	$57,000.00					$57,000	3
Contracts	$75,000.00	Empire Tract		$29,350		$104,350	4
Contracts	$0.00	NRCS			$29,350	$29,350	4
Contracts	$46,000.00					$46,000	5
Contracts	$32,000.00					$32,000	6
Contracts	$19,875.00	H Pond		$19,875		$39,750	7
Contracts	$100,000.00	CFR		$100,000		$200,000	8
Contracts	$39,800.00	TSF		$8,000		$47,800	9
Contracts	$103,125.00					$103,125	10
Contracts	$63,920.00					$63,920	11
Contracts	$0.00	CWA		$65,000		$65,000	13
Contracts	$0.00	Glide-In		$65,000		$65,000	13
Contracts	$0.00	Glide-In	$43,905			$43,905	14
Contracts	$0.00	CWA	$43,905			$43,905	14
Contracts	$0.00	H Pond	$89,180			$89,180	15
Contracts	$0.00	CWA	$89,180			$89,180	15
Contracts	$0.00	CWA	$36,708			$36,708	16
Contracts	$0.00	CWA	$10,694			$10,694	17
Materials & Equipment	$51,500.00					$51,500	3
Materials & Equipment	$0.00	Empire Tract		$45,650		$45,650	4
Materials & Equipment	$0.00	NRCS			$23,650	$0	4

Materials & Equipment	$21,350.00					$21,350	5
Materials & Equipment	$24,000.00					$24,000	6
Materials & Equipment	$3,370.00	H Pond		$3,371		$6,741	7
Materials & Equipment	$25,400.00					$25,400	9
Materials & Equipment	$33,492.00					$33,492	10
Materials & Equipment	$23,100.00					$23,100	11
Materials & Equipment	$0.00	CDFW	$18,107			$18,107	12
Materials & Equipment	$0.00	Glide-In	$5,744			$5,744	14
Materials & Equipment	$0.00	CWA	$5,744			$5,744	14
Materials & Equipment	$0.00	H Pond	$11,393			$11,393	15
Materials & Equipment	$0.00	CWA	$6,294			$6,294	15
Non-Contract Personnel & Travel	$10,000.00					$10,000	3
Non-Contract Personnel & Travel	$5,000.00					$5,000	4
Non-Contract Personnel & Travel	$7,000.00					$7,000	5
Non-Contract Personnel & Travel	$7,000.00					$7,000	6
Non-Contract Personnel & Travel	$10,000.00					$10,000	7
Non-Contract Personnel & Travel	$7,800.00					$7,800	8
Non-Contract Personnel & Travel	$15,000.00					$15,000	9
Non-Contract Personnel & Travel	$11,000.00					$11,000	10
Non-Contract Personnel & Travel	$11,000.00					$11,000	11
Non-Contract Personnel & Travel	$0.00	CDFW	$9,310			$9,310	12
Non-Contract Personnel & Travel	$0.00	CWA		$5,000		$5,000	13
Non-Contract Personnel & Travel	$0.00	CWA	$10,289			$10,289	14
Non-Contract Personnel & Travel	$0.00	CWA	$8,826			$8,826	15
Non-Contract Personnel & Travel	$0.00	CWA	$2,347			$2,347	16
Non-Contract Personnel & Travel	$0.00	CWA	$3,585			$3,585	17
TOTAL ENHANCEMENT	**$802,732.00**		**$450,345**	**$341,246**	**$53,000**	**$1,623,673**	
Grant Administration	$21,807.00					$21,807	
OTHER DIRECT COSTS	**$21,807.00**		**$0**	**$0**	**$0**	**$21,807**	
TOTAL DIRECT COSTS	**$874,374.00**		**$665,035**	**$796,502**	**$78,000**	**$2,356,626**	
TOTAL INDIRECT COSTS	**$125,626.00**		**$39,378**			**$170,548**	
GRAND TOTAL ALL COSTS	**$1,000,000.00**		**$704,413**	**$796,502**	**$78,000**	**$2,527,174**	

FUND SOURCES		**PARTNER NAME**	**OLD MATCH**	**NEW MATCH**	**NON-MATCH**	**TOTAL $**	**TRACT ID**
Grant	$1,000,000.00	-	-	-	-	$1,000,000	1, 3-11
Wildlife Conservation Board (WCB)		WCB	$94,744	$415,256	$0	$510,000	2
California Waterfowl Association (CWA)		CWA	$331,626	$115,544	$0	$447,170	2, 13-17

H Pond		H Pond	$140,893	$23,246	$0	$164,139	7, 15
Conservation Farms & Ranches		CFR	$0	$100,000	$0	$100,000	8
Glide-In		Glide-In	$49,649	$65,000	$0	$114,649	13, 14
CA Department of Fish and Wildlife (CDFW)		CDFW	$87,501	$0	$0	$87,501	12
Empire Tract		Empire Tract	$0	$75,000	$0	$75,000	4
Natural Resource Conservation District (NRCS)		NRCS	$0	$0	$53,000	$53,000	4
USFWS Partners Program		USFWS	$0	$0	$25,000	$25,000	1
Tree Slough Farms (TSF)		TSF	$0	$8,000	$0	$8,000	9
GRANT TOTAL	**$1,000,000.00**		**$704,413**	**$802,046**	**$78,000**	**$2,584,459**	

WORK PLAN

TRACT 1 – Staten Island Riparian
OVERAL ACRES AFFECTED: 22
CENTRAL LATTITUDE/LONGITUDE: 38.16334, -121.48739
STATE/FED AGENCIES HOLDING INTERESTS: The Nature Conservancy

Acreage summary of Grant/Match Activities on the Tract:
Acquisition: **Restoration: 22** Enhancement: Establishment:

Describe all grant/match activities occurring on the tract here:

Staten Island (SI) is a 9,200-acre island in the northern portion of the Sacramento-San Joaquin Delta (Delta). SI was acquired by The Nature Conservancy (TNC) in 2001 using grant funds from the California Resources Agency and the Department of Water Resources through the CALFED Bay-Delta Program. During the acquisition TNC entered into a perpetual conservation easement with DWR requiring the island to be maintained using wildlife friendly agricultural practices with the goals of preserving agricultural land, protecting wildlife, and protection from development.

Since the purchase of SI it has been managed by TNC's 501 (c)3 non-profit subsidiary, Conservation Farms and Ranches (CFR), as a commercial agricultural operation within the boundaries established in the purchase agreement and conservation easement. Typical agricultural crops include corn, cereal grains, alfalfa, potatoes and pasture.

This project will restore two small blocks of marginal land along the eastern edge of the island which are dominated by undesirable weeds. The northern block is 10 acres and the southern block is 12 acres. The restoration of the 22 acres will include a diversity of riparian species and pollinator friendly container stock. Restoration of these sites will increase biodiversity on Staten Island and improve ecosystem function within the Delta.

Both project sites will be graded to allow for proper irrigation of the tree and container species as well as small orchard ridges will be established for planting beds. The different species of container stock will be alternated with the tree species every 15 ft on 30ft rows. This will result in a total of 1,976 plants. Each plant will have a protector installed to help with the ease of establishment, herbicide applications and mowing.

CWA staff will work with SI personnel on irrigations and weed abatement for the duration of the grant to insure proper establishment of riparian species.

Tract 1– Staten Island Riparian: Restoration Budget Justification - $74,835 and <u>22</u> acres
Grant - $49,835 Match - $0 Non-Match - $25,000 Completion: 2023

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
Tree Cuttings	1,200 ea	$1.25 /ea	$1,500.00	2021-2022	Grant
Container Plants	776 ea	$7.50 /ea	$5,820.00	2021-2022	Grant & USFWS
Flagging and Plant Protectors	1,976 ea	$5.00 /ea	$9,880.00	2021-2022	Grant & USFWS
		Subtotal Contracts			$17,200

MATERIALS and EQUIPMENT					
Earthwork	5,000 cyds	$3.00 /cyd	$15,000.00	2021-2022	Grant
Site Prep	27 acres	$500.00 /cyd	$13,500.00	2021-2022	Grant
Tree and Container Stock Installation	1,975 ea	$2.60 /cyd	$5,135.00	2021-2022	Grant
Subtotal Materials and Equipment			$33,635		
NON-CONTRACT PERSONNEL and TRAVEL					
Project Management			$14,000.00	Grant Period	Grant
Project Management - In Kind			$10,000.00	Grant Period	USFWS Partners (non-match)
Subtotal Non-Contract Personnel and Travel			$24,000		
TOTAL ENHANCEMENT DIRECT COSTS					**$74,835**

Tract 1– Staten Island Riparian: Indirect Financial Plan Justification - $13,475
Grant - $13,475 Match - $0 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 18.91% June 2020	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Materials	Materials (All)	$23,635	$4,469	CWA	$4,469	$0	$4,469
Subcontracts	Earthwork	$15,000	$2,836	CWA	$2,836	$0	$2,836
Subcontracts	Site Prep	$13,500	$2,552	CWA	$2,552	$0	$2,552
Subcontracts	Tree Installation	$5,135	$971	CWA	$971	$0	$971
Salary & Wages	Non-Contract Personnel & Travel	$14,000	$2,647	CWA	$2,647	$0	$2,647
				TOTAL	$13,475	$0	$13,475

TRACT 2 – Woodland Regional Park
OVERALL ACRES AFFECTED: 17
CENTRAL LATTITUDE/LONGITUDE: 38.64266, -121.72299
STATE/FED AGENCIES HOLDING INTERESTS: City of Woodland

Acreage summary of Grant/Match Activities on the Tract:
Acquisition: **Restoration: 17** Enhancement: Establishment:

Describe all grant/match activities occurring on the tract here:

The Woodland Regional Park (WRP) is a 160-acre parcel within the city limits of Woodland, California. The WRP is a former landfill site that was closed in 1981. While the landfill was active, a large borrow pit (approx. 17 acres) was excavated to general soil for landfill operations. The borrow collects rain-water and local runoff on most years and has developed a wetland character. However, the overall habitat quality, diversity and reliability are very poor.

CWA partnered with the City of Woodland and several other local non-profit organizations to develop the abandoned borrow pit into something more than just a muddy pit. In 2018, CWA secured a grant from the California Wildlife Conservation Board (WCB) to implement a plan of action towards this goal. The plan includes recontouring the borrow pit to provide variable water depths and habitat diversity throughout the year, installing a new well to provide a dependable water supply, a lift pump to drain the wetland when necessary for habitat management needs and installation of riparian and native grass vegetation.

The earthwork portion of the project was completed in 2019. The pit was recontoured to create a deep side and a shallow side. The deep side will remain flooded year-round to provide breeding habitat for waterfowl, shorebirds and passerines. This area will mimic oxbows and isolated wetland sinks that are a natural feature for the area. The shallow side will be flooded seasonally to mimic floodplain habitat to support migratory waterfowl and shorebirds.

The well and pump portion of the project was initiated in early 2020. The new well will supply on-demand water to the pond through a grassy swale that was excavated that will allow the pond to be maintained year-round. A small lift pump will also be installed along the southern bank of the pond to allow managers to drain the pond when necessary to perform management activities.

The restoration plan will also include revegetation. Native grasses will be planted along the bank of the pond and along the grassy delivery swale. Native trees and shrubs will be installed along the north bank of the pond near existing trees and along a deeper channel that was excavated to create an area that would mimic a riparian slough.

Since the WRP is located within Woodland city limits, it provides a unique opportunity to blend wildlife habitat with public access and educational programs. The City of Woodland completed a wheelchair accessible trail along the western and northern perimeter of the pond in early 2020. The city hopes to open WRP to public day-use, school field trips and other educational tours in the fall of 2020.

In order to ensure the long-term protection of WRP, the City of Woodland and the Yolo Habitat Conservancy are in the process of establishing a conservation easement over the entire park to protect sensitive alkali sink plant communities (primarily bracted bird's-beak) and wildlife habitat (primarily Swainson's hawk). The WRP is adjacent to other lands with conservation easements, forming a larger contiguous protected landscape.

Tract 2– Woodland Regional Park: Restoration Budget Justification - $550,000 and 17 acres
Grant - $0 Match - $550,000 Non-Match - $0 Completion: 2022

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
Earthwork	28,000 cyds	$3.25 /cyds	$91,010	2019	WCB

CDFW 1600 Permit	1 ea	$3,734.00 /ea	$3,734	2018	WCB
Lift Pump	1 ea	$80,000.00 /ea	$80,000	2020	WCB
New Well	1 ea	$235,256.00 /ea	$235,256	2020	WCB
Planting	lump sum		$40,000	2021-2022	WCB
		Subtotal Contracts			$450,000
MATERIALS and EQUIPMENT					
		Subtotal Materials and Equipment			$0
NON-CONTRACT PERSONNEL and TRAVEL					
Project Management			$100,000	2018-2021	WCB
		Subtotal Non-Contract Personnel and Travel			$100,000
TOTAL ENHANCEMENT DIRECT COSTS					**$550,000**

TRACT 3 – Crescent Family
OVERAL ACRES AFFECTED: (130)
CENTRAL LATTITUDE/LONGITUDE: 38.14355, -12199319
STATE/FED AGENCIES HOLDING INTERESTS: California Department of Fish and Wildlife

Acreage summary of Grant/Match Activities on the Tract:
Acquisition: Restoration: **Enhancement: (130)** Establishment:

Describe all grant/match activities occurring on the tract here:

In 2018 the California Department of Fish and Wildlife completed a land swap with a non-profit organization in order to facilitate the development of a large education and wildlife experience facility (Pacific Flyway Center) on the western edge of Suisun Marsh. CDFW transferred ownership of two remote wildlife area units to the Pacific Flyway Center in exchange for three privately-owned duck clubs (including Crescent Family) located near the Grizzly Island Wildlife Area headquarters. The idea was that properties that CDFW received in exchange were closer to the headquarters of Grizzly Island Wildlife Area (GIWA) which would make them easier to access and manage. The transfer of these properties to the CDFW would also allow new public access opportunities (primarily waterfowl hunting) since most of the lands that CDFW traded were subject to title restrictions that precluded public access. Sustainable hunting grounds and hunter populations are essential to wetland habitat conservation and overall waterfowl success in the Central Valley. According to the CVJV Plan, a decrease in hunter populations would reduce any current and future investments in hunting clubs and could potentially erode support for waterfowl conservation altogether since there would be fewer public land endeavors and expenditures that provide managed wetland habitat and food sources for waterfowl and shorebirds.

Once CDFW assumed operation of the new properties it became apparent that the management infrastructure (levees, ditches, water control structures, pumps, etc.) were in poor condition and in need of significant improvement. In 2019, the Wildlife Conservation Board (WCB) granted money to California Waterfowl Association to evaluate the infrastructure of the properties and to develop a plan to address the deficiencies and make additional enhancements where possible. WCB has committed to provide additional funding to CWA to implement a portion of the enhancement plan but does not have adequate funding to complete the entire plan.

WCB will be providing funding to complete the recommended enhancements on the other two parcels.

This scope of this proposal will be limited to one of the three new parcels locally known as Crescent Family. Crescent Family suffers from a lack of water control. All existing water control structures have failed or are failing, preventing CDFW from implementing typical wetland management strategies. In addition, the existing ditch system is inadequate to circulate and drain water effectively. We propose to replace all existing water control structures and create a network of swales to provide adequate water conveyance and drainage.

Under private ownership Crescent Family was known as Mendoza Gun Club. Mendoza Gun Club was included in a NAWCA grant in the late 1990's that was implemented by another conservation organization as part of developing a joint-use water conveyance system locally known as King Cut. To our knowledge, no work was completed directly on Mendoza Gun Club, but it was claimed as enhanced because it was serviced by King Cut. Because it was included in the acreage enhanced in the previous NAWCA project, this project is considered non-additive for this proposal.

Tract 3– Crescent Family: Enhancement Budget Justification - $118.500 and <u>130</u> acres
Grant - $118,500 Match - $0 Non-Match - $0 Completion: 2023

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
Exterior Structure Installation	1 ea	$17,000.00 /ea	$17,000	2021-2023	CWA
Interior Structure Installation	4 ea	$3,000.00 /ea	$12,000	2021-2023	CWA
Earthwork	7 days	$4,000.00 /day	$28,000	2021-2023	CWA
		Subtotal Contracts			$57,000
MATERIALS and EQUIPMENT					
36" HDPE Pipe	50 ft	$90.00 /ft	$4,500	2021-2023	CWA
36" Combo Gate	2 ea	$9,000.00 /ea	$18,000	2021-2023	
24" HDPE Pipe	200 ft	$35.00 /ft	$7,000	2021-2023	
Flashboard Riser	4 ea	$1,000.00 /ea	$4,000	2021-2023	
24" Flap Gate	2 ea	$4,000.00 /ea	$8,000	2021-2023	CWA
24" Canal Gate	2 ea	$5,000.00 /ea	$10,000	2021-2023	
		Subtotal Materials and Equipment			$51,500
NON-CONTRACT PERSONNEL and TRAVEL					
Project Management			$10,000	2021-2023	CWA
		Subtotal Non-Contract Personnel and Travel			$10,000
TOTAL ENHANCEMENT DIRECT COSTS					**$118,500**

Tract 3– Crescent Family: Indirect Financial Plan Justification - $21,083

Grant - $21,083 Match - $0 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 18.91% June 2019	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Materials	Materials (All)	$51,500	$9,738	CWA	$9,738	$0	$9,738
Subcontracts	Earthwork	$25,000	$4,727	CWA	$4,727	$0	$4,727
Subcontracts	Water Control Structure Installation	$25,000	$4,727	CWA	$4,727	$0	$4,727
Salary & Wages	Non-Contract Personnel & Travel	$10,000	$1,891	CWA	$1,891	$0	$1,891
				TOTAL	$21,650	$0	$21,083

TRACT 4 – Empire Tract
OVERAL ACRES AFFECTED: 315
CENTRAL LATTITUDE/LONGITUDE: 38.06648, -121.48129
STATE/FED AGENCIES HOLDING INTERESTS: Private Landowner

Acreage summary of Grant/Match Activities on the Tract:
Acquisition: Restoration: **Enhancement: 315** Establishment:

Describe all grant/match activities occurring on the tract here:

Empire tract is located in the Sacramento-San Joaquin river delta. This tract was in corn production prior to the landowners enrolling in the Wetland Reserve Program (WRP) in 2005. The property was restored to wetland habitat in 2006 and 2007 using WRP funds from NRCS. CWA provided the survey, design and construction implementation on the project.

Originally this tract had a 70-acre parcel in the middle of the property that was excluded from the program, so that the landowners could continue corn production on the property for both income and hunting purposes. This meant the wetland habitat was designed around this 70-acre block in the middle of the easement. In 2018 The 70-acre block was added to the WRP easement and the landowners and NRCS restored it to wetlands in the summer on 2019.

After the restoration in 2019, the landowner worked with NRCS to develop an enhancement plan to better incorporate the water management of the new restoration with the older restoration site. NRCS has committed $53,000 (federal non-match) and the landowner has committed $75,000 (non-federal match) to the completion of the NRCS-approved enhancement plan. The purpose of the plan is to create the necessary infrastructure to better convey water between the original restoration and the new restoration. Earthwork will include new delivery ditches, swales to move water within each unit and new levees to break up large units into smaller more manageable units. In addition to the earthwork, several new flash board risers will be installed to help deliver water from unit to unit and down the new delivery system.

Tract 4– Empire Tract: Enhancement Budget Justification - $208,000 and 315 acres
Grant - $80,000 Match - $75,000 Non-Match - $53,000 Completion: 2023

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
Earthwork	47,890 cyds	$2.75 /cyd	$131,698	2021-2023	GRANT, NRCS & Empire
Equipment Mobilization	1 ea	$2,000.00 /ea	$2,002	2021-2023	Empire
Subtotal Contracts			$133,700		
MATERIALS and EQUIPMENT					
Water Control Structures	18 ea	$3,850.00 /ft	$69,300	2021-2023	Empire & NRCS
Subtotal Materials and Equipment			$69,300		
NON-CONTRACT PERSONNEL and TRAVEL					
Project Management			$5,000	2018-2021	CWA
Subtotal Non-Contract Personnel and Travel			$5,000		
TOTAL ENHANCEMENT DIRECT COSTS					**$208,000**

Tract 4– Empire Tract: Indirect Financial Plan Justification - $5,672
Grant - $5,672 Match - $0 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 18.91% June 2020	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Subcontracts	Earthwork	$25,000	$4,727	CWA	$4,727	$0	$4,727
Salary & Wages	Non-Contract Personnel & Travel	$5,000	$945	CWA	$945	$0	$945
				TOTAL	$5,672	$0	$5,672

TRACT 5 – GIWA Pond 3
OVERALL ACRES AFFECTED: (200)
CENTRAL LATTITUDE/LONGITUDE: 38.12073, -121.89551
STATE/FED AGENCIES HOLDING INTERESTS: California Department of Fish and Wildlife

Acreage summary of Grant/Match Activities on the Tract:
Acquisition: Restoration: **Enhancement: (200)** Establishment:

Describe all grant/match activities occurring on the tract here:
CWA partnered with the Suisun Resource Conservation District and the Delta Conservancy in 2018 to conduct a Suisun Marsh-wide survey and evaluation of drainage infrastructure and capacity

throughout the entire Suisun Marsh in an attempt to better direct future habitat enhancement investments. The goal of the survey was to identify managed wetlands that lacked sufficient infrastructure to allow maximum circulation and tidal drainage. The data was analyzed by an engineer using a hydraulic model to identify infrastructure deficiencies on all participating properties.

The current infrastructure of Grizzly Island Wildlife Area (GIWA) does not allow any tidal circulation or drainage. One hundred percent of all water applied to the wildlife area flows through a network of large ditches and is pumped off the island through large lift pumps. The hydraulic model indicated that Pond 3 on Grizzly Island Wildlife Area would benefit from installing new exterior water control structures to facilitate tidal circulation and drainage. This will increase circulation and increase drainage rates of Pond 3 as well as reduce operating costs. We propose to install two 24" exterior water control structures and complete the necessary earthwork to connect these structures to the existing swale network.

CWA completed a NAWCA-funded enhancement project in Pond 3 in 2018, prior to the completion of the infrastructure evaluation. The activities in this proposal will be complimentary to the previous project increasing the overall enhancement of Pond 3.

Tract 5– GIWA Pond 3: Enhancement Budget Justification - $74,350 and (200) acres
Grant - $74,350 Match - $0 Non-Match - $0 Completion: 2021

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
Pipe Fusing	1 ea	$4,000.00 /ea	$4,000	2021	GRANT
Pipe Installation	1 ea	$30,000.00 /ea	$30,000	2021	GRANT
Earthwork	3 days	$4,000.00 /day	$12,000	2021-2022	GRANT
		Subtotal Contracts			$46,000
MATERIALS and EQUIPMENT					
24" HDPE Pipe	150 ft	$35.00 /ft	$5,250	2021	GRANT
24" SS Flap Gate	2 ea	$4,000.00 /ea	$8,000	2021	GRANT
Flashboard Riser	2 ea	$1,300.00 /ft	$2,600	2021	GRANT
Rip Rap	100 tons	$55.00 /ea	$5,500	2021	GRANT
		Subtotal Materials and Equipment			$21,350
NON-CONTRACT PERSONNEL and TRAVEL					
Project Management			$7,000	2021-2022	GRANT
		Subtotal Non-Contract Personnel and Travel			$7,000
TOTAL ENHANCEMENT DIRECT COSTS					**$74,350**

Tract 5 – GIWA Pond 3: Indirect Financial Plan Justification - $13,680
Grant - $13,680 Match - $0 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 18.91% June 2019	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Materials	Materials (All)	$21,350	$4,037	CWA	$4,037	$0	$4,037
Subcontracts	Earthwork	$12,000	$2,269	CWA	$2,269	$0	$2,269
Subcontracts	Pipe Installation	$25,000	$4,727	CWA	$4,727	$0	$4,727
Subcontracts	Pipe Fusing	$4,000	$756	CWA	$756	$0	$756
Salary & Wages	Non-Contract Personnel & Travel	$7,000	$1,323	CWA	$1,323	$0	$1,323
				TOTAL	$13,112	$0	$13,112

TRACT 6 – Goodyear Slough WA
OVERALL ACRES AFFECTED: (200)
CENTRAL LATTITUDE/LONGITUDE: 38.09508, -122.09824
STATE/FED AGENCIES HOLDING INTERESTS: California Department of Fish and Wildlife

Acreage summary of Grant/Match Activities on the Tract:
Acquisition: Restoration: **Enhancement: (200)** Establishment:

Describe all grant/match activities occurring on the tract here:

Similar to GIWA Pond 3, the Goodyear Slough Wildlife Area (GSWA) was identified in the 2018 infrastructure evaluation as suffering from insufficient infrastructure. In addition to a lack of infrastructure, the current layout of existing water control structures at GSWA prevents optimal circulation patterns throughout the management units. In fact, the current design does not allow any circulation through the wetlands while inundated. This creates water quality concerns for the adjacent tidal sloughs and salt accumulation concerns for the managed wetlands within GSWA. We propose to install two new 36" drain structures that will create circulation where none exists and improve drainage rates.

CWA completed a small NAWCA-funded enhancement project in 2011 on GSWA that was limited to replacing existing failing cast iron control gates with new stainless steel control gates. At the time, the project was used as a replacement for a project that backed out of the grant after it was awarded to CWA, so the scope of work and planning effort that went into the project was very limited. The new water control structures included in this proposal will be complimentary to the NAWCA-funded improvements that were made during the previous project.

Tract 6– Goodyear Slough WA: Enhancement Budget Justification - $63,000 and (200) acres
Grant - $63,000 Match - $0 Non-Match - $0 Completion: 2021

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
Pipe Installation	2 ea	$16,000.00 /ea	$32,000	2022	GRANT
		Subtotal Contracts			$32,000

MATERIALS and EQUIPMENT					
36" HDPE Pipe	100 ft	$90.00 /ft	$9,000	2022	GRANT
36" Flap Gate	2 ea	$4,500.00 /ea	$9,000	2022	GRANT
Flashboard Riser	2 ea	$1,500.00 /ft	$3,000	2022	GRANT
Rip Rap	1 ea	$3,000.00 /ea	$3,000	2022	GRANT
Subtotal Materials and Equipment			$24,000		
NON-CONTRACT PERSONNEL and TRAVEL					
Project Management			$7,000	2021-2022	GRANT
Subtotal Non-Contract Personnel and Travel			$7,000		
TOTAL ENHANCEMENT DIRECT COSTS					**$63,000**

Tract 6 – Goodyear Slough WA: Indirect Financial Plan Justification - $10,588
Grant - $10,588 Match - $0 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 18.91% June 2019	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Materials	Materials (All)	$24,000	$4,538	CWA	$4,538	$0	$4,538
Subcontracts	Pipe Installation	$25,000	$4,727	CWA	$4,727	$0	$4,727
Salary & Wages	Non-Contract Personnel & Travel	$7,000	$1,323	CWA	$1,323	$0	$1,323
				TOTAL	$10,588	$0	$10,588

TRACT 7 – H Pond Brood Pond
OVERALL ACRES AFFECTED: (35)
CENTRAL LATTITUDE/LONGITUDE: 38.42740, -121.62126
STATE/FED AGENCIES HOLDING INTERESTS: Private Landowner

Acreage summary of Grant/Match Activities on the Tract:
Acquisition: Restoration: **Enhancement: (35)** Establishment:

Describe all grant/match activities occurring on the tract here:

H Pond is located in the heart of the Southern Yolo Bypass, Southeast of Davis, California. It has been managed as a duck club for 60 plus years and lies in the middle of the Putah sinks, a historical natural wetland sink. This 500-acre wetland complex is managed primarily for seasonal wetlands.

H Pond landowners have enrolled a 35-acre management unit in a CDFW incentive program to help with water and vegetation management costs in order to manage the unit as a summer-flooded brood pond. The program requires that the pond remain flooded until at least August 1 to support locally breeding waterfowl. Changes in neighboring property management practices has negatively impacted the ability to deliver and drain water from the brood pond.

The proposed project will include pond grading, swale excavation and water control structure installation. The pond has several large relic borrow areas from previous earthmoving activities (not related to previously-funded NAWCA projects) that will be filled in to reduce the amount of water necessary to flood the unit. New swales will be constructed to improve delivery and drainage throughout the unit. There will be three new water controls structures installed to replace old structures that are worn and dilapidated and to fix the delivery and drainage within the unit.

CWA completed a NAWCA and match-funded project on H Pond in 2006 and encompassed the entire property. The proposed project will be complimentary to the original project and will improve the landowners' ability to provide a diversity of habitats throughout the year.

Tract 7– H Pond Brood Pond: Enhancement Budget Justification - $56,491 and (35) acres
Grant - $33,245 Match - $23,246 Non-Match - $0 Completion: 2021

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
Water Constrol Structure Delivery	10 hrs	$125.00 /ea	$1,250.00	2021	GRANT
Earthwork	15,000 cyds	$2.25 /cyd	$33,750.00	2021	GRANT & H Pond
Water Control Structure Installation	3 ea	$1,000.00 /ea	$3,000.00	2021	GRANT
Ditch Cleaning	10 hours	$175.00 /hr	$1,750.00	2021	GRANT
		Subtotal Contracts			$39,750
MATERIALS and EQUIPMENT					
Water Control Structures	3 ea	$2,247.00 /ft	$6,741.00	2021	GRANT
		Subtotal Materials and Equipment			$6,741
NON-CONTRACT PERSONNEL and TRAVEL					
Project Management			$10,000.00	2021	GRANT
		Subtotal Non-Contract Personnel and Travel			$10,000
TOTAL ENHANCEMENT DIRECT COSTS					**$56,491**

Tract 7 – H Pond Brood Pond: Indirect Financial Plan Justification - $9,262
Grant - $9,262 Match - $0 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 18.91% June 2020	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Materials	Materials (All)	$6,741	$1,274	CWA	$1,274	$0	$1,274
Subcontracts	Water Control Structure Delivery	$1,250	$236	CWA	$236	$0	$236
Subcontracts	Earthwork	$25,000	$4,727	CWA	$4,727	$0	$4,727
Subcontracts	Water Control Structure Installation	$3,000	$567	CWA	$567	$0	$567
Subcontracts	Ditch Cleaning	$3,000	$567	CWA	$567	$0	$567
Salary & Wages	Non-Contract Personnel & Travel	$10,000	$1,891	CWA	$1,891	$0	$1,891
				TOTAL	$9,262	$0	$9,262

TRACT 8 – Staten Island
OVERALL ACRES AFFECTED: 650
CENTRAL LATTITUDE/LONGITUDE: 38.14059, -121.53800
STATE/FED AGENCIES HOLDING INTERESTS: The Nature Conservancy

Acreage summary of Grant/Match Activities on the Tract:
Acquisition: Restoration: **Enhancement: 650** Establishment:

Describe all grant/match activities occurring on the tract here:

Staten Island (SI) is a 9,200-acre island in the northern portion of the Sacramento-San Joaquin Delta (Delta). SI was acquired by The Nature Conservancy (TNC) in 2001 using grant funds from the California Resources Agency and the Department of Water Resources through the CALFED Bay-Delta Program. During the acquisition TNC entered into a perpetual conservation easement with DWR requiring the island to be maintained using wildlife friendly agricultural practices with the goals of preserving agricultural land, protecting wildlife, and protection from development. Since the purchase of SI it has been managed by TNC's 501 (c)3 non-profit subsidiary, Conservation Farms and Ranches (CFR), as a commercial agricultural operation within the boundaries established in the purchase agreement and conservation easement.

Typical agricultural crops include corn, cereal grains, alfalfa potatoes and pasture. As is typical in the region, corn fields are often flooded in the winter to manage soil salt accumulation and to provide wildlife habitat, specifically migratory waterfowl and sandhill cranes. This is accomplished by using equipment to create temporary berms around the perimeter of the fields to impound water, which are removed in early spring to allow farming to continue. Typical crop rotations and soil management strategies result in a given field being flooded in the winter about one in every three years.

SI's soil is mostly highly-organic peat soil, which is typical of soils that were created in wetland environments. Peat soils are generally very productive agricultural soils but are susceptible to oxidation and subsidence when drained and exposed to air. Soil subsidence is a systemic problem in the Delta and has been the subject of millions-of-dollars' worth of regional planning efforts in an attempt to develop a solution to stabilize levee integrity, the local agricultural community, wildlife habitat and water quality. Recent experimental cropping efforts in the Delta have shown that rice, which is flooded for the majority

of the year, is economically viable and reduces soil subsidence. In some cases, rice farming has been shown to actually reverse soil subsidence through organic material accretion.

In an effort to increase the sustainability of the conservation values on SI and the islands resiliency into the future, TNC and CFR have begun to convert fields dominated by peat soils to subsidence-friendly crops and land covers such as rice and wetlands. The project activities included in this proposal will install the necessary levees and water control structures to allow 650 acres of agricultural land to be converted from heavily cultivated row crops to rice production. This will provide increased wildlife benefits as well as reduce subsidence.

Flooding rice fields after harvest allows invertebrates and waste grain to become available for shorebirds and waterfowl as food and resting habitat. Since wetland-dependent bird habitat is predominantly provided on managed lands in the Central Valley, flooded agricultural lands are a critical component to ensuring consistent and affordable water supplies for essential functions of wetland habitat. The CVJV Plan has indicated that maintaining consistent and affordable water supplies may be one of the Central Valley's greatest challenges. In addition to providing food, resting habitat, and reliable water supply, flooding also recharges local groundwater basins with nutrients that enhance the greater aquatic food web, providing enriched benefits for wildlife in the surrounding community. The CVJV Plan also states that in the Central Valley the majority of all food available to ducks is provided by agricultural habitats, with rice providing the vast majority of agricultural food resources. Therefore, conversion from row crop to rice will increase overall food availability to waterfowl and cranes.

Rice is grown in fields that are flooded throughout the summer as opposed to irrigated occasionally like row crops. This creates brood-rearing habitat for locally nesting waterfowl and shorebirds. Rice fields have been shown to provide quality brood rearing habitat in northern California. Rice fields are also flooded in the winter to assist with straw decomposition, providing habitat for migratory waterfowl and sandhill cranes. Since rice fields require less frequent rotations converting to rice will increase the availability of habitat compared to the current rotation. When rice fields do need to be fallowed or rotated, they are typically replanted with a grain or soil building cover crop (like vetch) that provides quality nesting habitat for breeding waterfowl. These types of agricultural fields surrounded by flooded rice are some of the most prolific waterfowl production areas in California.

As described above, rice production halts soil subsidence and oxidation associated with row crops and draining of peat soils. Conversion to rice not only increases the sustainability of the agricultural production and associated wildlife benefits, but it reduces carbon emissions from organic soil oxidation, functionally reducing green-house gas production. In some locations in the Delta, rice farming has been shown to actually accrete organic material, which would result in a net carbon sequestration.

Tract 8– Staten Island: Enhancement Budget Justification - $207,800 and 650 acres
Grant - $107,800 Match - $100,000 Non-Match - $0 Completion: 2021

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
Earthwork			$200,000	2021 -2022	GRANT
Subtotal Contracts			$200,000		
MATERIALS and EQUIPMENT					
Subtotal Materials and Equipment			$0		
NON-CONTRACT PERSONNEL and TRAVEL					
Project Management			$7,800	2021-2022	GRANT

Subtotal Non-Contract Personnel and Travel	$7,800
TOTAL ENHANCEMENT DIRECT COSTS	**$207,800**

Tract 8 – Staten Island Ag: Indirect Financial Plan Justification - $6,201
Grant - $6,201 Match - $0 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 18.91% June 2020	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Subcontracts	Earthwork	$25,000	$4,727	CWA	$4,727	$0	$4,727
Salary & Wages	Non-Contract Personnel & Travel	$7,800	$1,474	CWA	$1,474	$0	$1,474
				TOTAL	$6,201	$0	$6,201

TRACT 9 – Tree Slough Farms
OVERALL ACRES AFFECTED: (240)
CENTRAL LATTITUDE/LONGITUDE: 38.17211, -122.00682
STATE/FED AGENCIES HOLDING INTERESTS: Private Landowner

Acreage summary of Grant/Match Activities on the Tract:
Acquisition: Restoration: **Enhancement: (240)** Establishment:

Describe all grant/match activities occurring on the tract here:

CWA has completed two NAWCA-funded enhancement projects on the Tree Slough Farms tract. The first project was completed in 2016 and focused on addressing failures of the existing exterior water control structures. The second enhancement project was completed in 2017 and focused on interior water control structures, levees and swales. Both of these projects accomplished the goals set at the time. During the 2018 infrastructure survey it was determined that additional exterior water control structures would provide significant additional benefit.

The second enhancement project that was completed in 2017 reconfigured the management units and waterflow patterns to simplify management. Prior to the project the property was split into 8 different management units with an overly-complicated system of water control structures to maintain water in all units. The project removed several levees and water control structures resulting in 4 independent management units. After analyzing data from the Marsh-wide infrastructure survey in 2018 and observations during the first two years of operation of the new design, it was determined that additional exterior water control structures would provide significant benefit to the new system.

We propose to install two new exterior drain structures to increase drainage and circulation capacity. Additionally, an existing exterior drain structure will be retrofitted with a lighter-weight stainless steel flap gate that will significantly increase water flow and increase longevity. The existing drain structure was not included in either of the previous two completed projects. A small amount of earthwork will be completed to connect one of the new drains to the existing swale system.

Tract 9– Tree Slough Farms: Enhancement Budget Justification - $88,200 and (240) acres

Grant - $80,200 Match - $8,000 Non-Match - $0 Completion: 2022

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
New Drain Installation	2 ea	$15,000.00 /ea	$30,000	2021-2022	GRANT & TSF
Flap Gate Swap	1 ea	$3,000.00 /ea	$3,000	2021-2022	GRANT
Rip Rap Installation	2 days	$1,400.00 /day	$2,800	2021-2022	GRANT
Earthwork	3 days	$4,000.00 /day	$12,000	2021-2022	GRANT
Subtotal Contracts			$47,800		
MATERIALS and EQUIPMENT					
36" HDPE Pipe	100 ft	$90.00 /ft	$9,000	2021-2022	GRANT
36" Flap Gate	2 ea	$4,500.00 /ea	$9,000	2021-2022	GRANT
Flashboard Riser	2 ea	$1,500.00 /ea	$3,000	2021-2022	GRANT
Rip Rap	80 tons	$55.00 /ton	$4,400	2021-2022	GRANT
Subtotal Materials and Equipment			$25,400		
NON-CONTRACT PERSONNEL and TRAVEL					
Project Management			$15,000	2021-2022	GRANT
Subtotal Non-Contract Personnel and Travel			$15,000		
TOTAL ENHANCEMENT DIRECT COSTS					**$88,200**

Tract 9 – Tree Slough Farms: Indirect Financial Plan Justification - $14,635
Grant - $14,635 Match - $0 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 18.91% June 2020	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Materials	Materials (All)	$25,400	$4,803	CWA	$4,803	$0	$4,803
Subcontracts	New Drain Installation	$25,000	$4,727	CWA	$4,727	$0	$4,727
Subcontracts	Earthwork	$12,000	$2,269	CWA	$2,269	$0	$2,269
Salary & Wages	Non-Contract	$15,000	$2,836	CWA	$2,836	$0	$2,836

	Personnel & Travel						
				TOTAL	$14,635	$0	$14,635

TRACT 10 – YBWA Martins Brood Pond
OVERALL ACRES AFFECTED: (52)
CENTRAL LATTITUDE/LONGITUDE: 38.45544, -121.61918
STATE/FED AGENCIES HOLDING INTERESTS: California Department of Fish and Wildlife

Acreage summary of Grant/Match Activities on the Tract:
Acquisition: Restoration: **Enhancement: (52)** Establishment:

Describe all grant/match activities occurring on the tract here:

The Martins unit on the Yolo Bypass Wildlife Area (YBWA) was originally restored in 2007 with NAWCA funds granted to CWA. This unit was originally made up of five fields and now has been divided into six by CDFW staff. In 2008-09 Ducks Unlimited restored three adjacent fields that became part of the Martins unit. At the time that these projects were initially developed, all fields were designed for seasonal wetland management. This resulted in a deficiency in brood water habitat in the area.

With the abundance of wintering habitat and lack of breeding habitat in this area of the YBWA the CDFW staff would like to modify the original design of the two previous NAWCA projects and incorporate new breeding habitat. This project would create three new brood ponds (10 acres, 10 acres and 23 acres) and 9 acres of native grass upland nesting cover.

New swales, water control structures and levees will be installed to allow the smaller areas to be independently flooded throughout the summer without compromising the surrounding seasonal wetland areas. Native perennial grasses will be installed near the brood ponds to provide nesting cover in close proximity to summer-flooded wetlands.

Tract 10– YBWA Martins Brood Pond: Enhancement Budget Justification - $147,617 and (52) acres

Grant - $147,617 Match - $0 Non-Match - $0 Completion: 2021

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
Water Control Structure Delivery	8 hrs	$125.00 /hr	$1,000	2021	GRANT
Equipment Mobilization	4 ea	$250.00 /ea	$1,000	2021	GRANT
Earthwork	41,000 cyds	$2.25 /cyd	$92,250	2021	GRANT
Water Control Structure Installation	8 ea	$800.00 /ea	$6,400	2021	GRANT
Upland Site Prep	9 acres	$100.00 /acre	$900	2021	GRANT
Upland Seeding	9 acres	$175.00 /acre	$1,575	2021	GRANT
		Subtotal Contracts			$103,125
MATERIALS and EQUIPMENT					

Water Control Structures	8 ea	$3,300.00 /ft	$26,400	2021	GRANT
Native Grass Mix	9 acres	$788.00 /acre	$7,092	2021	GRANT
Subtotal Materials and Equipment					$33,492
NON-CONTRACT PERSONNEL and TRAVEL					
Project Management			$11,000	2021	GRANT
Subtotal Non-Contract Personnel and Travel					$11,000
TOTAL ENHANCEMENT DIRECT COSTS					**$147,617**

Tract 10 – YBWA Martins Brood Pond: Indirect Financial Plan Justification - $15,006
Grant - $15,006 Match - $0 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 18.91% June 2020	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Materials	Materials (All)	$33,492	$6,333	CWA	$6,333	$0	$6,333
Subcontracts	Water Control Structure Delivery	$1,000	$189	CWA	$189	$0	$189
Subcontracts	Earthwork	$25,000	$4,727	CWA	$4,727	$0	$4,727
Subcontracts	Water Control Structure Installation	$6,400	$1,210	CWA	$1,210	$0	$1,210
Subcontracts	Upland Site Prep	$900	$170	CWA	$170	$0	$170
Subcontracts	Upland Seeding	$1,575	$297	CWA	$297	$0	$297
Salary & Wages	Non-Contract Personnel & Travel	$11,000	$2,080	CWA	$2,080	$0	$2,080
				TOTAL	$15,006	$0	$15,006

TRACT 11 – YBWA Martins Delivery Project
OVERALL ACRES AFFECTED: (294)
CENTRAL LATTITUDE/LONGITUDE: 38.45100, -121.61474
STATE/FED AGENCIES HOLDING INTERESTS: California Department of Fish and Wildlife

Acreage summary of Grant/Match Activities on the Tract:
Acquisition: Restoration: **Enhancement: (294)** Establishment:

Describe all grant/match activities occurring on the tract here:
The Martins unit on the Yolo Bypass Wildlife Area (YBWA) was originally restored in 2007 with NAWCA funds granted to CWA. This unit was originally made up of five fields and now has been divided into six by CDFW staff. In 2008-09 Ducks Unlimited restored three adjacent fields that became part of the Martins unit.

The proposed project would develop a new delivery ditch to convey water from an existing lift station to the Martins unit to improve water delivery efficiency and management options. During the 2007 restoration project, design modifications were made at the request of CDFW staff which resulted in two management units not being directly connected to the central delivery ditch. Independent water delivery was not critical to the success of the restoration plan at that time so the requests were accommodated. The fields that were restored by Ducks Unlimited were designed to be flooded using an existing surface water source that has proven to be inadequate. Although the water supply is available, the rate at which was can be delivered to the fields is inadequate which creates prevents the application of best management practices for managing undesirable weeds and mosquito production.

The proposed new delivery ditch will provide independent water supply to the two units that were not connected to the delivery ditch in 2007 and would provide a supplemental water supply to the Ducks Unlimited restoration site. Both of these benefits will improve wetland management options and decrease negative impacts for 294 acres of wetland habitat previously restored with NAWCA funds.

To complete the new delivery ditch, material will be generated by grading pond grading within the adjacent seasonal wetland units to build the new levees. Seven new water control structures will be installed to achieve the independent delivery to each unit.

Tract 11 – YBWA Martins Delivery Project: Enhancement Budget Justification - $98,020 and (294) acres

Grant - $98,020 Match - $0 Non-Match - $0 Completion: 2021

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
Water Control Structure Delivery	8 hrs	$125.00 /hr	$1,000	2021	GRANT
Equipment Mobilization	4 ea	$250.00 /ea	$1,000	2021	GRANT
Obstruction Removal	1 ea	$250.00 /ea	$250	2021	GRANT
Earthwork	24,920 cyds	$2.25 /cyd	$56,070	2021	GRANT
Water Control Structure Installation	7 ea	$800.00 /ea	$5,600	2021	GRANT
		Subtotal Contracts			$63,920
MATERIALS and EQUIPMENT					
Water Control Structures	7 ea	$3,300.00 /ea	$23,100	2021	GRANT
		Subtotal Materials and Equipment			$23,100
NON-CONTRACT PERSONNEL and TRAVEL					
Project Management			$11,000	2021	GRANT
		Subtotal Non-Contract Personnel and Travel			$11,000
TOTAL ENHANCEMENT DIRECT COSTS					**$98,020**

Tract 11 – YBWA Martins Delivery Project: Indirect Financial Plan Justification - $12,469

Grant - $15,006 Match - $0 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 18.91% June 2020	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Materials	Materials (All)	$23,100	$4,368	CWA	$4,368	$0	$4,368
Subcontracts	Water Control Structure Delivery	$1,000	$189	CWA	$189	$0	$189
Subcontracts	Earthwork	$25,000	$4,727	CWA	$4,727	$0	$4,727
Subcontracts	Water Control Structure Installation	$5,600	$1,058	CWA	$1,058	$0	$1,058
Subcontracts	Obstruction Removal	$250	$47	CWA	$47	$0	$47
All	Non-Contract Personnel & Travel	$11,000	$2,080	CWA	$2,080	$0	$2,080
				TOTAL	$12,469	$0	$12,469

TRACT 12 – Crescent Unit Drainage Improvement
OVERALL ACRES AFFECTED: (240)
CENTRAL LATTITUDE/LONGITUDE: 38.15348, -121.98935
STATE/FED AGENCIES HOLDING INTERESTS: California Department of Fish and Wildlife

Acreage summary of Grant/Match Activities on the Tract:
Acquisition: Restoration: **Enhancement: (240)** Establishment:

Describe all grant/match activities occurring on the tract here:

The Crescent Unit is made up of three management units. Two of the units (Freitas 1 and Freitas 2) share a water delivery system and a drain system. The delivery system was improved with NAWCA and non-federal matching funds over the course of multiple projects and has resulted in increased water availability, significantly lower water salinities and increased habitat diversity. However, the central drainage canal had not been included in any of the previous projects.

In 2016, CWA and GIWA biologists toured the Crescent Unit to evaluate the water conveyance system and measure salinity levels. During that site visit it became clear that there was an opportunity to make small modifications to the drainage system that would have significant benefits to the Freitas 1 and 2 units as well as the third unit, Laughing Mallard. The drain canal that services Freitas 1 and 2 runs along the edge of Laughing Mallard, but there were no structures connecting the two. Salinity readings in the Laughing Mallard unit along the levee that separated the two showed salinity levels over 4 times higher than those taken near the existing exterior structures at Laughing Mallard, indicating a lack of circulation in that portion of the unit. The single exterior drain structure at the end of the canal was also insufficient to provide optimal circulation or drainage.

CWA received a grant from CDFW in 2018 to complete a drainage improvement project to address the observed deficiencies. The project was completed in 2019 and included the following activities:

- Installation of interior water control structures connecting Laughing Mallard to the drain canal
- Excavating new swales to connect the existing swales and ditches in Laughing Mallard to the new interior structures
- Cleaning and widening the drain canal to increase flow capacity
- Installation of a new exterior drain structure in the canal to increase capacity
- Repair and reinstallation of an existing drain structure in Laughing Mallard that was originally set too low and had become completely covered in silt.

Tract 12 – Crescent Unit Drainage Improvement: Enhancement Budget Justification - $82,551 and (240) acres

Grant - $0 Match - $82,551 Non-Match - $0 Completion: 2020

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
New exterior structure installation	1 ea	$10,175.00 /hr	$10,175.00	2019	GRANT
Interior structure installation	2 ea	$3,800.00 /ea	$7,600.00	2019	GRANT
Ditch cleaning	2,500 ft	$3.68 /ea	$9,200.00	2019	GRANT
Swale excavation	lump sum		$11,530.00	2018 & 2019	GRANT
Pump rental	1 ea	$1,629.00 /cyd	$1,629.00	2019	GRANT
Exterior structure repair and reinstallation	1 ea	$15,000.00 /ea	$15,000.00	2020	GRANT
		Subtotal Contracts			$55,134
MATERIALS and EQUIPMENT					
34" stainless steel flap	1 ea	$3,290.00 /ea	$3,290.00	2019	GRANT
34" HDPE pipe	50 ft	$50.00 /ft	$2,500.00	2019	GRANT
36" stainless steel flap	1 ea	$3,370.00 /ea	$3,370.00	2020	GRANT
Flashboard risers	2 ea	$423.00 /ea	$846.00	2019	GRANT
18" Flap gates	2 ea	$2,459.00 /ea	$4,918.00	2019	GRANT
18" HDPE pipe	55 ft	$16.25 /ft	$893.00	2019	GRANT
Rip rap	50.89 ton	$45.00 /ton	$2,290.00	2019	GRANT
		Subtotal Materials and Equipment			$18,107
NON-CONTRACT PERSONNEL and TRAVEL					
Project Management			$9,310	2018-2020	GRANT
		Subtotal Non-Contract Personnel and Travel			$9,310
TOTAL ENHANCEMENT DIRECT COSTS					**$82,551**

Tract 12 – Crescent Unit Drainage Improvement: Indirect Financial Plan Justification - $4,950

Grant - $0 Match - $4,950 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 6% *See note	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Materials	Materials (All)	$18,107	$1,086	CWA	$0	$1,086	$1,086
Subcontracts	New exterior structure installation	$10,175	$610	CWA	$0	$610	$610
Subcontracts	Interior structure installation	$7,600	$456	CWA	$0	$456	$456
Subcontracts	Ditch cleaning	$9,200	$552	CWA	$0	$552	$552
Subcontracts	Swale excavation	$11,530	$691	CWA	$0	$691	$691
Subcontracts	Pump rental	$1,630	$97	CWA	$0	$97	$97
Subcontracts	Exterior structure repair and reinstallation	$15,000	$900	CWA	$0	$900	$900
Salary & Wages	Non-Contract Personnel & Travel	$9,310	$558	CWA	$0	$558	$558
				TOTAL	$0	$4,950	$4,950

**Note: The California Duck Stamp Program, which provided the funds for this project, has a programmatic limit on indirect cost rates for all contracts and/or grants of 6%. This is significantly less than CWA's approved rate of 18.91%.*

TRACTS 13-17:
California Waterfowl Association received a grant from a private foundation in 2017 to develop and implement wetland habitat projects in the Yolo-Delta and Suisun Marsh regions. Grant funds were to be used in a manner than would maximize CWA's ability to leverage them to secure additional state and federal funding to maximize the wildlife benefit in the region. Tracts 13-17 are match-only projects whose primary funding was/is the private foundation. One of the expressed goals of the private foundation grant was to assist with the development of a Standard NAWCA proposal (this proposal).

TRACT 13 – Glide-In Lift Pump
OVERALL ACRES AFFECTED: (650)
CENTRAL LATTITUDE/LONGITUDE: 38.43514, -121.62157
STATE/FED AGENCIES HOLDING INTERESTS: Private Landowner

Acreage summary of Grant/Match Activities on the Tract:

Acquisition: Restoration: **Enhancement: (650)** Establishment:

Describe all grant/match activities occurring on the tract here:

Glide-In is a 1,300-acre privately owned property located in the heart of the Southern Yolo Bypass in the middle of the Putah Sink. It is flanked by the Yolo Bypass WA (tracts 10 & 11) to the north and H Pond (tracts 7 & 15) to the south. CWA, NAWCA and NRCS have completed several habitat restoration and enhancement projects at Glide-In over the past 2 decades that have resulted in the entire property being restored to wetland and associated upland habitat.

The primary water source for Glide-In are two lift pumps in the tidal channel along the east edge of the property locally known as the Tule Canal. These pumps lift water from the Tule Canal and convey it through a series of ditches that distribute it throughout the entire property. The primary, and most critical of these lift pumps is very old and in need of significant repair or replacement. A recent efficiency test showed that the pump is only operating at 70% efficiency. In addition, the structure supporting the pump is failing threatening the existing pump and power supply.

Glide-In will be partnering with CWA to replace the entire lift station. The new station will include a new stand, motor, pump and trash rack. The new pump will increase the rate of water that can be applied and will do so more efficiently reducing operating costs. The lift pump proposed for replacement has not been included in any of the previously funded NAWCA or match projects, but the acreage that it serves has.

Tract 13 – Glide-In Ranch: Enhancement Budget Justification - $135,000 and (650) acres
Grant - $0 Match - $135,000 Non-Match - $0 Completion: 2020

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
New Lift Pump	1 ea	$130,000.00 /ea	$130,000	2020	CWA & Glide-In
		Subtotal Contracts			$130,000
MATERIALS and EQUIPMENT					
		Subtotal Materials and Equipment			$0
NON-CONTRACT PERSONNEL and TRAVEL					
Project Management			$5,000	2020	CWA
		Subtotal Non-Contract Personnel and Travel			$5,000
TOTAL ENHANCEMENT DIRECT COSTS					**$135,000**

Tract 13 – Glide-In Lift Pump: Indirect Financial Plan Justification - $5,544
Grant - $0 Match - $5,5,44 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 18.91% June 2020	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Subcontracts	New Lift Pump	$25,000	$4,620	CWA	$0	$4,620	$4,620
Salary & Wages	Non-Contract Personnel & Travel	$5,000	$924	CWA	$0	$924	$924
				TOTAL	$0	$5,544	$5,544

TRACT 14 – Glide-In Ranch
OVERALL ACRES AFFECTED: (420)
CENTRAL LATTITUDE/LONGITUDE: 38.44142, -121.62842
STATE/FED AGENCIES HOLDING INTERESTS: Private Landowner

Acreage summary of Grant/Match Activities on the Tract:
Acquisition: Restoration: **Enhancement: (42)** Establishment:

Describe all grant/match activities occurring on the tract here:

Recent droughts and increases in demand for California's surface waters have highlighted the need for water efficiency in all areas, including wetland management. The proposed project area was originally restored in 2003-04. Prior to restoration the site was in row crop and the fields had significant elevation change, making them inefficient to flood and irrigate with limited water supplies. Over two years (2018 and 2019) CWA and Glide-In completed an enhancement project that graded to ponds to reduce (not eliminate) elevational variation and installed new water control structures to increase water conveyance efficiency. After earthwork was completed, tule transplants were distributed throughout the project area to expedite wetland structure redevelopment.

As a result of the project, Glide-In was able to enroll one of the enhanced management units in a CDFW incentive program to maintain summer water to benefit locally breeding waterfowl. Prior to the project managing one of the units for summer water would have been suboptimal and would have created nuisance vegetation problems.

Tract 14 – Glide-In Ranch: Enhancement Budget Justification - $109,587 and (420) acres
Grant - $0 Match - $109,587 Non-Match - $0 Completion: 2023

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
Earthwork			$81,510.00	2018-2019	CWA & Glide-In
Water Control Structure Installation	4 ea	$1,575.00 /ea	$6,300.00	2018-2019	CWA & Glide-In
		Subtotal Contracts			$87,810
MATERIALS and EQUIPMENT					
Water Control Structures	4 ea	$2,872.00 /ea	$11,488.00	2018-2019	CWA & Glide-In

Subtotal Materials and Equipment				$11,488
NON-CONTRACT PERSONNEL and TRAVEL				
Project Management		$10,289.00	2018-2019	CWA
Subtotal Non-Contract Personnel and Travel				$10,289
TOTAL ENHANCEMENT DIRECT COSTS				**$109,587**

Tract 14 – Glide-In Ranch: Indirect Financial Plan Justification - $9,807
Grant - $0 Match - $9,807 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 18.48% April 2019	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Materials	Materials (All)	$11,488	$2,122	CWA	$0	$2,122	$2,122
Subcontracts	Earthwork	$25,000	$4,620	CWA	$0	$4,620	$4,620
Subcontracts	Water Control Structure Installation	$6,300	$1,164	CWA	$0	$1,164	$1,164
Salary & Wages	Non-Contract Personnel & Travel	$10,289	$1,901	CWA	$0	$1,901	$1,901
				TOTAL	$0	$9,807	$9,807

TRACT 15 – H Pond
OVERALL ACRES AFFECTED: (301)
CENTRAL LATTITUDE/LONGITUDE: 38.42545, -121.62980
STATE/FED AGENCIES HOLDING INTERESTS: Private Landowner

Acreage summary of Grant/Match Activities on the Tract:
Acquisition: **Restoration: 16** **Enhancement: (301)** Establishment:

Describe all grant/match activities occurring on the tract here:

H Pond is located at the bottom end of the Yolo Bypass, which is part of a massive flood control system that protects Sacramento, the California's capital, and the surrounding areas. The area has seen massive excavations and depositions from both human actions and diverted flood flows. This has resulted in large topographic variations in some areas. H Pond had expansive remnant borrows, which provided very little habitat value but consumed significant volumes of water when flooding and/or irrigating wetlands. There were also large areas with higher elevations that prevented effective flooding, except during local flood events. With climate change uncertainties and an ever-increasing demand on California's water supply it is important for wetland managers to use water as efficiently as possible.

CWA and H Pond developed and implemented a restoration and enhancement plan that began in 2018. High-elevation areas were graded down to flood more regularly and low (old borrow sites) were filled to reduce unnecessary water consumption. A new delivery ditch was also created to provide

independent water delivery to each management unit on the property. Swales were excavated throughout the project area to provide adequate water movement and drainage and new water control structures were installed where necessary.

After all earthwork was completed, tule transplants were scattered throughout the project area to expedite wetland revegetation. In early 2020, 2,000 cottonwood and willow cuttings were installed throughout the project site as well.

The project resulted in 16 acres of palustrine emergent wetlands being created (restoration) and 301 acres of existing wetlands being enhanced.

Tract 15– H Pond: Restoration Budget Justification - $80,640 and (16) acres
Grant - $0 Match - $80,640 Non-Match - $0 Completion: 2018

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
Earthwork (restoration)			$80,640.00	2018	CWA & H Pond
Subtotal Contracts					$80,640
MATERIALS and EQUIPMENT					
Subtotal Materials and Equipment					$0
NON-CONTRACT PERSONNEL and TRAVEL					
Subtotal Non-Contract Personnel and Travel					$0
TOTAL ENHANCEMENT DIRECT COSTS					**$80,640**

Tract 15– H Pond: Enhancement Budget Justification - $285,513 and (301) acres
Grant - $0 Match - $285,513 Non-Match - $0 Completion: 2023

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
Earthwork (enhancement)			$156,560.00	2018	CWA & H Pond
Water Control Structure Installation			$5,100.00	2018	CWA & H Pond
Tule Transplants			$12,500.00	2018	CWA & H Pond
Willow Cutting Install			$2,000.00	2020	CWA & H Pond
Subtotal Contracts					$176,160
MATERIALS and EQUIPMENT					
Water Control Structures			$17,687.00	2018	CWA & H Pond
Willow Cuttings			$2,200.00	2020	CWA & H Pond
Subtotal Materials and Equipment					$19,887

NON-CONTRACT PERSONNEL and TRAVEL			
Project Management	$8,826.00	2018-2021	CWA
Subtotal Non-Contract Personnel and Travel			$8,826
TOTAL ENHANCEMENT DIRECT COSTS			**$204,873**

Tract 15 – H Pond: Indirect Financial Plan Justification - $13,547
Grant - $0 Match - $13,547 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 18.48% April 2019	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Materials	Materials (All)	$19,887	$3,675	CWA	$3,675	$0	$3,675
Subcontracts	Earthwork	$25,000	$4,620	CWA	$4,620	$0	$4,620
Subcontracts	Water Control Structure Installation	$5,100	$942	CWA	$942	$0	$942
Subcontracts	Tule Transplants	$12,500	$2,310	CWA	$2,310	$0	$2,310
Subcontracts	Willow Cutting Install	$2,000	$369	CWA	$369	$0	$369
Salary & Wages	Non-Contract Personnel & Travel	$8,826	$1,631	CWA	$1,631	$0	$1,631
				TOTAL	$13,547	$0	$13,547

TRACT 16 – Rising Wings
OVERALL ACRES AFFECTED: (43)
CENTRAL LATTITUDE/LONGITUDE: 38.37794, -121.63551
STATE/FED AGENCIES HOLDING INTERESTS: Private Landowner

Acreage summary of Grant/Match Activities on the Tract:
Acquisition: Restoration: **Enhancement: (43)** Establishment:

Describe all grant/match activities occurring on the tract here:

Rising Wings is located in the Southeast Yolo Bypass. Under the previous ownership NAWCA funded an enhancement project in 2009-10 focused on water delivery and drainage with one new water control structure installed. In 2017 Rising Wings changed ownership and the new landowners wanted contacted CWA about doing additional enhancement work.

Similar to Glide-In, Rising Wings water source is the Tule Canal. However, Rising Wings uses a portable diesel pump to lift water out of the canal into the wetland units for irrigations and initial fall flooding. With the observed and potential future changes in available water supplies in California, combined with the expense of operating a portable diesel pump, Rising Wings wanted to decrease the amount of water necessary to fully flood and manage their property. Like other properties in the area (i.e.

H Pond) historic land uses and flood events created large topographic variation on Rising Wings. This variation was reduced (not eliminated) through pond grading to increase water-use efficiency. Swales were excavated to ensure proper water distribution and drainage and tule transplants were installed to increase diversity and expedite wetland plant recolonization.

Tract 16 – Rising Wings: Enhancement Budget Justification - $39,055 and (43) acres
Grant - $0 Match - $39,055 Non-Match - $0 Completion: 2018

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
Earthwork			$32,708	2018	CWA
Tule Transplants			$4,000	2018	CWA
Subtotal Contracts					$36,708
MATERIALS and EQUIPMENT					
Subtotal Materials and Equipment					$0
NON-CONTRACT PERSONNEL and TRAVEL					
Project Management			$2,347	2018	CWA
Subtotal Non-Contract Personnel and Travel					$2,347
TOTAL ENHANCEMENT DIRECT COSTS					**$39,055**

Tract 16 – Rising Wings: Indirect Financial Plan Justification - $5,792
Grant - $0 Match - $5,792 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 18.48% June 2019	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Subcontracts	Earthwork	$25,000	$4,620	CWA	$0	$4,620	$4,620
Subcontracts	Tule Transplants	$4,000	$739	CWA	$0	$739	$739
All	Non-Contract Personnel & Travel	$2,347	$433	CWA	$0	$433	$433
				TOTAL	$0	$5,792	$5,792

TRACT 17 – Senator Outing
OVERALL ACRES AFFECTED: 16 (89)
CENTRAL LATTITUDE/LONGITUDE: 38.44053, -121.65273
STATE/FED AGENCIES HOLDING INTERESTS: Private Landowner

Acreage summary of Grant/Match Activities on the Tract:
Acquisition: **Restoration: 16** **Enhancement: (89)** Establishment:

Describe all grant/match activities occurring on the tract here:

Senator Outing is located in the Western Yolo Bypass surrounded on two sides by the Yolo Bypass Wildlife Area. NAWCA has funded three projects on this wetland complex, one in 2005, 2009 and the other in 2015. In 2005 the main water delivery structure was replaced and new drainage was established. 2009 focused on the implementation delivery and drainage swales throughout the wetland units along with the restoration of some marginal upland habitat dominated by noxious weeds. In 2015 the Senator Outing refurbished two existing wells which were in disrepair and inefficient, allowing Senator Outing to supplement their surface water during times of drought or poor water supply from CDFW.

Like H Pond and Rising Wings, the northwest management unit suffered from large topographic variation. However, on Senator Outing, it was due entirely to previous human actions, primarily grading (or more adequately described as gouging) and piling dirt within the unit which created large unnatural islands and borrow pits. Previous projects had worked to make the unit better (and succeeded) but were unable to address the underlying problem. In 2018 CWA partnered with Senator outing to enhance the unit by replacing the large spoils piles back into the borrows from which they came. High areas were graded down, low areas were filled and swales were created to provide adequate water conveyance and drainage throughout the unit and connected to the existing ditches and water control structures.

The project resulted in 16 acres of newly floodable palustrine emergent wetlands (restoration) and the enhancement of 89 acres of existing managed wetlands.

Tract 17 – Senator Outing: Restoration Budget Justification - $39,306 and <u>16</u> acres
Grant - $0 Match - $39,306 Non-Match - $0 Completion: 2018

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
Earthwork			$39,306	2018	CWA
Subtotal Contracts			$39,306		
MATERIALS and EQUIPMENT					
Subtotal Materials and Equipment			$0		
NON-CONTRACT PERSONNEL and TRAVEL					
Subtotal Non-Contract Personnel and Travel			$0		
TOTAL ENHANCEMENT DIRECT COSTS			**$39,306**		

Tract 17 – Senator Outing: Enhancement Budget Justification - $14,279 and <u>(89)</u> acres
Grant - $0 Match - $14,279 Non-Match - $0 Completion: 2018

Item & Work	Units	$/unit	Total $	Schedule (month, year)	Funding Source (Grant or Partner name)
CONTRACTS					
Earthwork (enhancement)			$10,694	2018	CWA

Subtotal Contracts			$10,694
MATERIALS and EQUIPMENT			
Subtotal Materials and Equipment			$0
NON-CONTRACT PERSONNEL and TRAVEL			
Project Management	$3,585	2018-2021	CWA
Subtotal Non-Contract Personnel and Travel			$3,585
TOTAL ENHANCEMENT DIRECT COSTS			**$14,279**

Tract 17 – Senator Outing: Indirect Financial Plan Justification - $5,282
Grant - $0 Match - $5,282 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 18.48% April 2019	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Subcontracts	Earthwork	$25,000	$4,620	CWA	$4,620	$0	$4,620
Salary & Wages	Non-Contract Personnel & Travel	$3,585	$662	CWA	$662	$0	$662
				TOTAL	$5,282	$0	$5,282

OTHER GRANT/MATCH ACTIVITIES BUDGET JUSTIFICATION - $20,960
Grant - $20,960 Match - $0 Non-Match $0 **Completion: 2023**

The funds to be spent within the "Grant Administration" category are the accrued costs of the actual administration of the grant for the three-year grant period. The tasks performed under this category include contract administration, report writing, accounting by the project manager, processing by the accounting staff, and financial processing for reimbursements of material/contracts on all projects receiving NAWCA funds.

Item & Work	Units	$/unit	Total $	Schedule	Funding Source
OTHER GRANT/MATCH ACTIVITIES					
Grant Administration			$21,807	Grant Period	Grant
TOTAL DIRECT COSTS					**$21,807**

Grant Administration: Indirect Financial Plan Justification - $4,123
Grant - $0 Match - $4,123 Non-Match - $0

Allowable Category from I.C. Rate Agreement	Specific Financial Plan Line Items to Which Indirect Cost is Applied	Direct Cost Base Amount	Approved Rate 18.91% June 2020	Partner to which I.C. Rate Applies	I.C. Grant Amount	I.C. Match Amount	Total Indirect Cost
Salary & Wages	Grant Administration	$21,807	$4,123	CWA	$4,123	$0	$4,123
				TOTAL	$4,123	$0	$4,123

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TECHNICAL ASSESSMENT QUESTION #1

How does the proposal contribute to the conservation of waterfowl habitat?

Species	Numbers affected and life cycle stage (Breeding, Migration, Wintering)	Tract Importance *(highlight importance of specific tracts when unique differences exist)*
High Priority		
Tule Greater White-fronted Goose	Migration and wintering – over 100 individuals	**Tracts 3, 5, 6, 9:** Seasonal wetland enhancements in an area of Suisun Marsh known to support significant numbers during winter.
Northern Pintail	Migration and wintering – Pintail are the most numerous waterfowl within the project area (≈500,000 birds). We estimate that tens-of-thousands of individuals will benefit from grant and match tracts	**Tracts 2-6, 9, 11-17:** Enhancement of winter-flooded seasonal wetlands improving foraging habitat. **Tract 8:** Increase availability of shallow-flooded open water agricultural fields, which is a preferred habitat for pintail.
Mallard	Migration and wintering – tens-of-thousands on grant and match tracts Breeding – Mallards are the most numerous breeding waterfowl in the project area. Up to 100 pairs expected	**Tracts 2-6, 8-10, 11-14, 16-18:** Enhancement of winter-flooded seasonal wetlands and agricultural fields improving foraging habitat. **Tracts 2, 7, 8, 10:** Creation of infrastructure that will allow managers to maintain flooded habitat throughout breeding season for brood rearing.
Lesser Scaup	Migration and wintering – several hundred individuals	**Tracts 3, 5, 6, 9, 12:** Scaup are common in the deeper areas of Suisun Marsh and occasionally seasonal managed wetlands for roosting and feeding.
Greater Scaup	Migration and wintering – up to 100 individuals	
Other Priority		
Pacific Greater White-fronted Goose	Migration and wintering – tens-of-thousands individuals	**Tract 8:** Increase in winter-flooded foraging habitat in an area that supports high numbers of geese
Wood Duck	Wintering – Wood duck habitat preferences and daily habits make it extremely difficult to get accurate estimates of wintering populations. We estimate that approximately 1,000 individuals may benefit from match and grant activities. Breeding – 10 to 20 pairs	**Tracts 2, 4, 11, 12, 14, 16, 17:** Seasonal wetland habitat enhancements in areas known to support wintering wood ducks. **Tract 8:** Increase availability of shallow-flooded agricultural fields in an area known to support large numbers of wintering wood ducks.

		Tract 1: Restore riparian habitat near permanent water. **Tract 2:** Restore riparian habitat and create new summer-flooded wetlands for brood rearing.
Redhead	Migration and wintering – less than 100 individuals	**Tracts 3, 5, 6, 9, 12:** Redheads are uncommon in the deeper areas of Suisun Marsh and occasionally seasonal managed wetlands for roosting and feeding.
Canvasback	Migration and wintering – The project area supports tens-of-thousands of canvasback every winter. We estimate that up to several hundred individuals will benefit from match and grant-funded activities.	**Tracts 3, 5, 6, 9, 12:** Canvasback are common in the deeper areas of Suisun Marsh and occasionally seasonal managed wetlands for roosting and feeding. **Tract 8:** Canvasback and common in the Delta and often use shallow-flooded agricultural fields to roost in the evening and as refuge during heavy winds.
Ring-necked Duck	Migration and wintering – several thousand individuals	**Tract 8:** Increase availability of flooded agricultural fields, which is a preferred habitat for ring-necked ducks. **Tracts 2-6, 9, 11-17:** Enhancement of winter-flooded seasonal wetlands improving foraging habitat.
American Wigeon	Migration and wintering – tens-of-thousands individuals	**Tracts 2-6, 8-10, 11-14, 16-18:** Enhancement of winter-flooded seasonal wetlands and agricultural fields improving foraging habitat.
Cackling Goose	Migration and wintering – tens-of-thousands of individuals	**Tract 8:** Increase in winter-flooded foraging habitat in an area that supports high numbers of cackling geese
Other		
Gadwall	Breeding – up to 50 pairs expected Migration and wintering – several thousand individuals	**Tracts 2, 7, 8, 10:** Creation of infrastructure that will allow managers to maintain flooded habitat throughout breeding season for brood rearing. **Tracts 2-6, 8-10, 11-14, 16-18:** Enhancement of winter-flooded seasonal wetlands and agricultural fields improving foraging habitat.
Cinnamon Teal	Breeding – up to 50 pairs expected Migration and wintering – several hundred individuals	
Green-winged Teal	Migration and wintering -tens-of-thousands individuals	**Tracts 2-6, 8-10, 11-14, 16-18:** Enhancement of winter-flooded seasonal wetlands and agricultural fields improving foraging habitat.

Ross' Goose	Migration and wintering – several thousand individuals	**Tract 8:** Increase in winter-flooded foraging habitat in an area that supports high numbers of Ross' geese.
Tundra Swan	Migration and wintering – several hundred individuals	**Tract 8:** Increase in winter-flooded foraging habitat in an area that supports high numbers of tundra swans. **Tracts 2-6, 9-14, 16-18:** Enhancement of winter-flooded seasonal wetlands and agricultural fields improving foraging habitat.

D. Narrative

The 2012 revision of the NAWMP emphasizes the importance of setting and working towards attaining regional waterfowl and habitat goals that are coordinated through Joint Ventures. This proposal falls within the Central Valley Joint Venture (CVJV) and was developed under the directive of the CVJV 2020 Implementation Plan (Plan) that identifies conservation goals throughout the CVJV's area of influence. The proposed projects are within the Suisun and Yolo-Delta basins. The Plan identifies each basin's priority habitat needs in order to support target waterfowl populations. The basin specific goals that this proposal will contribute towards are: wetland enhancement in Suisun Marsh, wetland enhancement in the Yolo-Delta basin and increase sustainability and availability of winter-flooded rice in the Yolo-Delta basin.

In addition, the Plan identifies a baseline level of 1,355 acres of managed semi-permanent wetlands in Suisun Marsh to support breeding waterfowl. There are many variables that affect the amount of summer-flooded wetlands in Suisun Marsh, but the most common factor seems to be the need to drain units, and sometimes the surrounding units, in order to address failing infrastructure. Although none of the tracts are specifically designed to be managed as semi-permanent wetlands, several of the tracts are managed that way on a rotational basis with surrounding units. By installing all the necessary infrastructure at one time on the proposed tracts, it will increase the opportunity for managers to keep them flooded through the summer to help meet the semi-permanent habitat goals in Suisun Marsh. Improving infrastructure and increasing circulation rates will result in increased habitat diversity and tall emergent cover when the units are managed as semi-permanent wetlands.

The majority of waterfowl use on the proposed tracts will include wintering dabbling ducks **(northern pintail, mallard, wood duck, American wigeon, gadwall, cinnamon teal & green-winged teal).** Infrastructure improvements in existing wetlands will allow habitat managers to employ recommended management strategies more effectively which will result in increased moist soil seed production and habitat diversity. Habitat restoration projects will increase total wetland habitat available for these species. Most diving ducks **(redhead, canvasback, lesser scaup & greater scaup)** use managed wetland occasionally and will benefit from increased food resources similar to dabbling ducks, but will be present in much lower numbers. **Ring-necked ducks**, however, use managed wetlands and winter-flooded rice fields in much higher numbers than other diving duck species and will benefit from all tracts.

Breeding waterfowl **(mallard, gadwall, cinnamon teal & wood duck)** will benefit from an increase in semi-permanent wetlands **(Tracts 2, 7, 10)**, increase in quality upland nesting cover (**Tract 10**) and increase in summer flooded rice fields suitable for brood rearing (**Tract 8**).

Geese and swans (**Pacific greater white-fronted goose, Ross' goose, cackling goose** and **tundra swan**) use managed wetlands regularly and will benefit from habitat improvements, but use winter flooded rice (**Tract 8**) at much higher densities.

Tule greater white-fronted goose is a recognized subspecies that uses traditional regions in the Central Valley, including the Suisun Marsh. These geese use managed wetlands to roost and feed as part

of their daily cycle. Reduction in soil salinity and improved water circulation will increase alkali bulrush growth, a preferred food of the species.

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TECHNICAL ASSESSMENT QUESTION #2

How does the proposal contribute to the conservation of other wetland-associated migratory birds?
A. Priority bird species:

Species/Plan	Numbers Affected	Benefits of Project	Tract Importance
Song Sparrow (maxillaris ssp.) CVJV (FS) NAWCA (BCR-32) CA (SSC) PIF (FS)	Breeder > 20,000 Based on several surveys that suggest densities of 4-40 birds per acre.	Song sparrow are known to forage in Suisun Marsh managed wetlands that are near tall emergent cover. More productive and diverse wetlands will provide better foraging opportunity.	**Tracts 3, 5, 6, 9 & 12:** Enhance 970 acres of managed wetlands with, or adjacent to tall emergent cover.
Short-billed Dowitcher NAWCA (BCR-32) USSCP (HC)	Migrant ≈ 1,000+ during peak	Benefit from overall increase in wetland productivity. All managed wetlands and winter-flooded ag fields provide shallow water foraging habitat at various levels of inundation.	**Tracts 3-17:** Enhance existing managed wetlands and habitat diversity. **Tracts 2, 15, 17:** Create new wetland habitat through restoration.
Long-billed Curlew NAWCA (BCR-32) USSCP (HC)	Migrant – Yolo Bypass WA hosts 3,000-5,000 per year	Upland enhancements adjacent to wetlands will improve foraging habitat. Enhancing existing wetlands will increase habitat diversity.	**Tract 10:** Upland habitat enhanced near wetland complex. **Tracts 3-6, 7-9, 11-17:** Enhanced and increased availability of winter-flooded habitat attractive to prey species.
Tri-colored Blackbird NAWCA (BCR-32) PIF (IM)	Breeding – potentially several hundred individuals Wintering – several thousand individuals	Increase in summer-flooded wetlands with tall emergent cover will provide additional breeding habitat.	**Tracts 2 & 10**: Near known breeding colonies and lands protected specifically for TCBB breeding habitat. Increase in tall emergent vegetation in summer-flooded wetlands will increase availability of breeding habitat.
Bald Eagle NAWCA (BCR-32) CA-E	Wintering – limited to a few individuals	Limited numbers of bald eagles winter in project area to hunt wetland dependent birds.	**Tracts 3-6, 7-9, 11-17:** Enhanced and increased availability of winter-flooded habitat attractive to prey species.
Common Yellowthroat (sinuosa ssp.) NAWCA (BCR-32) CVJV (FS) PIF (FS)	Breeding = common	Benefit by increased habitat diversity, including tall emergent cover, as a result of improved drainage and circulation.	**Tracts 3, 5, 6, 9 & 12:** Improved water management will decrease soil salinities increasing habitat diversity including tall emergent cover.
Whimbrel NAWCA (BCR-32)	Migrant = up to 100 individuals expected	Benefit from overall increase in wetland productivity. Projects	**Tracts 3, 5, 6, 9 & 12:** Improved water exchange rates will increase water management

USSCP (HC)		with increased water exchange rates will allow faster drawdowns and more "leach cycles", which will create more shallow-flooded and mudflat availability during late winter and spring staging.	options.
Yellow Warbler NAWCA (BCR-32	Breeding = less than 50 individuals	Benefit from increase in riparian breeding habitat adjacent to summer-flooded habitats.	**Tracts 1 & 2:** Riparian habitat restoration will increase breeding habitat availability.

B. Other wetland-associated bird species:
Identify up to ten bird species not included in the priority species lists provided in Part A above that help demonstrate the benefits of the project activities to non-waterfowl species.

Species/Plan	Numbers Affected	Benefits of Project	Tract Importance
Killdeer CVJV (FS) USSCP (MC)	Breeding ≈ <100 Migrant ≈ <500	Increase in breeding habitat availability. Benefit from overall increase in wetland productivity.	**Tracts 2, 7, 10:** Increase in summer-flooded wetlands will increase breeding habitat. **Tracts 2-6, 9, 11-17:** Seasonal wetland habitat enhancement will increase diversity and overall productivity.
Black-necked stilt CVJV (FS) USSCP (MC)	Breeding ≈ <100 Migrant ≈ <500		
Wilson's Phalarope CVJV (FS) USSCP (HC)	Breeding ≈ <50 Migrant ≈ <100		
Sandhill Crane CVJV-FS NAWCP CA-SSC	Wintering	Increased flooded agricultural fields that are used as roosting and foraging habitat.	**Tract 8:** 650 acres of flooded cropland in an area known to support thousands of sandhill cranes every winter.
Swainson's Hawk RHJV-FS CA-Threatened	Breeding ≈ limited to a few pairs Wintering ≈ up to 50 individuals	Riparian habitat restoration will increase potential nesting sites.	**Tracts 1 & 2:** 23 acres of riparian restoration.
Northern Harrier PIF (FS) CA (SSC)	Breeding ≈ <50 Migrant ≈ <100	Improved and increased foraging habitat in wetlands. Increased upland nesting habitat.	**Tracts 2, 15, 17:** Increased in habitat through restoration. **Tracts 3-17:** Improved foraging habitat through habitat enhancement. **Tract 10:** Increase in upland nesting habitat.
Least Tern NAWBP (HC) CA (E)	Breeder = rare, Migrant ≈ 50	Increased exchange rates increase water quality in managed wetlands which increases production of aquatic organisms	**Tracts 3, 5, 6, 9 & 12**: Increased exchange and/or drainage rates will increase number of leach cycles which will increase mud flat availability.

		(mainly small fish) which are fed on by terns.	
White-faced Ibis CVJV-FS NAWCP	Breeding ≈ up to 100 individuals Wintering ≈ several hundred individuals	Increase in potential breeding habitat in areas known to support breeding colonies.	**Tracts 7 & 10:** Increase in summer-flooded wetlands with dense tall emergent cover. **Tracts 3-17:** Enhance existing managed wetlands and habitat diversity.
Marsh Wren PIF	Year-round ≈ 100 individuals	Benefit by increased habitat diversity, including tall emergent cover, as a result of improved drainage and circulation.	**Tracts 3, 5, 6, 9 & 12:** Improved water management will decrease soil salinities increasing habitat diversity including tall emergent cover. **Tracts 2 & 7:** Increased summer-flooded wetlands will increase breeding habitat.
Western sandpiper USSCP (HC)	Migrant ≈ 1,000+ during peak	Benefit from overall increase in wetland productivity. All managed wetlands and winter-flooded ag fields provide shallow water foraging habitat at various levels of inundation.	**Tracts 3-17:** Enhance existing managed wetlands and habitat diversity. **Tracts 2, 15, 17:** Create new wetland habitat through restoration.

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TECHNICAL ASSESSMENT QUESTION #3

How does the proposal location relate to the geographic priority wetlands described by the North American Waterfowl Management Plan, Partners In Flight, the U.S. Shorebird Conservation Plan, and/or the North American Waterbird Conservation Plan?

A. National priority wetland areas:

National Bird Plan Priority Areas	In	Partially In	Out
NAWMP	**X**		
PIF	**X**		
Wading Birds	**X**		
Shorebirds	**X**		

B. Regional important wetland areas:

Central Valley Joint Venture (CVJV): The CVJV was first organized in 1988 and was one of the original six priority joint ventures formed under the North American Waterfowl Management Plan (NAWMP). The CVJV recently completed the 2020 Implementation Plan (Plan) which provides an updated framework for wetland and wetland-dependent wildlife conservation. The Plan addresses all aspects of breeding and nonbreeding waterfowl, shorebirds, waterbirds and songbirds. The Plan also explicitly quantifies the need for protection, restoration and annual enhancement of managed wetlands in 5 planning basins – which include the Yolo-Delta and Suisun basins. Specific to this proposal, The Plan calls for the following conservation actions:

- Enhance 2,196 acres of wetlands in the Yolo-Delta Basin
- Protect and ensure longevity of winter-flooded rice fields in the Yolo-Delta Basin
- Enhance 2,386 acres of managed wetlands in the Suisun Basin

RAMSAR Wetland of International Importance: To qualify as a RAMSAR site, a wetland must exhibit superlative biodiversity and the presence of rare or unique wetland types. In February 2013, the San Francisco Bay Estuary (SFBE), which includes all of the Suisun Marsh, was designated a RAMSAR Wetland of International Importance. Despite losing one third of its size and approximately 85% of its wetlands to development, agricultural and salt flat conversion, and fill, the SFBE remains critically ecologically important, accounting for 77% of California's remaining perennial estuarine wetlands. SFBE is widely recognized as one of North America's most ecologically important estuaries, providing key habitat for a broad suite of flora and fauna, and a range of ecological services such as flood protection, water quality maintenance, nutrient filtration and cycling and carbon sequestration. SFBE is home to many plant species and over 1,000 species of animals, including endemic and conservation special-status species. SFBE is noted for hosting more wintering and migrating shorebirds than any other estuary along the U.S. Pacific Coast south of Alaska. Bay-wide surveys conducted each fall of 2006-2008 averaged over 340,000 shorebirds, including 29 species. 589,000-932,000 shorebirds were counted during spring surveys (during the height of migration) conducted between April 1988 and April 1993. Compared to the major wetlands along the Pacific Coast, SFBE held an average of 55.7% (37.8 to 90.1%) of the total number of individuals of 13 key shorebird species. In particular, a significant portion of arctic-breeding Dunlin and Western Sandpipers winter in SFBE. SFBE is also recognized as one of 67 Areas of Continental Significance for waterfowl by the North American Waterfowl Conservation Plan. SFBE is the winter home for 50 percent of the diving ducks in the Pacific Flyway. The U.S. Fish & Wildlife Service midwinter waterfowl counts from 1988-2006 documents SFBE as containing 49% of the scaup population and 43% percent of the scoters of the lower Pacific Flyway, from Washington State to southern California.

California Partners in Flight (CalPIF): The California Partners in Flight (CalPIF) was first established in 1992 and has been a leading force in promoting the conservation of resident and migratory landbirds and their habitats. CalPIF has identified priority habitat types that are important to these species and developed Bird Conservation Plans specific to California. The CalPIF Draft Grassland Bird Conservation Plan details increasing invasive plant species and loss of patch size as two causes for grassland habitat degradation and decline. **Tracts 1, 2 and 11** will improve and increase native upland habitats. These projects will assist CalPIF by promoting conservation and enhancement of grassland habitats which will support long-term viability and recovery of both native bird populations and other native wildlife species.

CalPIF – Riparian Bird Conservation Plan: The Riparian Bird Conservation Plan is a collaborative effort by the Riparian Habitat Joint Venture and its partners which has been developed to guide conservation policy and action on behalf of riparian habitats and California's landbirds. **Tracts 1 and 2** will restore 23 acres of riparian habitat which contributes to the plan's goals and objectives. The CalPIF designated focal species that may benefit directly from the completion of these projects include, but are not limited to, Willow Flycatcher, Warbling Vireo, Song Sparrow, Yellow Warbler, Black-headed Grosbeak, Common Yellowthroat, Wilson's Warbler, Blue Grosbeak and Swainson's Hawk.

US Fish and Wildlife Service's Implementation Plan - Central Valley/San Francisco Bay Ecoregion: This proposal adheres to the recommendations identified in the Implementation Plan for the Central Valley/San Francisco Bay Ecoregion (FWS, 1996). This plan calls for the protection, enhancement and restoration of wetland and upland habitats and for recovery and protection plans for specific species and habitat types. Key species mentioned within this plan include migratory and resident waterfowl and shorebirds, as well as species listed within Technical Question #6.

California Inland Wetlands Conservation Program & California Riparian Habitat Conservation Program: The goals of these two State programs are to carry out the recommendations of the CVJV

through the protection, restoration, and enhancement of wetland and riparian habitats. The Wildlife Conservation Board (WCB), which administers these two programs, has three basic components to their mission: 1) the acquisition of land and water (through ownership or easements) for recreational purposes and the protection of wildlife habitat; 2) the enhancement and restoration of wildlife habitats on public and private land; 3) the development of public access to the state's wildlife and fish resources. The program actively funds conservation easements and restoration projects within the Central Valley, which they've designated as a priority improvement area. Funding for Tract 2 was made available through the Inland Wetlands Conservation Program.

Suisun Resource Conservation District (SRCD): The Suisun Soil and Water Conservation District was formed in 1964 by a group of concerned landowners as a result of the authorization for the construction of the State Water project. It was later renamed the Suisun Resource Conservation District (SRCD). The passage of Assembly Bill 1717 in 1977 designated the SRCD as a special district of the State of California with the "primary local responsibility for regulating and improving water management practices of privately owned lands within the Primary Management Area of the Suisun Marsh." The SRCD's boundaries include about 30,000 acres of bays and sloughs, 27,000 acres of wetland-associated uplands, 6,300 acres of estuarine intertidal palustrine emergent and 52,000 acres of managed palustrine emergent habitats. The SRCD's primary mission is to assist landowners in wetland management and habitat enhancement while working cooperatively with federal, state, and local agencies on issues aimed at protecting and improving Suisun Marsh habitats. This proposal strives to accomplish the goals and objectives of the SRCD by bringing together a diversity of partners to collectively compile projects, funds and expertise to ensure a successful landscape-based approach to wetland enhancement.

Suisun Marsh Habitat Management, Preservation and Restoration Plan 2013: In mid 2013, the Suisun Marsh Habitat Management, Preservation and Restoration Plan was signed by a wide range of agencies including the US Bureau of Reclamation, US Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Wildlife, California Department of Water Resources and Suisun Resource Conservation Service. The document is supported by an EIS/EIR which identifies the preferred objectives and goals. The Plan calls for the restoration of 5,000-7,000 acres of tidal wetlands and the enhancement of the remaining managed wetlands to maintain the current populations of waterfowl and shorebirds. This proposal is complimentary to the Plan and will contribute to the goals identified within it.

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TECHNICAL ASSESSMENT QUESTION #4
How does the proposal relate to the national status and trends of wetlands types?

ACTIVITY AND TRACTS IN THE PROPOSAL	SATATUS, TYPES, AND ACRES OF WETLANDS DECREASING		UPLANDS & CROPLAND	TOTAL
	PFO = Palustrine Forested	PEM = Palustrine Emergent		
SECTION A				
RESTORED	23	48		71
ENHANCED	0	315	650	965
TYPE TOTALS	23	363	650	1,036
STATUS TOTALS	386		650	1,036
GRANT TOTAL	1,036			1,036
SECTION B				
T- 1 Staten Island Riparian (Grant + Non Match)	22			22

T- 2 Woodland Regional Park (Old Match + New Match)	1	16		17
T- 3 Crescent Family (Grant)				
T- 4 Empire Tract (Grant + New Match)		315		315
T- 5 GIWA Pond 3 (Grant)				
T- 6 Goodyear Slough WA (Grant)				
T- 7 H Pond Brood Pond (Grant + New Match)				
T- 8 Staten Island Ag (Grant + New Match)			650	650
T- 9 Tree Slough Farms (Grant + New Match)				
T- 10 YBWA Martins Brood Pond (Grant)				
T- 11 YBWA Martins Delivery Project (Grant)				
T- 12 Crescent Unit Drainage Improvement (Old Match)				
T- 13 Glide-In Lift Pump (New Match)				
T- 14 Glide-In Ranch (Old Match)				
T- 15 H Pond (Old Match)		16		16
T- 16 Rising Wings (Old Match)				
T- 17 Senator Outing (Old Match)		16		16

This proposal includes the conversion of 650 acres of row crop to rice production for the benefit of wetland-dependent wildlife. California has lost over 90% of its natural wetlands due to development and conversion to agriculture. Many wetland dependent species, like waterfowl and shorebirds, have since adapted to utilize agricultural fields in the absence of natural wetlands. The CVJV Plan suggests that the majority of all waterfowl food resources are provided by agricultural fields, the majority of which are rice fields. Current estimates suggest that about half of the shallow-flooded habitat in California is provided by winter-flooded rice fields. In addition to providing wintering habitat for millions of migratory waterfowl and shorebirds, rice fields provide brood rearing habitat for locally nesting waterfowl and shorebirds as well. Rice fields provide a quality surrogate for natural wetlands. Assisting with the conversion of less wildlife-friendly crops to rice, and protecting that conversion through easements and agreements, is important to ensure the sustainability wetland-dependent wildlife.

In addition to providing wildlife habitat resources, rice fields also provide ecological services similar to wetlands. Continual flooding contributes to groundwater recharging and replenishing nutrients in the soil. Longer hydroperiods, even when compared to some managed wetlands, reduces soil oxidation and carbon emissions. In some cases, and under certain farming practices, flooded rice straw contributes to a net carbon sequestration and organic soil accretion.

Proposed upland enhancements on Tract 10 are part of a waterfowl breeding habitat project that will accompany the development of a nearby brood pond. The uplands will replace existing fallow, weedy areas with native perennial grass mixes to provide long-lasting habitat for upland nesting waterfowl and other birds.

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TECHNICAL ASSESSMENT QUESTION #5

How does the proposal contribute to long-term conservation of wetlands and associated uplands?

ACTIVITY	ACRES BY LONGEVITY OF BENEFITS * Includes water control structures made of material other than wood. ** Includes wood water control structures and pumps.				TOTAL ACRES	
	**10-25		*26-99			
SECTION A	*Add*	*(Non-Add)*	*Add*	*(Non-Add)*	*Add*	*(Non-Add)*
RESTORED			71		71	0
ENHANCED	650	(650)	315	(2,244)	965	(2,894)
TOTAL	650	(650)	386	(2,244)	1,036	(2,894)
SECTION B	*Add*	*(Non-Add)*	*Add*	*(Non-Add)*	*Add*	*(Non-Add)*

T- 1 Staten Island Riparian (Grant + Non Match)		22	22
T- 2 Woodland Regional Park (Old Match + New Match)		17	17
T- 3 Crescent Family (Grant)		(130)	(130)
T- 4 Empire Tract (Grant + New Match)		315	315
T- 5 GIWA Pond 3 (Grant)		(200)	(200)
T- 6 Goodyear Slough WA (Grant)		(200)	(200)
T- 7 H Pond Brood Pond (Grant + New Match)		(35)	(35)
T- 8 Staten Island Ag (Grant + New Match)	650		650
T- 9 Tree Slough Farms (Grant + New Match)		(240)	(240)
T- 10 YBWA Martins Brood Pond (Grant)		(52)	(52)
T- 11 YBWA Martins Delivery Project (Grant)		(294)	(294)
T- 12 Crescent Unit Drainage Improvement (Old Match)		(240)	(240)
T- 13 Glide-In Lift Pump (New Match)	(650)		(650)
T- 14 Glide-In Ranch (Old Match)		(420)	(420)
T- 15 H Pond (Old Match)		16 (301)	16 (301)
T- 16 Rising Wings (Old Match)		(43)	(43)
T- 17 Senator Outing (Old Match)		16 (89)	16 (89)

All of the proposed projects are protected in perpetuity by fee title ownership or conservation easements held by at least one of the following agencies; US Fish and Wildlife Service, Natural Resources Conservation Service, California Department of Fish and Wildlife, Department of Water Resources or the Yolo Habitat Conservancy. The habitat improvements made on these lands will therefore be protected for the duration of the agreement.

All proposed privately owned projects will be maintained under a 26-year Grant Agreement with California Waterfowl. Agreements will require habitat management and maintenance of the affected areas (including materials). The site-specific plans will be developed between the landowner and California Waterfowl biologists and will provide detailed management practices and techniques to achieve the project goals. The agreements are in addition to and designed to work cooperatively with easement requirements of each program.

The methods and materials used for all restoration and enhancement activities follow local standards established by NRCS or SRCD and are designed to maximize the durability of the infrastructure and habitat. Ultimately, the goal of each project is to provide managers with sound infrastructure for efficient multi-species management capabilities while increasing habitat quality and diversity.

Tract 13 consists of installing a new lift pump to preserve the water supply to 650 acres of perpetually protected wetlands. However, the longevity of benefits is considered to be 10-25 years because the only action is the installation of a pump.

Tract 2 includes earthwork, revegetation and installation of a pump and well. Although the pump and well are the most costly components of the project the longevity of benefits is still considered to be greater than 26 years. The well and pump are not necessary to the success of the restoration efforts, but they guarantee water availability and ease of management. The site fills naturally with runoff and a small local spring that appeared during earthmoving activities.

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TECHNICAL ASSESSMENT QUESTION #6

How does the proposal contribute to the conservation of habitat for wetland associated, Federally listed or proposed endangered species; wetland associated state-listed species; and other wetland-associated fish and wildlife that are specifically involved with the proposal?

A. Federally Threatened, Endangered, or Proposed candidate species:

(Key: Federally Listed as Endangered=E, Threatened=T, Proposed=P, or Candidate=C)

Common Name	Federal Status	State Status	Occurrence
Delta smelt	T	E	Known to exist in the Suisun Marsh. They once occurred throughout the Marsh, but with dramatic population declines their presence has become less common. Their historical distribution would have included the tidal sloughs immediately adjacent to the project area. These fish are assumed to be present in the estuarine wetlands affected by the project in very low numbers.
Longfin smelt	C	T	Similar to the delta smelt, this species used to be more prevalent throughout Suisun Marsh, but population declines have reduced their occurrences. Historical distribution would have included the tidal sloughs immediately adjacent to the project area. These fish are assumed to be present in the estuarine wetlands affected by the project in very low numbers.
Chinook salmon (Central Valley spring-run)	T	T	Migrate through Suisun Marsh during multiple life stages. They are likely to occur along the major slough channels adjacent to several tracts.
Chinook salmon (Sacramento River winter-run)	E	E	
Steelhead (Central Valley ESU)	T		
Green Sturgeon (southern distinct population unit)	T		Known to exist throughout the year in the major sloughs of Suisun Marsh which are less than 1-mile from several tracts.
California ridgeway rail	E	E	Known to live in Suisun Marsh and breed occasionally. There are identified breeding areas within 1 mile several tracts, but there have been no known occurrences on the project sites.
California least tern	E	E	Known to breed and forage in Suisun Marsh. Their presence on and immediately around the tracts in Suisun Marsh is unknown, but is likely limited to occasional foraging.
Western snowy plover	T		Occasional migrant through the entire grant boundary. Use of tracts will be limited to occasional foraging.
Salt marsh harvest mouse	E	E	Known to be on neighboring properties which are part of long term monitoring projects. It is very likely, and assumed to occur on all tracts in Suisun Marsh.
Suisun thistle	E		Known to occur in Suisun Marsh but unknown and unlikely to occur within the proposed tracts.
Soft bird's-beak	E		
Contra Costa goldfields	E		

Bracted-palmate brid's-beak	E	E	Known to occur on Woodland Regional Park adjacent to restoration activities.
Giant garter snake	T	T	Known to occur on the Yolo Wildlife Area (Tracts 10 & 11) and assumed to be present on all other tracts in the Yolo Bypass (Tracts 7, 13-17)

Narrative: Managing wetlands in Suisun Marsh is subject to a unique set of constraints and variables from season to season and from year to year. Some traditional management strategies and existing infrastructure have been documented to produce and discharge very poor quality water (low dissolved oxygen content) into the adjacent tidal sloughs, which has significant negative impacts on aquatic organisms. The tidal sloughs in Suisun Marsh support six federally listed or candidate species of fish (listed above) at some point during their life cycle. Discharging poor quality water into sloughs when these fish are present can be harmful and even deadly. The most effective method for improving the quality of water discharged from managed wetlands is by increasing exchange rates. The proposed activities on Tracts 3, 5, 6 and 12 will improve circulation and the rate of exchange which will improve the water quality that is drained directly into the sloughs. It is unknown exactly how many individual fish will benefit from these projects, however the enhancements will improve habitat quality for each species during various stages in their life cycle.

Recent studies have shown that managed wetlands have significant benefits to native fish that were not previously know. The most significant benefit is food production and export. The relatively shallow and warm waters of managed wetlands produce phytoplankton and zooplankton at astonishing rates compared to tidal sloughs where the fish live most of their lives. The plankton produced in the managed wetlands are discharged into the sloughs through water control structures at different rates and at different times of the year depending on the water management strategies employed. The amount of food a given managed wetland can provide is proportional to the total volume of water that enters into, then exits out of the managed wetland. Increased circulation rates when wetlands are flooded increases the total amount of planktonic food exported for the benefit of native fish.

The **California ridgeway rail** (FE) uses the tidal salt and brackish marshes throughout San Francisco and San Pablo Bay. They are known to nest along tidal sloughs in Suisun Marsh. The proposed projects will have minimal impact on this species.

California least terns (FE) have been documented nesting in Suisun Marsh and regularly forage in managed wetlands in the area. They are regularly found in the Marsh but in low numbers. Water quality improvements in the managed wetlands and in the tidal sloughs will improve foraging habitats for a few individuals of this species.

The California Department of Fish and Wildlife has set aside 2,200 acres in the Suisun Marsh that are specifically managed for the **salt marsh harvest mouse** (SMHM) (FE). Monitoring efforts on these areas and others in the Marsh have shown that SMHM are more prevalent in and adjacent to diverse managed seasonal wetland units than in monotypic wetlands. Activities on Tracts 3, 5, 6 and 12 are intended to improve the productivity and diversity of managed wetlands, which could benefit up to 100 individuals of this species.

Suisun thistle, **soft bird's beak and Contra Costa goldfield** are known to occur in Suisun Marsh, but are unlikely to be found on the proposed tracts and therefore there will be no benefits or impacts to these species.

Palmate-bracted bird's beak is known to occur along the edges of the restored borrow pit on Tract 2. Surveys were completed prior to the project to identify its distribution. The species was found in one isolated area and appropriate avoidance measures were taken. There are no anticipated benefits or impacts to this species.

Western snowy plover breeds along coastal shores only a few dozen miles from the Suisun Marsh. Their presence in or around the proposed tracts will be limited to occasional use during migration.

The **Giant Garter Snake (GGS)** occurs within the Yolo Bypass and ranges throughout the Yolo Basin. Protection and restoration of palustrine emergent wetlands with dense emergent perimeter vegetation (key habitat components identified within the Draft Recovery Plan for the Giant Garter Snake) are important for the conservation and the survival of the species. The projects in the Yolo Bypass WA will directly benefit the giant garter snake throughout the year by improving and expanding the available water supplies to habitat. The first official sighting of a giant garter snake at the Yolo Bypass WA took place on March 23, 2004 by the area manager at the time. Since 2006, an ongoing study at the wildlife area has documented snake populations with densities in the study area at 96 snakes/square km. Tracts 7 and 10 will increase summer-flooded wetlands increasing overall habitat availability for giant garter snake. Tract 11 will construct a new water delivery ditch system that convey water to management units in summer months, further expanding potential habitat. GGS are known to occur near Tract 2, but have not been observed on the site. The habitat restoration will create suitable habitat for GGS which would allow the species to expand its local range.

B. Wetland-dependent species of greatest conservation need (SGCN) from the appropriate State Wildlife Action Plan (SWAP):

Short-eared Owls are known to nest in the large contiguous uplands of Grizzly Island Wildlife Area adjacent to Tracts 8 & 9. Upland habitat enhancements on these tracts, and nearby Tract 3, will provide improved nesting and foraging habitat for a few individuals of this species.

Swainson's hawks (ST) are an uncommon summer resident and breeding species within Suisun Marsh. They often forage in grasslands and seasonal wetland areas during initial floodup and irrigations when small mammals and insects are displaced. Habitat enhancement efforts may provide improved foraging habitat for a few individuals of this species.

California black rails (ST) are usually found within the tidal wetlands along the tidal sloughs and around the outside of the levees in Suisun Marsh. These birds do utilize managed wetlands at times. It is unlikely that this species will benefit significantly from any actions in this proposal. Increased tall emergent vegetation on tract 5 as a result of switching to semi-permanent management strategy may provide additional habitat for a few individuals of this species.

Sacramento Splittail is listed as "moderate concern". These large native minnows spend much of their lifetime in the tidal sloughs of Suisun Marsh. Increased circulation rates and connectivity between managed wetlands and tidal sloughs increases the export of zooplankton and invertebrates that are produced in the managed wetlands to the tidal sloughs which are fed on by splittail. Splittail can often be found congregated near managed wetland outfalls feeding. Several hundred individuals may benefit from the proposed projects.

Northwestern Pond Turtle are found throughout the fresher portions of Suisun Marsh. Increased circulation and drainage rates will decrease overall salinity in managed wetlands increasing the availability and sustainability of habitats when average salinities increase during years of lower precipitation and runoff, which may benefit a few individuals of this species.

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TECHNICAL ASSESSMENT QUESTION #7
How does the proposal satisfy the partnership purpose of the North American Wetlands Conservation Act?

A. Ratio of the Non-Federal Match to the Grant Request: This proposal includes $1,506,549 in non-federal match, which results in a **1.5:1** match to grant ratio.

B. 10% Matching Partners: California Waterfowl Association, California Wildlife Conservation Board, Conservation Farms and Ranches, Glide-In, H Pond

C. Partner Categories

State agencies: California Department of Fish and Wildlife, California Wildlife Conservation Board
Non-governmental conservation organizations: California Waterfowl Association, The Nature Conservancy, Conservation Farms and Ranches
Local governments, counties or municipalities: City of Woodland
Private landowners: Empire Tract, Tree Slough Farms, H Pond, Glide-In
Federal agencies: USFWS Partners for Fish and Wildlife Program
Other partner groups:

D. Important Partnership Aspects: This proposal includes several new partnerships. CWA, a leader in wetland conservation in California, has never partnered with The Nature Conservancy, a leader in global conservation, or Conservation Farms and Ranches, in any sort of habitat restoration or enhancement project. This proposal will hopefully pave the way for future cooperation between the organizations.

The City of Woodland is also a new partner with CWA and with NAWCA.

E. Public Access:

Tract 1: Although The Nature Conservancy (landowner) does allow certain wildlife-oriented tours and wildlife viewing from some of the roads on the island, the portions of the island where the proposed activities will take place are not open to the public. Once the project is complete, there may be an opportunity to allow wildlife-oriented tours to visit these sites as well.

Tract 2: Woodland Regional Park will be open to public day-use once the restoration project is complete. Activities will include hiking and wildlife viewing, including a wheelchair accessible trail along the edge of the restored wetlands. There are several relatively small areas surrounding the restored wetland that currently support, or are capable of supporting, endangered palmate-bracted bird's beak that will be closed to public access. These areas are not included in the acreage of the proposed project.

Tract 8: This area is partially visible from the public road that runs through the middle of Staten Island, which facilitates public wildlife viewing opportunities, especially during winter. TNC has partnered with CWA to facilitate a control public waterfowl hunting program on portions of Staten Island, including the areas that were recently converted to rice production. The portion of the island affected by the proposed project has not been included in this program, it may be included in the future. The permanent levees and water management infrastructure included in the project scope will make it more suitable for such access.

Tract 3, 6 & 12: Part of Grizzly Island wildlife area, these tracts are open to public waterfowl hunting Saturdays, Sundays and Wednesdays during waterfowl hunting season. The Crescent Family is limited to hunting parties that include at least one youth hunter. These units are closed to public access the remainder of the year.

Tract 5: This tract is open to waterfowl hunting similar to Tracts 3, 6 & 12. However, this unit is open to additional public access throughout the rest of the year. Allowable activities include hiking, dog training, wildlife viewing, fishing, upland hunting, rabbit hunting and elk hunting. There are seasonal closures for these activities throughout the year to limit potential conflicts with wildlife (i.e. dog training during nesting season) and between user groups (i.e. hikers and elk hunters).

Tracts 10 & 11: Both tracts are part of the Yolo Bypass Wildlife Area and are open to public waterfowl and upland bird hunting Saturdays, Sundays and Wednesdays during waterfowl hunting season. These areas are closed to public access the remainder of the year.

Tracts 4, 7, 9, 13- 18: These tracts are privately-owned properties are not open to the public.

ATTACHMENTS

2020 Tract Table
Final Titleholder Summary
Project Location Map
Tract Location Map
OMB Circular A-133 Compliance Report
April 2019 Approved Indirect Cost Rate
June 2020 Approved Indirect Cost Rate
Partnership Letters

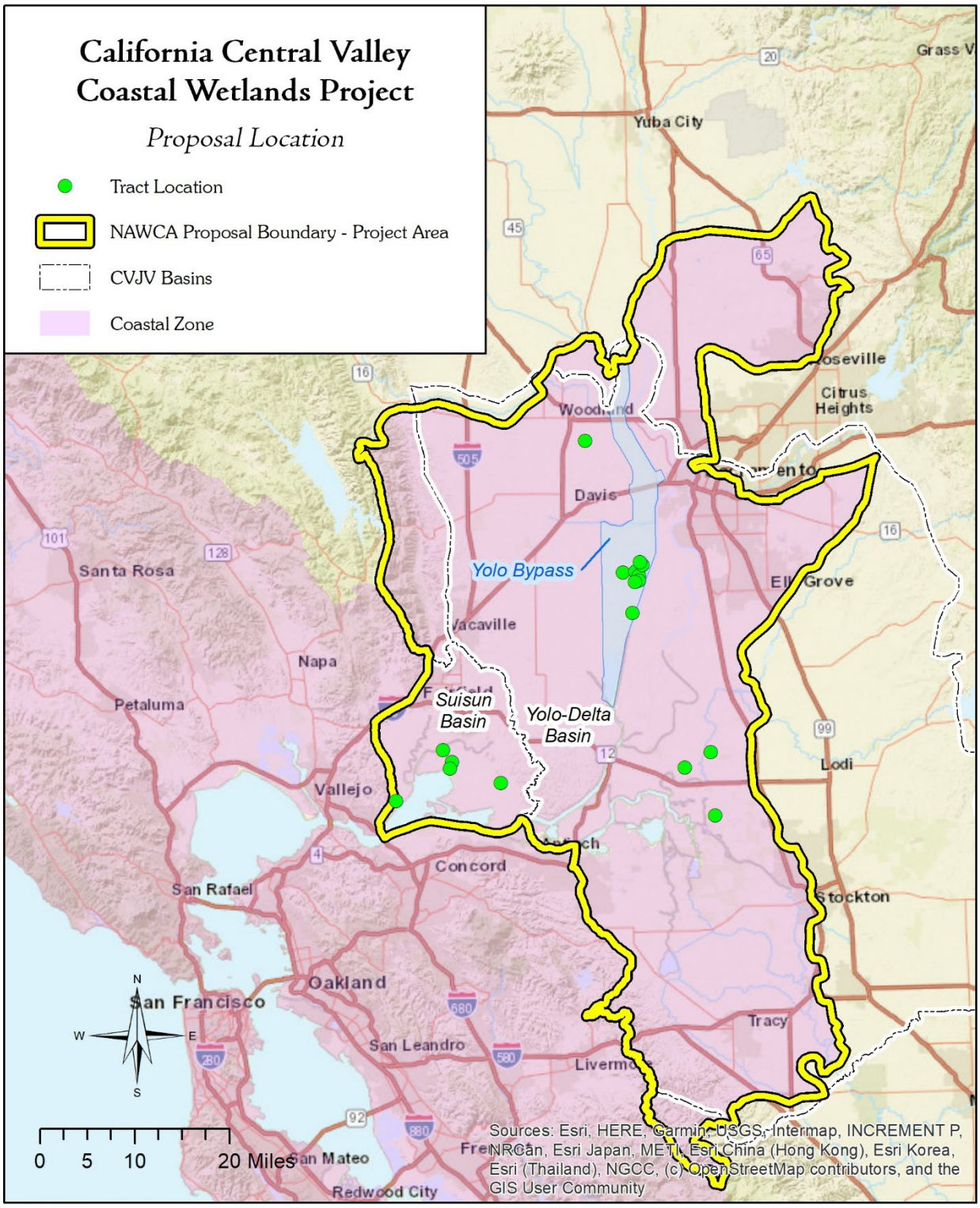
California Central Valley Coastal Wetlands Project

2020 Tract Table

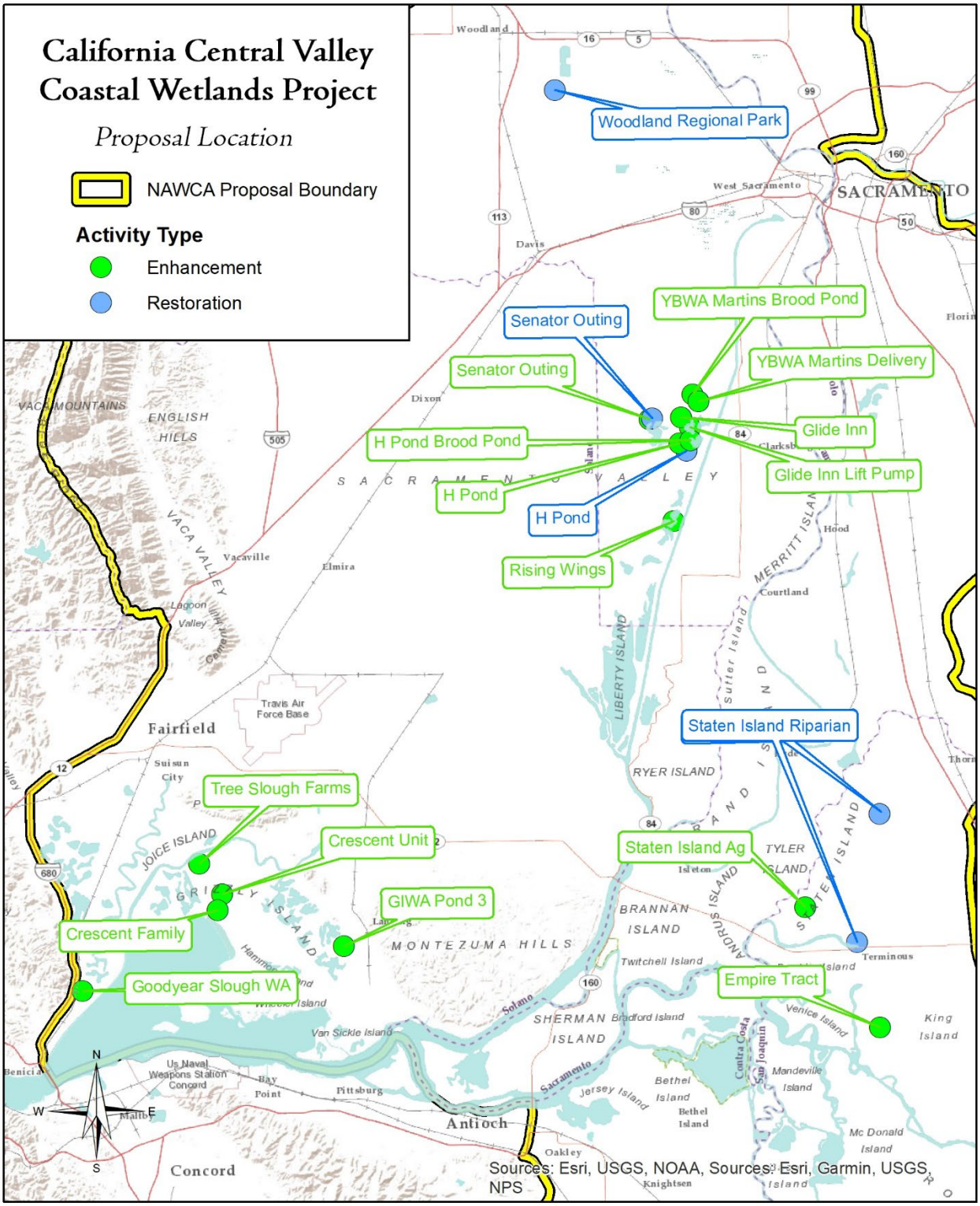
Tract ID	Total Acres		Wetland Acres		Upland & Cropland Acres		Public Access	County & State	Central Track Location		Final Title Holder
	Add	*Non-Add*	*Add*	*Non-Add*	*Add*	*Non-Add*			*Lat*	*Long*	
RESTORATION											
Tract 1: Staten Island Riparian	22		22					San Joaquin Co., CA	38.16334	-121.48739	TNC
Tract 2: Woodland Regional Park	17		17				17	Yolo Co., CA	38.64266	-121.72299	City of Woodland
Tract 15: H Pond	16		16					Yolo Co., CA	38.42545	-121.62980	CDFW
Tract 17: Senator Outing	16		16					Yolo Co., CA	38.44053	-121.65273	PVT
Total Restoration	**71**		**71**				**17**				
ENHANCEMENT											
Tract 3: Crescent Family		(130)		(130)			130	Solano Co., CA	38.14355	-121.99319	CDFW
Tract 4: Empire Tract	315		315					San Joaquin Co., CA	38.06648	-121.48129	PVT
Tract 5: GIWA Pond 3		(200)		(200)			200	Solano Co., CA	38.12073	-121.89551	CDFW
Tract 6: Goodyear Slough WA		(200)		(200)			200	Solano Co., CA	38.09508	-122.09824	CDFW
Tract 7: H Pond Brood Pond		(35)		(35)				Yolo Co., CA	38.42740	-121.62126	PVT
Tract 8: Staten Island Ag	650				650			San Joaquin Co., CA	38.14059	-121.53800	TNC
Tract 9: Tree Slough Farms		(240)		(240)				Solano Co., CA	38.17211	-122.00682	PVT
Tract 10: YBWA Martins Brood Pond		(52)		(52)		(9)	52	Yolo Co., CA	38.45544	-121.61918	CDFW
Tract 11: YBWA Martins Delivery Project		(294)		(294)			294	Yolo Co., CA	38.45100	-121.61474	CDFW
Tract 12: Crescent Unit Drainage Improvement		(240)		(240)			240	Solano Co., CA	38.15348	-121.98935	CDFW
Tract 13: Glide-In Lift Pump		(650)		(650)				Yolo Co., CA	38.43514	-121.62157	PVT
Tract 14: Glide-In Ranch		(420)		(420)				Yolo Co., CA	38.44142	-121.62842	PVT
Tract 15: H Pond		(301)		(301)				Yolo Co., CA	38.42545	-121.62980	PVT
Tract 16: Rising Wings		(43)		(43)				Yolo Co., CA	38.37794	-121.63551	PVT
Tract 17: Senator Outing		(89)		(89)				Yolo Co., CA	38.44053	-121.65273	PVT
Total Enhancement	**965**	**(2,894)**	**315**	**(2,894)**	**650**	**(9)**	**1,116**				
TOTAL	**1,036**	**(2,894)**	**386**	**(2,894)**	**650**	**(9)**	**1,133**				

FINAL TITLEHOLDER SUMMARY:

California Department of Fish and Wildlife	1,116 acres
The Nature Conservancy	672 acres
City of Woodland	17 acres
Private	2,125 acres
TOTAL	**3,930 acres**


California Central Valley
Coastal Wetlands Project
Proposal Location
Tract Location
NAWCA Proposal Boundary - Project Area
CVJV Basins
Coastal Zone
Yuba City
Grass V
Woodland
Citrus Heights
Davis
Yolo Bypass
Santa Rosa
Vacaville
Napa
Petaluma
Suisun Basin
Yolo-Delta Basin
Vallejo
Concord
San Rafael
Lodi
Stockton
Oakland
San Francisco
San Leandro
Tracy
San Mateo
Redwood City
N
W
E
S
0 5 10 20 Miles
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Partners:


California Central Valley
Coastal Wetlands Project
Proposal Location
NAWCA Proposal Boundary
Activity Type
Enhancement
Restoration
Woodland Regional Park
Senator Outing
YBWA Martins Brood Pond
Senator Outing
YBWA Martins Delivery
H Pond Brood Pond
Glide Inn
Glide Inn Lift Pump
H Pond
H Pond
Rising Wings
Staten Island Riparian
Staten Island Ag
Tree Slough Farms
Crescent Unit
GIWA Pond 3
Crescent Family
Goodyear Slough WA
Empire Tract
Sources: Esri, USGS, NOAA, Sources: Esri, Garmin, USGS, NPS

Partners:

AUDIT REPORT

APRIL 2019 ICR

CWA received preliminary approval of a new Indirect Rate Cost Negotiation Agreement in June 2020. The indirect rate of 18.91% listed in the preliminary notification was used to develop this proposal. On July 7, CWA received the finalized Indirect Rate Cost Negotiation Agreement. At the time that this proposal was submitted, the agreement had not been fully executed by both parties. The unexecuted agreement is attached for reference.

PARTNERSHIP CONTRIBUTION FORMS

Due to COVID-19 related staffing shortages and logistics, CWA was not able to obtain all Partnership Contribution Forms prior to the July 10 submission deadline. CWA will forward all letters as a single package once they have all been received. We expect this will not take more than a week or two to accomplish.