SAN FRANCISCO BAY RESTORATION AUTHORITY

Staff Recommendation
December 16, 2022

SUISUN MARSH ESSENTIAL FISH SCREEN REHABILITATION PROJECT: PHASE 2

Project No. RA-016
Project Manager: Karen McDowell

RECOMMENDED ACTION: Authorization to disburse up to $1,263,319 to the Suisun Resource Conservation District to prepare final designs and reconstruct two Essential Fish Screens along Montezuma Slough to help protect fish and 382 acres of managed wetlands in Suisun Marsh in Solano County.

LOCATION: Suisun Marsh, Solano County; Measure AA Region: North Bay

MEASURE AA PROGRAM CATEGORY: Vital Fish, Bird and Wildlife Habitat Program

---

EXHIBITS

Exhibit 1: Project Location and Site Maps

Exhibit 2: Project Photographs and Designs

Exhibit 3: Suisun Marsh Habitat Management, Preservation, and Restoration Plan Final Environmental Impact Statement/Environmental Impact Report (EIR/S)

Exhibit 4: Suisun Marsh Habitat Management, Preservation, and Restoration Plan, SMP EIR/S, Appendix F: Mitigation, Monitoring and Reporting Plan (MMRP)

Exhibit 5: Project Letters

Exhibit 6: July 17, 2020 Staff Recommendation

RESOLUTION AND FINDINGS:

Staff recommends that the San Francisco Bay Restoration Authority adopt the following resolution and findings:

Resolution:

The San Francisco Bay Restoration Authority hereby authorizes the disbursement of an amount not to exceed one million two hundred and sixty-three thousand, three hundred and nineteen dollars ($1,263,319) to Suisun Resource Conservation District to prepare final designs and reconstruct two Essential Fish Screens along Montezuma Slough to help protect fish and 382 acres of managed wetlands in Suisun Marsh in Solano County. Prior to commencement of the

project, the grantee shall submit for the review and written approval of the Executive Officer of the Authority the following:

1. A detailed work program, schedule, and budget.
2. Names and qualifications of any contractors to be employed in carrying out the project.
3. A plan for acknowledgement of Authority funding.
4. Evidence that all permits and approvals required to implement the project have been obtained.
5. Evidence that the grantee has entered into a project labor agreement consistent with San Francisco Bay Restoration Authority Resolution 22.
6. Evidence that the grantee has entered into agreements sufficient to enable the grantee to implement, operate, and maintain the project.

Findings:

Based on the accompanying staff report and attached exhibits, the San Francisco Bay Restoration Authority hereby finds that:

1. The proposed authorization is consistent with The San Francisco Bay Restoration Authority Act, Gov. Code Sections 66700-66706.
2. The proposed authorization is consistent with The San Francisco Bay Clean Water, Pollution Prevention and Habitat Restoration Measure (Measure AA).
3. The San Francisco Bay Restoration Authority has independently reviewed and considered the *Suisun Marsh Habitat Management, Preservation, and Restoration Plan Final Environmental Impact Statement/Environmental Impact Report* (SMP EIR/S), which was certified by the California Department of Fish and Wildlife (DFW) on December 22, 2011 (Exhibit 3). The SMP EIR/S indicates that reconstructing the Essential Fish Screens along Montezuma Slough has potentially significant effects in the areas of Air Quality, Noise, Utilities and Public Services, and Cultural Resources. As described in the SMP EIR/S and accompanying Mitigation Monitoring and Reporting Plan (MMRP) (Exhibit 4), mitigation measures will eliminate or substantially lessen all potentially significant effects to a less than significant level. There is no substantial evidence that reconstructing the Essential Fish Screens, as mitigated, will have a significant effect on the environment.

PROJECT SUMMARY:

Staff recommends that the Authority authorize a grant of up to one million two hundred and sixty-three thousand, three hundred and nineteen dollars ($1,263,319) to the Suisun Resource Conservation District (SRCD) to prepare final designs and reconstruct two Essential Fish Screens (EFS) along Montezuma Slough to help protect fish and 382 acres of managed wetlands of Suisun Marsh in Solano County (Exhibit 1, Regional Map). This project uses the results of an assessment and test pilot project funded by the Authority (grant was authorized on July 17, 2020) (Exhibit 6) to prioritize the two most degraded EFS sites (EFS #425 and EFS #506), which provide water for five managed wetlands (Exhibit 1, EFS Site Locations).

Suisun Marsh is the largest brackish wetland on the Pacific coast. Its managed wetlands, primarily duck hunting areas owned by private landowners and the California Department of Fish and Wildlife (DFW), consist of diked lands that are managed to maximize waterfowl

production by diverting water from adjacent sloughs at certain times of year and draining or pumping out water at other times of year. The ability to divert water from sloughs during low salinity periods into the managed wetlands is critical for improving habitats by flooding the wetlands, reducing soil salinities, and increasing germination and healthy growth of plants favored by waterfowl. Levees, ditches, water control facilities, and drainage pumps are used to manipulate the timing, duration, and depth of flooding.

If fish are pulled into the intakes (flood pipes), a process known as entrainment, the fish are trapped in the managed wetlands and stranded when the wetlands are later drained as part of the annual management cycle or consumed by birds. To protect native fish populations from entrainment into managed wetlands, the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), and DFW have established a regulatory framework of restrictions on unscreened diversions in Suisun Marsh, through which diversions are reduced or prohibited for seven months of the year (November 1 to May 31). Restrictions coincide with critical flooding periods for wintering waterfowl habitat, spring salt leaching cycles, and wetland irrigations.

EFS have been installed on intakes along Montezuma Slough in Suisun Marsh to prevent entrainment of fish (Exhibit 1. EFS Site Locations). Suisun Marsh EFS were designed to comply with the flow rate requirements established by USFWS for Delta smelt and NMFS for salmon (Exhibit 2. EFS). With EFS installed, managers are able to apply water to the managed wetlands during sensitive biological periods for fish, i.e., when Central Valley populations of chinook salmon and steelhead, most of which use Suisun Marsh during their migrations, and other fish species of concern, such as Delta and longfin smelt, are present.

To maximize habitat values of managed wetlands, water diversion infrastructure needs to be in optimal working order. After more than 20 years in a brackish, corrosive environment, the original EFS have exceeded their useful life and must be rehabilitated to extend their intended function (Exhibit 2. EFS Maintenance Concerns). Salinity in northern San Francisco Bay is determined by the interacting forces of sea level height and river inflow. With impending sea level rise due to climate change, as well as constant pressure from upstream water users to increase freshwater diversions and reduce river inflow to the Bay, salinities in Suisun Marsh are expected to increase. Therefore, properly-operating EFS are essential for having the ability to divert low salinity water, when it is available, to maintain brackish habitat in the managed wetlands.

This project is the second of several phases. Phase 1, authorized for funding by the Authority on July 17, 2020 (Exhibit 6), assessed the condition of 14 existing EFS, developed a plan to rehabilitate the EFS and associated infrastructure, developed a design for EFS rehabilitation, and tested the design in a pilot project on EFS #634. In addition, Phase 1 included upgrades to the solar power systems at six remote EFS sites and rebuilt the SRCD's 1986 boom truck to restore the capacity to regularly maintain the EFS.

Phase 2 will prepare final designs for, and reconstruct the two most degraded sites, EFS #425 and EFS #506, which were identified in Phase 1 (Exhibit 2). These two sites, which are at imminent risk of failure, provide water to five wetlands: EFS #425 provides water to California Farms, and EFS #506 provides water to wetlands 506-509 (Four Winds, GrizzFizz, Little West Wind, and Garben Ranch). The draft designs for EFS #425 and #506 developed in Phase 1 include construction of sheet pile walls to reinforce the levee around the intake site; repair or installation of new pipes, slide gates, and new fish screen structures; tidal dredging around the fish screen structure to enable flow; and construction of wooden support platforms for the fish

screen structures (Exhibit 2. Draft Designs). Elements of this work will include landowner and agency meetings, site survey and geotechnical inspection, finalizing site plans and construction drawings, drafting bid documents and contracts, coordinating and holding bid meetings, negotiating contracts, ordering materials, coordinating material delivery, construction coordination and supervision, cost tracking, invoice processing, and providing documentation for reports. The construction and results from these two sites will be presented in a summary report, which will be used to inform future phases of the project.

Completion of Phase 2 will help protect fish while enabling maintenance of 382 acres of managed wetlands. SRCD will continue to seek funding from other grant sources and from the Authority to complete the remaining 11 EFS sites and benefit an additional 4,924 acres of managed wetlands. Staff recommends that funding for future phases be considered after Phase 2 is initiated.

SRCD works collaboratively with private landowners; local, state, and federal agencies; and conservation organizations to meet the needs of Suisun Marsh, Solano County, and the San Francisco Bay-Delta. The 1977 Suisun Marsh Preservation Act empowered SRCD with the responsibility for regulating and improving water management practices on privately owned lands within the primary management area of Suisun Marsh. Since it was formed 40 years ago, SRCD has had extensive experience in managing wetland improvement projects in Suisun Marsh. Earlier partners have included the Bureau of Reclamation and the Department of Water Resources. Under Phase 2, SRCD will manage the project, working with the five private landownerships and overseeing a subcontract with Ducks Unlimited. Ducks Unlimited will lead construction, engineering, and implementation. Additional support will be provided by Intake Screens, Inc., Shannon & Wilson Geotechnical Engineers, and Troubadour Land Surveying, companies that are highly experienced in wetland projects. A Project Labor Agreement will be signed for the construction portion of the project, which will create quality jobs for the local workforce.

SRCD plays a leading role in engaging communities in the conservation of natural resources in Suisun Marsh. SRCD leads semiannual workshops to inform local landowners of changes in regulatory issues and permitting to manage their wetlands. In addition, surrounding communities, including Bay Point, Benicia, Fairfield, Pittsburg, Suisun City, and Travis Air Force Base, work in partnership with SRCD and landowners on Suisun Marsh conservation issues. These communities support SRCD's efforts to improve water quality, public recreation, and ecosystem values.

Site Description: Suisun Marsh is in Solano County and lies between Central Valley freshwater outflows from the Sacramento and San Joaquin Rivers and saltwater incursion from San Francisco Bay, creating a unique and ecologically rich brackish wetland complex of more than 50,000 acres. It is a mosaic of public and privately owned tidal and managed wetlands, bays, and sloughs. It is the largest contiguous brackish water marsh on the Pacific coast and is a critical part of the Bay-Delta estuary ecosystem, encompassing over 10% of California's remaining wetlands.

Suisun Marsh provides essential habitat for more than 221 bird species, 45 species of mammals, 16 species of reptiles and amphibians, and over 40 fish species. In addition to the primary value as waterfowl habitat, managed wetlands provide valuable habitat for a variety of non-waterfowl birds, mammals, reptiles, and amphibians. Birds such as Suisun song sparrows, salt marsh common yellowthroats, shorebirds, and ring-necked pheasants forage and nest in the managed wetlands. These habitats support mammals such as the salt marsh harvest mouse, northern river

otter, coyote, raccoon, striped skunk, black-tailed jackrabbit, muskrat, and tule elk, as well as native reptiles and amphibians (e.g., western pond turtles and gopher snakes).

Suisun Marsh is protected from development and urban encroachment under the 1977 Suisun Marsh Preservation Act and the Bay Conservation and Development Commission (BCDC) 1976 Suisun Marsh Protection Plan to preserve its integrity and assure continued wildlife use. Primary land uses are open space and conservation of managed wetland and wildlife habitat. It is a principal area for Pacific Flyway wintering waterfowl, and the largest public landowner is DFW, managing over 15,000 acres on the Grizzly Island Wildlife Area complex. Suisun Marsh supports the state's commercial and recreational salmon fishery by providing important tidal rearing areas for juvenile salmonids. To protect salmon, restrictions on unscreened water diversions and use of EFS in Montezuma Slough were included in the U.S. Army Corps of Engineers (Corps) 1995 Regional General Permit (RGP 3), with consultation with U.S Bureau of Reclamation, USFWS, NMFS, and other agencies (Exhibit 2). These water diversion restrictions, along with those imposed for the seasonal protection of Delta and longfin smelt, were incorporated by the Corps as special conditions in RGP 3. To comply with permit conditions 14 EFS were installed between 1996 and 2006. Twelve of the EFS sites are located on private property, including EFS #634 where the pilot project was conducted during Phase 1, and EFS #425 and EFS #506, where Phase 2 will be conducted (Exhibit 1, EFS Site Locations). These twelve EFS sites enable water diversions for approximately 5,306 acres of managed wetlands that are privately owned (involving 26 private landownerships). The maintenance of these managed wetlands has a private benefit for waterfowl hunting (represented by the private landownerships) but also serves broader public interests including those related to the State Water Project and Central Valley Project and therefore protection of the managed wetlands is required and highly regulated. The two EFS to be constructed under this project will enable water diversion for 382 acres of managed wetlands, involving five of the 26 private landownerships. Two EFS sites are located on, and affect managed wetlands on, property owned by SRCD and DFW. These two EFS sites will be addressed in future phases.

PROJECT FINANCING

San Francisco Bay Restoration Authority	$1,263,319
Suisun Resource Conservation District	$36,733
Project Total	**$1,300,052**

In addition to the Authority funds towards project management, final design, and construction, operations, and maintenance, SRCD will provide $36,733 in staff resources from the SCRD General Fund and SRCD's Water Manager Program to contribute to the proposed project. The Water Manager Program is funded through the Suisun Marsh Preservation Agreement and supports three SRCD staff to assist landowners in wetland habitat management in the marsh.

CONSISTENCY WITH AUTHORITY'S ENABLING LEGISLATION, THE SAN FRANCISCO BAY RESTORATION AUTHORITY ACT:

The proposed project is consistent with Section 66704.5(a), (b), and (e) of the San Francisco Bay Restoration Authority Act and is therefore eligible for grant funding from the Authority. Consistent with Section 66704.5(a), the project is within the Authority's jurisdiction because it

will occur in wetlands adjacent to San Francisco Bay, and SRCD is an eligible grantee as a special district with the responsibility for regulating and improving water management practices on privately owned lands within the primary management area of Suisun Marsh. Consistent with section 66704.5(b)(1), the project consists of rehabilitation of two of the EFS along Montezuma Slough to help protect fish and 382 acres of managed wetlands in Suisun Marsh in Solano County. Consistent with section 66704.5(e), this is a proposed design and construction project, both of which are eligible phases for Authority funding.

CONSISTENCY WITH MEASURE AA PROGRAMS AND ACTIVITIES:

The project supports the *Vital Fish, Bird and Wildlife Habitat Program's* purpose to significantly improve wildlife habitat that will support and increase vital populations of fish, birds, and other wildlife in and around the Bay by increasing reliability and resilience of two EFS that enable water diversion for adaptive management. It will (a) enhance protected lands by ensuring more reliable water for five managed wetlands; (b) protect wetlands to benefit shorebirds and waterfowl; and (c) protect fish, including the Central Valley chinook salmon, Delta smelt, longfin smelt, and green sturgeon, from entrainment. Water diversions using EFS are critical for management of these wetlands.

CONSISTENCY WITH MEASURE AA PRIORITIZATION CRITERIA:

1. **Greatest positive impact.** This project will have a great positive impact on the Bay as a whole, because it benefits brackish wetlands (382 acres) and associated wildlife. The rehabilitation of EFS on private lands in Suisun Marsh will ensure that landowners can continue to divert water to retain and enhance the value of managed wetlands while protecting Central Valley populations of chinook salmon, most of which use Suisun Marsh during their migrations, and other fish species of concern such as Delta and longfin smelt. The enhancement of 382 acres of managed wetlands helps implement the Suisun Marsh Habitat Management, Preservation, and Restoration Plan (2013), which has the co-equal goals of enhancing 50,000 acres of managed wetlands and restoring 7,000 acres of tidal marsh, where both habitat types benefit a wide diversity of wildlife species.

2. **Greatest long-term impact.** This project has a long-term impact on the Bay, because it supports the conservation goals under the Suisun Marsh Plan. In development for over a decade and prepared jointly by numerous federal and state agencies, the Suisun Marsh Plan is the guidance document for conservation of this critical area of the estuary over the next 30 years. It was based on best scientific studies indicating enhancement of up to 50,000 acres of managed wetlands as a major element of the preferred habitat mosaic (see San Francisco Baylands Ecosystem Habitat Goals Project 1999). The Goals Project states: "On the majority of lands within Suisun Marsh, the long-standing practice of managing diked wetlands primarily for waterfowl should continue. These brackish marshes should be enhanced, through protective management practices, to increase their waterfowl carrying capacity."

   Suisun Marsh supports a large proportion of the contiguous wetlands in the San Francisco Estuary. It provides public access and recreation, carbon sequestration (brackish areas may have the greatest potential for sequestering carbon with minimal methane emissions) and increases resilience to climate change through providing the management options to adaptively manage the wetlands with changing freshwater inflows.

3. **Leveraging resources and partnerships.** See Project Financing section above for details on $36,733 matching funds provided by SRCD. The five private landowners that benefit from the proposed EFS rehabilitation will contribute support for long-term maintenance of the EFS, and they will provide logistical support for the project planning and construction. Funding support for these contributions are independently obtained, and Authority funding match will not be required to secure them.

4. **Economically disadvantaged communities.** This project will benefit economically disadvantaged communities, since Suisun Marsh is surrounded by several recognized block and tract disadvantaged communities including south Fairfield, Pittsburg, Suisun City, and Travis Air Force Base. Even though the direct benefits take place on private property, the project will benefit water quality within the region, potentially reducing contaminants (such as methylmercury) through improved water control. It will also significantly reduce bare areas without vegetation throughout the marsh that are sources of windborne dust and associated contaminants that affect the diverse neighboring communities. In addition to the pollution reduction effects, the EFS will protect the fish from entrapment and therefore have positive impacts of the fish population and support recreational fishing opportunities in the larger Suisun area.

5. **Benefits to economy.** This project will provide employment opportunities for Bay Area residents, especially in Solano County, for construction of the infrastructure. Flood risk for infrastructure and the shoreline communities that ring the Suisun Marsh will be reduced by establishing EFS diversion gates that allow waters to be directed into wetlands during flooding events if needed. The EFS infrastructure itself will be designed to be durable on the basis of the past 20 years of maintenance experience.

6. **Monitoring, maintenance, and stewardship.** Under the Suisun Marsh Plan (2014), monitoring, maintenance, and stewardship of managed wetlands is a required, coequal element with tidal restoration, so that success of one requires the other component. Monitoring has been formalized in the Adaptive Management Plan (Suisun Marsh Plan 2014, Appendix E) and Mitigation, Monitoring and Reporting Plan (Appendix F) and overseen by the Adaptive Management Action Team of which SRCD is a member. In addition, required vegetation monitoring is conducted every three years across the entire region to detect changing conditions. For the past 20 years, landowners have been required to support maintenance of the EFS to keep them in good working condition, and this practice will continue for the rehabilitated infrastructure systems. The lessons learned over the past 20 years of screen maintenance will be included in the assessment, with the primary goal of simplifying the maintenance for enhanced durability. The private and public landowners will be the stewards of the EFS, and through them, of the wetlands.

7. **Coastal Conservancy's San Francisco Bay Area Conservancy Program.** This project satisfies the selection criteria of the Coastal Conservancy's San Francisco Bay Area Conservancy Program:
    a. This project is supported by adopted local/regional plans. The project helps implement the Suisun Marsh Plan (2013). The Plan was the result of more than a decade of work, integrating the policies and regulations of government entities at federal, state, and local levels with the practices of the local private landowners.

b. This project is multijurisdictional and serves a regional constituency. The jurisdictions that will benefit from this project include the state of California, Solano County, local cities (Benicia, Fairfield, and Suisun City), local Suisun Marsh stakeholders, landowners, the regional hunting heritage constituency, the recreational fishing community, and birdwatchers.
c. This project can be implemented in a timely way. Since SRCD holds all of the needed permits, this project (Phase 2) could be completed within two years of funding, and future phases, for which funding will be considered at a later date, could be accomplished in two years following that, with all of the rehabilitation done within five years.
d. This project will provide opportunities for benefits that could be lost if the project is not quickly implemented. The two EFS units designated for final design and construction in Phase 2 are at imminent risk of failure, which would negatively affect 382 acres of managed wetlands
e. This project includes matching funds from other sources of funding or assistance. SRCD will leverage funds ($37,733 total) from the SRCD General Fund and the SRCD Water Manager's Program to contribute to the project.

8. **San Francisco Bay Conservation and Development Commission's Coastal Management Program.** This Project is consistent with the San Francisco Bay Conservation and Development Commission (BCDC) coastal management program, which is the primary environmental regulator of Suisun Marsh through its Suisun Marsh Protection Plan. A proposed update to that plan is in progress, and EFS will be included in the update. Each local government entity, including SRCD, has its own Local Protection Plan, which was certified by BCDC, and SRCD will include the EFS work within its plan. The Fish and Wildlife Element of the Suisun Marsh Protection Plan was prepared by DFW, which is a partner in this project, following the 1974 Suisun Marsh Preservation Act provisions.

9. **San Francisco Bay Joint Venture's Implementation Strategy.** Suisun Marsh is unique among areas within the Authority's jurisdiction in that it is within the geographic boundaries of the Central Valley Joint Venture, which has contributed a letter of support (Exhibit 5). The CVJV was created in 1990, and Suisun Marsh was included within the boundaries because of its importance in supporting resident breeding and wintering waterfowl of the Pacific Flyway. The primary focus of the CVJV was implementation of the North American Waterfowl Management Plan objectives and protection, restoration and maintenance of Central Valley waterfowl habitats. Achieving the objectives of the CVJV Implementation Plan benefits a wide array of wetland species including shorebirds, wading birds, amphibians, reptiles, fish, mammals, invertebrates, and wetland plants.

   In 1996, the San Francisco Bay Joint Venture (SFBJV) was established and adopted boundaries that include the watershed above the Suisun Marsh and the wetland areas downstream of the Marsh and the entire San Francisco Bay. This project has been entered in EcoAtlas' Project Tracker, and the fish screen rehabilitation project was adopted by the SFBJV in 2021. It also provides an opportunity for neighboring JVs to work together in a single region.

COMPLIANCE WITH CEQA:

DFW certified the Suisun Marsh Habitat Management, Preservation, and Restoration Plan Final Environmental Impact Statement/Environmental Impact Report (SMP EIR/S) on December 22, 2011 (Exhibit 3); the U.S. Bureau of Reclamation and USFWS completed a record of decision for the SMP EIR/S in 2014. The Suisun Marsh Habitat Management, Preservation, and Restoration Plan (SMP) (dated 2013 and based on Alternative A in the SMP EIR/S) is a site specific programmatic 30-year plan designed as a multi-stakeholder approach to the restoration of tidal wetlands and the management of managed wetlands and their functions. The SMP addresses habitats and ecological process, public and private land use, levee system integrity, and water quality through restoration and managed wetland activities. The SMP EIR/S addresses the suite of actions required to conduct the ongoing operation and maintenance of Suisun Marsh managed wetlands as a project-specific elements of SMP for the publicly and privately owned Suisun Marsh diked managed wetlands, levees, water control infrastructure and water conveyance facilities (including EFS) for 30 years.

Reconstructing the remaining 13 Essential Fish Screens involves construction of sheet pile walls to reinforce the levee around the intake site; repair or installation of new pipes, slide gates, and new fish screen structures; tidal dredging around the fish screen structure to enable flow; and construction of wooden support platforms for the fish screen structures. These activities are described in the SMP EIR/S within the description of activities associated with wetlands management (as opposed to the wetlands restoration activities). The SMP EIR/S indicates that the wetlands management activities will have potentially significant effects in the areas of Air Quality, Noise, Utilities and Public Services, and Cultural Resources.

The wetlands management activities will potentially cause adverse impacts to air quality during construction due to emissions from heavy equipment. This impact will be mitigated by avoiding simultaneous restoration and management activities so that use of heavy equipment does not exceed emissions limits.

The wetland management activities will potentially create noise during potential portable pump operation activities. This impact will be mitigated by implement noise control measures to limit noise from pump operations so that it does not exceed the limit.

Dredging, as part of wetland management activities, could potentially damage pipelines and/or disruption of electrical, gas, or other energy services. This impact will be mitigated by avoiding ground-disturbing activities within pipeline right-of-way.

Dredging, as part of wetland management activities, could potentially cause damage to or destruction of shipwrecks or other submerged resources. This impact will be mitigated by halting dredging and channel disturbing activities if a shipwreck is found within a minimum of 100 feet of the object.

The managed wetland activities may damage or destroy known and as-yet-unidentified cultural resources. This impact will be mitigated by the preparation and implementation of a Programmatic Agreement and Historic Properties Treatment Plan, evaluation of previously recorded cultural resources, fencing of National Register of Historic Places and California

Register of Historic Resources eligible cultural resources prior to ground disturbing activities, and conducting cultural resources inventories and evaluations and resolving any adverse effects.

The SMP EIR/S concluded that there will not be significant effects on fish and water quality. It should be noted that the MMRP for the SMP EIR/S identifies the following environmental commitments that will be followed during project implementation to water quality and fish during replacement of an exterior water control structure and pipe in managed wetlands.

- Implement construction activities from June to September when the wetlands are dry enough to conduct these activities.
- Pipe replacement as well as repair, replacement, or installation of exterior water control structures will not change the existing use or diversion capacity.
- All pipes will be pre-assembled before installation to minimize work time.
- All bulkheads will be in place prior to backfilling the bulkhead during installation, repair, or re-installation of water control structures.
- All work to be performed on the exterior side of levees shall commence and be completed within a 6-hour period, from 3 hours prior to low tide to 3 hours after low tide.
- Construction equipment used for projects will be checked each day prior to work and, if necessary, action will be taken to prevent fluid leaks. If leaks occur during work, the Corps, its permittee, or the contractor will contain the spill and remove the affected soils.
- All contractors must have a supply of erosion and pollution control materials on site to facilitate a quick response to unanticipated storm events or emergencies.
- No in-water work will occur during the repair of existing exterior levees; the coring of existing levees; pipe replacement at the exterior flood or dual-purpose gate; pipe replacement at the existing exterior drain gate; installation, repair, or re-installation of water control bulkheads.
- Restrict levee repairs and pipe replacements to the dry season and dry days.
- Develop and implement a hazardous spill plan.
- Install or replace water control structures only during low tides (within a six-hour period, from three hours prior to low tide to three hours following low tide) when there is the least chance of affecting fish.
- Perform all in-water work by hand and during low tides for the following activities:
    - repair, replacement, or installation of exterior water control structures; and
    - pipe replacement at the exterior flood or dual-purpose gate.

Staff has independently evaluated the SMP EIR/S and the MMRP and concurs that there is no substantial evidence that the reconstruction of the 13 EFS will have a significant effect on the environment. Staff therefore recommends that the Authority find that EFS reconstruction, as mitigated avoids, reduces or mitigates the possible significant environmental effects to less than significant and that there is no substantial evidence that these activities will have a significant effect on the environment.

Upon approval the project, staff will file a Notice of Determination.