U.S. Department of the Interior

Bureau of Reclamation, Mid-Pacific Region

Fish and Wildlife Service, Pacific Southwest Region

RECORD OF DECISIONS

SUISUN MARSH HABITAT

RESTORATION, PRESERVATION AND MANAGEMENT PLAN

Recommended by:

Susan M. Fry — Date 4/17/14
Area Manager
Bay-Delta Office
U.S. Bureau of Reclamation

Concurred by:

Anastasia Leigh — Date 4/18/2014
Regional Environmental Officer
Mid-Pacific Region
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Approved by:

FOR David G. Murillo — Date 4/24/14
Regional Director
Mid-Pacific Region
U.S. Bureau of Reclamation

Ren Lohoefener — Date
Regional Director
Pacific Southwest Region
U.S. Fish and Wildlife Service

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Ren Lohoefener — Date
Acting Regional Director
Pacific Southwest Region
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1. INTRODUCTION

The Bureau of Reclamation (Reclamation) and Fish and Wildlife Service (Service), as co-lead agencies in accordance with the National Environmental Policy Act (NEPA), and the California Department of Fish and Wildlife (DFW), as lead agency in accordance with the California Environmental Quality Act, prepared a final environmental impact statement/environmental impact report (EIS/EIR) on the Suisun Marsh Habitat Restoration, Preservation and Management Plan (SMP), made available to the public on December 6, 2011. The SMP is a comprehensive 30-year plan designed to address various conflicts regarding resources within about 50,000 acres of the Suisun Marsh (Marsh) near Fairfield, California. The plan focuses on achieving an acceptable multi-stakeholder approach to habitat conservation by providing the stakeholder coordination and environmental compliance foundation for tidal marsh restoration and managed wetland enhancements in the Marsh. The SMP was prepared through collaboration of the Suisun Charter Group Principal Agencies (Principal Agencies) (Reclamation, the Service, DFW, California Department of Water Resources (DWR), National Marine Fisheries Service (NMFS), Suisun Resource Conservation District (SRCD), the CALFED Bay-Delta Program (CALFED), and the Delta Stewardship Council); in cooperation with the U.S. Army Corps of Engineers (Corps), the Regional Water Quality Control Board (Regional Water Board) and the San Francisco Bay Conservation and Development Commission (BCDC). Table 1 shows each Principal Agency's actions and roles related to the SMP.

This Record of Decisions (ROD) documents decisions of Reclamation and the Service to implement elements of the SMP as consistent with their missions and statutory authorities, as further described in the following sections. This ROD has been prepared in accordance with NEPA, the Council on Environmental Quality's NEPA implementing regulations, (40 CFR 1500-1508), Department of Interior Implementing Regulations (43 CFR Part 46). The decisions made herein are based on the information and analysis contained within the SMP final EIS, which is incorporated by reference, and on the results of consultation and coordination among the Principal Agencies. Reclamation and the Service have considered all comments received on the SMP EIS/EIR in developing this ROD.

Table 1. Principal Agencies' Actions and Roles Related to the Suisun Marsh Plan

Agency	SMP Action
Reclamation	Implementation of Managed Wetland Activities Implementation of PAI Fund[1]
Service	Planning Assistance to Principal Agencies and other Project Proponents regarding implementation of Restoration and Recovery Actions
DFW	Implementation of Restoration and Recovery Actions Implementation of Managed Wetland Activities Issuance of Incidental Take Permit for non–Fully Protected Species Implementation of PAI Fund
NMFS	Cooperating Agency Provide Guidance for Restoration and Recovery Actions
DWR	Implementation of Restoration and Recovery Actions Implementation of Managed Wetland Activities Implementation of PAI Fund
SRCD	Implementation of Managed Wetland Activities Implementation of PAI Fund
Delta Stewardship Council	Provide Guidance for Restoration and Recovery Actions

[1] The Preservation Agreement Implementation Fund (PAI Fund) will be included in the Revised SMPA and is proposed to fund certain maintenance activities to support mitigation obligations for CVP and SWP operations, and is further described in Chapter 2 of the EIS/EIR.

2. BACKGROUND

Suisun Marsh is the largest contiguous brackish water marsh remaining on the west coast of North America and is a critical part of the San Francisco Bay/Sacramento–San Joaquin River Delta estuary ecosystem. It is home to public waterfowl hunting areas and 158 private duck clubs. The Marsh encompasses more than 10% of California's remaining natural wetlands and serves as the resting and feeding ground for resident waterfowl and thousands of birds migrating on the Pacific Flyway. The Marsh provides important habitat for more than 221 bird species, 45 mammalian species, 16 different reptile and amphibian species, and 40 fish species. The Marsh provides habitat for 11 threatened or endangered species: salt marsh harvest mouse, California clapper rail, California least tern, soft bird's beak, Suisun thistle, delta smelt, winter run Chinook salmon, Central Valley spring run Chinook salmon, Central Valley steelhead, Central California coast steelhead, and North American Green Sturgeon.

Approximately 200 miles of levees in the Marsh contribute to managing salinity in the Sacramento–San Joaquin River Delta. The Marsh's large open space and proximity to urban

areas make it ideally suited for wildlife viewing, hiking, canoeing, and other recreation opportunities.

The values of the Marsh have been recognized, and several agencies have been involved in its protection since the mid-1970s. In 1974 the Nejedly-Bagley-Z'Berg Suisun Marsh Preservation Act was enacted by the California Legislature to protect the Marsh from urban development. In 1976, BCDC developed the Suisun Marsh Protection Plan (SMPP), which defined and limited development within the primary and secondary management area. The SMPP states that its focus is on maintaining waterfowl habitat, but it also addresses the importance of tidal wetlands. The SMPP calls for the preservation of Suisun Marsh; preservation of waterfowl habitat; improvement to water distribution and levee systems; and encouraging agriculture that is compatible with wildlife and waterfowl habitat, such as grazing. In 1977, the California Legislature implemented the Suisun Marsh Preservation Act of 1977, which calls for the implementation of the SMPP and designates BCDC as the state agency with jurisdiction over the Marsh; it calls for SRCD to have the primary local responsibility for water management on privately owned lands in the Marsh.

In 1984, DWR, in cooperation with SRCD, DFW, and Reclamation, published the Plan of Protection for Suisun Marsh (Plan of Protection), in response to State Water Resources Control Board (State Water Board) Water Rights Decision 1485 (D-1485), Order 7. To implement the Plan of Protection, DWR constructed and operates and maintains the Initial Facilities (Morrow Island Distribution System, Goodyear Slough Outfall, Roaring River Distribution System (RRDS), and salinity monitoring and compliance stations) and the Suisun Marsh Salinity Control Gates. In 1986, Public Law 99-546 (PL 99-546) provided Reclamation authorization to execute and implement the Suisun Marsh Preservation Agreement (SMPA) with DWR, SRCD and DFW. The SMPA describes provisions for Reclamation and DWR to mitigate the adverse effects on Suisun Marsh channel water salinity from the State Water Project (SWP) and Central Valley Project (CVP) operations and other upstream diversions, as required by D-1485, and delineates monitoring and mitigation requirements associated with the Initial Facilities. In 2005, the SMPA was revised to incorporate actions to meet channel water quality standards in State Water Board Water Rights Decision-1641, including: revising salinity monitoring stations, implementing a Water Manager Program, providing portable drainage pumps, realigning and stabilizing RRDS turnouts, and establishing a Drought Response Fund.

In 2000, the CALFED ROD was signed, which included the Environmental Restoration Program (ERP), calling for the restoration of 5,000 to 7,000 acres of tidal wetlands and the enhancement of 40,000 to 50,000 acres of managed wetlands in the Marsh. In 2001, the Principal Agencies directed the formation of a charter group to develop the SMP as a plan for the Marsh that would balance the needs of CALFED, the SMPA, and other plans by protecting and enhancing existing land uses, existing waterfowl and wildlife values including those associated with the Pacific Flyway, endangered species, and State and Federal water project water quality. In addition to the Principal Agencies, the Charter Group includes other regulatory agencies such as the Corps, BCDC, and the State and Regional Water Boards.

3. ALTERNATIVES CONSIDERED

The SMP addresses habitats and ecological process, public and private land use, levee system integrity, and water quality through tidal restoration and managed wetland activities. The plan is intended to guide near-term and future actions over the next 30 years related to restoration of tidal wetlands and managed wetland activities in the Marsh. Land for tidal restoration would only be acquired from willing participants. Given the level of planning detail available, tidal restoration elements of the SMP are analyzed at a programmatic level in the EIS/EIR, and managed wetland elements are analyzed at a project level. Specific actions that would be implemented in the near term under the SMP include revising the SMPA to implement the Preservation Agreement Implementation Fund (PAI Fund) and implementation of managed wetland maintenance and enhancement activities, as further described in Chapter 2 of the EIS/EIR.

The alternatives development process identified a reasonable range of action alternatives, varying in the number of acres restored to tidal action and the number of acres subject to managed wetland activities. The no action alternative and three action alternatives were evaluated in the EIS/EIR.

No Action Alternative – Under the No Action Alternative, the SMP would not be implemented. The No Action Alternative includes projected conditions as they would exist in the Marsh at the end of the EIS/EIR planning horizon (2043). Under the No Action Alternative, the amount of restoration in the Marsh likely would be limited. Although the CALFED ERP calls for tidal wetland restoration in the Marsh and other current planning efforts include restoration in the Marsh, it is not certain that substantial additional restoration would occur under the No Action Alternative. Implementation of tidal marsh restoration may be accomplished through other programs, such as through CALFED Proposition 204 or the Bay Delta Conservation Plan, or through mitigation obligations. There is a wide range of potential outcomes in the Marsh but there are currently no adopted plans for tidal restoration in the Marsh. As such, the amount of tidal restoration assumed to occur in the Marsh absent the SMP reflects conditions without a comprehensive restoration plan and provides a point of comparison for the SMP decision-makers and the public. Under the CALFED program, DFW used approximately $1 million to acquire properties in the western and northern Marsh, with exact properties determined by willing sellers, with the ultimate goal of restoring 250 to 500 acres to tidal action. Additionally, DFW owns Hill Slough West, which is approximately 200 acres, and DFW intends to restore this area to tidal marsh. Therefore, it is assumed that under the No Action alternative, approximately 700 acres could be restored absent the SMP. Additionally, any levee breaches that occur in inaccessible areas may not be repaired, and passive restoration would occur in those areas. Additional tidal restoration would be difficult to achieve because of the absence of a framework to protect existing managed wetlands.

Habitat types and values for sensitive species could change substantially if operation and maintenance of managed wetlands are limited. This would result in substantially diminished flood and drain capabilities, waterfowl habitat quality, hunting opportunities, and activities to maintain levees, resulting in an increased risk of levee failure. However, it is assumed that the current management direction of implementing diversion restrictions and maintaining existing

programs to encourage landowners to manage properties to protect habitat values for listed species would continue, in accordance with biological opinions and the Regional General Permit. Additionally, programs to control managed wetland vegetation would continue. Installation of new water diversions would continue to be minimized, and fish screens would continue to be installed on existing diversions where feasible. Existing programs to control nonnative species and protect sensitive wetlands from the adverse effects of grazing would continue to be implemented.

Without the SMP, including the environmental compliance for managed wetland activities and the PAI Fund (further described below under action alternatives), the impacts on existing beneficial uses in the Marsh as a result of CVP and SWP operations would be only partially mitigated and would likely require the reopening of negotiations among the SMPA agencies and State Water Board. Given the difficulty in completing environmental compliance for dredging activities, and continued difficulties in importing materials for levee repair, combined with a lack of a reliable funding source for levee repairs, it is likely that the No Action Alternative would result in degradation of managed wetland habitat.

Common Elements for Action Alternatives - All action alternatives analyzed in the SMP EIS/EIR, including the Preferred Alternative, contain the same basic components, which provide a framework for how restoration and managed wetland activities would be implemented.

The action alternatives include the following common elements:

- restoration of tidal wetlands (further described in Chapter 2 of the EIS/EIR);
- increased frequency of currently implemented activities in managed wetlands (further described in Chapter 2 of the EIS/EIR);
- new managed wetlands activities, including dredging, placement of new riprap, and installation of new fish screens (further described in Chapter 2 of the EIS/EIR);
- implementation of the PAI Fund (further described in Section 4 below and Chapter 2 of the EIS/EIR);
- environmental commitments (further described in Chapter 2 of the EIS/EIR); and
- adaptive management.(further described in Appendix E of the EIS/EIR)

Action Alternatives - The alternatives differ in the amount of acreage of restored tidal wetlands and remaining managed wetlands subject to managed wetland activities.

Alternative A: This alternative includes restoring 5,000 to 7,000 acres in the Marsh to fully functioning, self-sustaining tidal wetland and protecting and enhancing existing tidal wetland acreage; and enhancing the remaining 44,000 to 46,000 acres of managed wetlands levee stability and flood and drain capabilities.

Alternative B: This alternative would restore less tidal wetland than Alternative A. It includes restoring 2,000 to 4,000 acres of marsh to fully functioning, self-sustaining tidal wetlands and protecting and enhancing existing tidal wetland acreage; and enhancing the remaining 46,000 to 48,000 acres of managed wetlands' levee stability and flood and drain capabilities.

Alternative C: This alternative would restore more tidal wetland than Alternative A. It includes restoring 7,000 to 9,000 acres of the Marsh to fully functioning, self-sustaining tidal wetlands and protecting and enhancing existing tidal wetlands acreage; and enhancing the remaining 42,000 to 44,000 acres of managed wetlands levee stability and flood and drain capabilities.

For purposes of the analysis in the EIS/EIR, the Marsh has been divided into four regions, based on geographic and hydrologic characteristics, as consistent with the approach in the Service's Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California. This division allows for more specific characterization of potential actions and their impacts, and provides for a more locally acceptable approach to tidal restoration planning in the Marsh. Table 2 below and Chapter 2 of the EIS/EIR provide further description of the regions and how tidal restoration would be accomplished within the regions.

Table 2. Tidal Wetland Restoration Acreage Targets per Region and Percentage Restored Under Each Action Alternative

Alternative/Region	SMP Target for Tidal Wetland Restoration*	Percentage of Existing Managed Wetlands That would be Restored to Tidal Wetland under the SMP
Alternative A, Proposed Project	**5,000–7,000**	
Region 1	1,000–1,500	8.4%–12.6%
Region 2	920–1,380	12.6%–18.9%
Region 3	360–540	12.1%–18.1%
Region 4	1,720–2,580	6.0%–9.0%
Alternative B	**2,000–4,000**	
Region 1	500–1,000	4.2%–8.4%
Region 2	460–920	6.3%–12.6%
Region 3	180–360	6.0%–12.1%
Region 4	860–1,720	3.0%–6.0%
Alternative C	**7,000–9,000**	
Region 1	1,500–2,250	12.6%–18.9%
Region 2	1,380–2,070	18.9%–28.5%
Region 3	540–810	18.1%–27.3%
Region 4	2,580–3,870	9.0%–13.5%

* The targets were developed for each region based on the different habitat conditions within each region to provide the range of environmental gradients necessary to contribute to the recovery of listed species. These targets complement and are consistent with the Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California. The Adaptive Management Plan will track these targets to ensure restoration benefits for listed species.

Note: Adjustments to the Adaptive Management Plan may result in changes to the targets in each region.

Environmentally Preferred Alternative

In the case of the SMP, each alternative has many environmental tradeoffs. For example, Alternative C includes the greatest amount of tidal restoration, which is environmentally preferred for species that use tidal habitats. However, it also results in the greatest loss of managed wetlands, making it the least environmentally preferred for species that use these habitats. Likewise, Alternative B offers the greatest benefits for managed wetland species and the least benefits for tidal species. Alternative A represents the mid-range of restoration intended to achieve substantial improvements in tidal wetlands in the Marsh while protecting and enhancing managed wetlands, and therefore is identified as the environmentally preferred alternative for the SMP, which is intended to provide an acceptable balance of multi-species benefits in the Marsh.

4. DECISIONS

Reclamation Decision

The preferred alternative is the action that best meets the purpose of the action, as defined in the final EIS/EIR. Alternative A was identified as the preferred alternative in the final EIS/EIR. As described in the final EIS/EIR, each Principal Agency (and potentially other project proponents, for tidal restoration) will implement or participate in various elements of the preferred alternative to contribute to the overall implementation of the SMP. Of the elements of the preferred alternative described in the final EIS/EIR, Reclamation, along with DWR, will implement the PAI Fund, and maintenance activities at the SMPA facilities: Roaring River Distribution System, Morrow Island Distribution System, Goodyear Slough Outfall, Suisun Marsh Salinity Control Gates, and salinity monitoring and compliance stations.

The PAI Fund is intended to replace the construction of additional large-scale facilities as described in the 1984 SMPP. As part of the revised SMPA, Reclamation and DWR will provide a total of $3.7 million (adjusted for inflation) to SRCD and DFW for implementation of landowner cost-shared management activities to improve managed wetland flood and drain capabilities in order to accommodate application of higher salinity water while maintaining functions and values of managed wetland habitats. In accordance with PL 99-546, Reclamation will provide 40% of the funding for the PAI Fund. Activities potentially funded by the PAI Fund include:

- Clearing existing interior ditches
- Constructing new interior ditches
- Repair existing interior levees
- Coring existing levees
- Grading pond bottoms for water circulation and raising pond bottom sinks
- Maintaining pond bottom spreader V-ditches and swales
- Repairing existing interior water control structures
- Replacing pipe for existing water control structures or installation of new interior water control structures
- Installing drain pumps and platforms
- Repairing exterior water control structures (gates, couplers, and risers)
- Replacing pipe for existing exterior flood or dual-purpose gate
- Installing, repairing, or reinstalling water control bulkheads

The ability to improve managed wetland habitat is also dependent on the availability of lower salinity water. The previously mentioned SMPA facilities and salinity monitoring stations are used to manage water salinity and distribute less saline water to managed wetlands. These facilities and stations must be maintained in order to work as intended. In accordance with PL 99-546, Reclamation will provide 40% of annual operation and maintenance costs for the SMPA

facilities. Potential maintenance activities for the SMPA facilities include those listed above for the PAI Fund activities, and also:

- Repairing existing exterior levees
- Replacing riprap on interior levees
- Replacing riprap on exterior levees
- Installing pipe for existing exterior flood or dual-purpose gate
- Removing floating debris from pipes, trash racks, and other structures
- Installing alternative bank protection such as brush boxes, biotechnical wave dissipaters, and vegetation on exterior and interior levees
- Constructing cofferdams in managed wetlands
- Repairing and maintaining Suisun Marsh Salinity Control Gate
- Cleaning Roaring River Distribution System fish screen
- Installing new fish screen facilities
- Repairing, replacing, removing or installing salinity monitoring stations
- Constructing new interior ditches; clearing existing interior ditches

After consideration of the analysis in the Final EIS/EIR, and other information in the record, including public comments, Reclamation has determined that Alternative A would best meet the purpose of the project by achieving an acceptable multi-stakeholder approach to habitat conservation by providing the stakeholder coordination and environmental compliance foundation for tidal marsh restoration and managed wetland enhancements in the Marsh, since it provides the mid-range of tidal restoration and managed wetland enhancements being considered. As previously described, Alternative A is the environmentally preferred alternative.

Attachment A provides the full project description for Alternative A.

Service Decision

The Service will provide planning assistance under the SMP to the Principal Agencies and other project proponents for the implementation of threatened and endangered species recovery actions consistent with the Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California.

5. BASIS FOR DECISION, ISSUES EVALUATED AND FACTORS CONSIDERED

On the basis of analyses of potential impacts presented in the EIS/EIR, and in consideration of the comments received on the Draft EIS/EIR, Reclamation and the Service identified Alternative A as the preferred alternative. As described in the EIS/EIR, potential impacts of the alternatives were analyzed for 21 resource categories. Chapters 5 through 9 of the EIS/EIR contain more detail on the potential impacts of the action alternatives as compared to the no action alternative. The analysis indicates that Alternative A would provide the most acceptable approach to meeting the project purposes by providing a mid-range balance between beneficial and adverse impacts and habitat function and value tradeoffs between managed and tidal wetlands.

The Draft EIS/EIR was available for review and comment for 60 days (October 29, 2010 through December 28, 2010). Two public meetings were held on November 18, 2010. The lead agencies received comments by mail, email and fax. A total of 17 comment letters were received. Major comment themes included: issues related to project-specific analysis, definition of the NEPA/CEQA basis of comparison for alternatives in the EIS/EIR, issues related to the range of alternatives, relationship to other planning efforts affecting the Delta and the Marsh, inclusion of an adaptive management plan, significance of wetland conversion, and mitigation and species recovery accounting.

All of the comments received are included as Chapter 14 of the Final EIS/EIR. The Final EIS/EIR also includes responses to public and agency comments (Chapter 14) and resulting changes in the text. The Final EIS/EIR was made available for public review on December 6, 2011. As discussed in Section 8, below, two comment letters were received on the Final EIS/EIR.

5.1 Compliance with Other Regulations

The EIS/EIR supports the necessary permits, compliance, coordination and consultation efforts for the SMP, as shown in Table 1.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA) Report, prepared by the Service, concluded that the need for surveys, investigations and recommendations, in accordance with the FWCA, have been met through the existing analyses in the SMP EIS/EIR and Biological Opinion (BO), and the Service's participation in the planning process for the SMP.

Endangered Species Act – Section 7 Consultation

Reclamation consulted under Section 7 of the Endangered Species Act (ESA) with the Service and NMFS for this action. Evaluation of all alternatives analyzed in the EIS/EIR considered impacts to ESA listed species. Reclamation transmitted biological assessments analyzing the potential effects of the SMP on ESA listed species to the Service and NMFS.

Service

The Service completed a BO on the SMP on June 10, 2013. The BO addresses the effects of the SMP on California clapper rail (*Rallus longirostris obsoletus*), salt marsh harvest mouse (*Reithrodontomys raviventris raviventris*), California least tern (*Sternula antillarum browni*), soft bird's-beak (*Chloropyron molle* ssp. *molle*) and its critical habitat, Suisun thistle (*Cirisum hydrophilum var. hydrophilum*) and its critical habitat, and delta smelt (*Hypmesus transpacificus*) and its critical habitat. The Service concluded that the programmatic and project level actions included in the SMP are not likely to result in jeopardy to these species or adverse modification of these critical habitats. Future proposed restoration efforts may be evaluated and appended to the BO in a programmatic fashion through individual consultation(s). The BO includes one reasonable and prudent measure (RPM) and two terms and conditions:

- Reclamation will minimize the potential for harm, harassment, or mortality of California clapper rails, salt marsh harvest mice, California least terns, and delta smelt.

    - Reclamation and/or project proponents will minimize the potential for harm, harassment, injury and killing of California clapper rails, salt marsh harvest mice, California least terns, and delta smelt resulting from project-related activities by implementation of the conservation measures in the BO (also described in the Environmental Commitments Section of Chapter 2 of the EIS/EIR).

    - Reclamation and/or project proponents will comply with the reporting requirements of the BO, including a post-construction report outlining how the conservation measures were implemented for the project.

Additionally, the Service proposed the following conservation recommendations:

- Encourage or require the use of appropriate California native species in re-vegetation and habitat enhancement efforts associated with any projects authorized by the Service.

- Facilitate additional educational programs geared toward the importance and conservation of tidal marsh and seasonal wetlands.

- Assist the Service in implementing other recovery actions identified within most current recovery plans for California clapper rails, salt marsh harvest mice, California least terns, and delta smelt.

- Sightings of any listed or sensitive species should be reported to the California Natural Diversity Database of the DFW. A copy of the reporting form and a topographic map clearly marked with the location where the individuals were observed should also be provided to the Service.

Encourage participation of prospective permitees in a program being developed by Federal and State resource agencies to limit and reverse the spread of non-native *Lepidium* within the Marsh.

NMFS

- Reclamation received a biological opinion on the SMP from NMFS on July 3, 2013. The BO addresses the effects of the SMP on Sacramento River winter-run Chinook salmon Evolutionarily Significant Unit (ESU) (*Oncorhynchus tshawytscha*) and its critical habitat, Central Valley spring-run Chinook salmon ESU (*Oncorhynchus tshawytscha*), Central California Coast steelhead Distinct Population Segment (DPS) (*Oncorhynchus mykiss*), Central Valley steelhead DPS (*Oncorhynchus mykiss*), and North American green sturgeon DPS (*Acipenser medirostris*) and its critical habitat. NMFS concluded that implementation of the SMP is not likely to jeopardize the continued existence of these species or adversely modify these designated critical habitats. The BO includes three reasonable and prudent measures and corresponding terms and conditions: the Corps, Reclamation and SRCD will undertake measures to minimize harm to listed salmonids and green sturgeon resulting from work on exterior levees.
    - The NMFS Santa Rosa Area Office will be notified by letter or email message stating the project commencement date at least 14 days prior to implementation.
    - NMFS employee(s) or any other person(s) designated by NMFS will be allowed access to SMP work sites to accompany field personnel during activities described in the BO.
    - A biologist or on-site monitor will evaluate each site during project implementation to document project actions for the purpose of identifying any condition that could adversely affect salmonids, green sturgeon or their habitat. Whenever conditions are identified that could adversely affect salmonids, green sturgeon, or their habitat in a manner not described in the BO, NMFS will be immediately notified by contacting biologist Daniel Logan at (707) 575-6053 or dan.logan@noaa.gov
- The Corps, Reclamation and SRCD will undertake measures to ensure tidal wetland restoration projects implemented under the SMP are designed to avoid and minimize harm to listed salmonids and green sturgeon during construction, and provide long-term benefits to listed fish and critical habitat.
    - For each proposed tidal wetland restoration project, draft project-specific restoration design plans (65-90 percent design level) must be submitted to NMFS for review and written approval at least 120 days prior to initiation of construction.

- The draft project plans for each tidal wetland restoration project will be submitted to: NMFS Santa Rosa Area Office, Attention: Supervisor of Protected Resources Division, 777 Sonoma Avenue, Room 325, Santa Rosa, California 95404-6528.

- The Corps, Reclamation and SRCD will monitor and report:
  - Degradation of ambient water quality from drain water
    - Water quality in tidal sloughs will be monitored to assess the effects of drain water in receiving sloughs. This monitoring will target detection of low dissolved oxygen conditions in May, June, and October in Region 1 of Suisun Marsh.
  - Potential entrainment of listed species at unscreened water diversions
  - Effects of project activities and project performance
    - Written annual reports will be provided to NMFS by December 31 of each year. The report will be submitted to: NMFS Santa Rosa Area Office, Attention: Supervisor of Protected Resources Division, 777 Sonoma Avenue, Room 325, Santa Rosa, California 95404-6528. The report will contain, at a minimum, the following information:
      - Project related activities: The report will include the type, size and location of each specific action undertaken under Regional General Permit 3 and the Letter of Permission within tidal water areas and on exterior levees. Reports will include the following information for each activity: dates specific actions began and were completed; a description of best management practices implemented to minimize project effects; photographs taken before, during, and after the activity from photo reference points; and a discussion of specific project performance or efficacy.
      - Water quality: The report must summarize the results of the water quality monitoring and evaluate wetland management operational modifications utilized. Any observations of fish kills occurring within the Marsh must be reported.
      - Gate closures and diversion curtailment: The report will summarize the compliance monitoring for gate closures and diversion curtailments.
      - Tidal wetland restoration – The report will summarize planning and implementation of tidal wetland restoration actions under the SMP.

Additionally, NMFS recommended the following conservation recommendations:

- The Corps, Reclamation, CDFW, and SRCD should continue to pursue management options, including vegetation management and diversion timing and location, to avoid and minimize occurrence of black water conditions in managed wetlands. The Corps, Reclamation, CDFW and SRCD should participate in a study designed to determine how juvenile salmonids and green sturgeon use the Marsh during rearing or migration from the ocean. The Corps, Reclamation CDFW and SRCD should coordinate with NMFS to ensure that information gathered by these and other entities will provide information to aid in determining the use of Suisun Bay by juvenile salmonids and sturgeon. Potential areas to place monitors include mouths of significant sloughs, the downstream end of Montezuma Slough, the center of Suisun Bay mudflats, and sites of significant unscreened diversions.
- The Corps, Reclamation, CDFW and SRCD should monitor fish entrained behind unscreened water intakes at managed ponds within the Marsh. Study plans should be provided to NMFS for review and comment prior to implementation.

Magnuson-Stevens Fishery Conservation and Management Act

NMFS evaluated the SMP pursuant to section 305(b)(2) of the Magnuson-Stevens Fisheries Conservation and Management Act. NMFS concluded that implementation of the SMP will adversely affect the Essential Fish Habitat of various life stages of species managed under the Pacific Coast Salmon Fishery Management Plan (starry flounder *Platichthysstellatus*), the Pacific Coast Salmon Fishery Management Plan (Chinook salmon), and the Coastal Pelagics Fishery Management Plan (northern anchovy *Engraulis mordax*) through temporary increases in turbidity, small areas of soft bottom habitat conversion, degraded water quality events, and disturbance to soft bottom and sago pondweed habitat. In addition to the conservation measures proposed as part of the SMP, as described in the BA and the Environmental Commitments Section of Chapter 2 of the EIS/EIR, NMFS recommended the following Conservation Recommendations:

- To minimize adverse effects to submerged aquatic vegetation EFH-Habitat Areas of Particular Concern, to the extent feasible, dredging should not occur in areas with native sago pondweed (*Stuckeniai* spp).
- If impacts to sago pondweed during dredging episodes are unavoidable, Reclamation and SRCD should ensure that pre- and post-dredging surveys of native sago are completed within the proposed dredge and a suitable control site. Pre-dredge surveys should be completed within 30 days prior to dredging. Post-dredge surveys should be completed within 60 days of dredging. In addition, post-dredging monitoring should occur at the dredge and control sites for two years following the dredge episode (*i.e.* post-dredge survey plus two years of monitoring). All survey and monitoring results should be

provided to NMFS Santa Rosa Office within 30 days of completion. If after three years of SMP implementation, monitoring reports demonstrate that sago pondweed does not recover within dredge project areas, NMFS may recommend the SMP dredging program be modified to incorporate sago pondweed mitigation to compensate for adverse effects from dredging.

National Historic Preservation Act Section 106

Reclamation and the Service, as co-lead Federal agencies, will comply with Section 106 of the National Historic Preservation Act (16 U.S.C. 470) and its implementing regulations at 36 CFR Part 800. As described in the EIS/EIR, project-level actions could result in the disturbance or destruction of cultural resources. In an effort to streamline the Section 106 consultation process and identify adverse effects, as well as mitigation measures, for these potential impacts, Reclamation has prepared a Cultural Resource Contextual Report for its actions under the SMP and is consulting with the State Historic Preservation Officer (SHPO) and other consulting parties outlined in the regulations at 36 CFR §800. Reclamation and the Service will not implement (or provide funding for) any actions that have the potential to adversely affect cultural resources or historic properties. Consultation with the SHPO is anticipated to be complete by May 2014.

Indian Trust Assets

Indian Trust Assets (ITAs) are legal interests in property held in trust by the United States for federally recognized Indian tribes or individual Indians. ITAs cannot be sold, leased, or otherwise encumbered without the prior approval of the United States. The U.S. Department of the Interior is required to protect and preserve ITAs from loss, damage, unlawful alienation, waste and depletion. It is the general policy of the U.S. Department of the Interior to perform its activities and programs in such a way as to protect ITAs and avoid adverse effects whenever possible. Potential impacts to ITAs would stem from any actions that affect land, minerals, federally reserved hunting and fishing rights, federally reserved water rights, and instream flows associated with trust land in the study area. No reservations or Rancherias are located in the Marsh. The ITA closest to the plan area is the Lytton Rancheria, located 33 miles west-northwest from the plan area in Healdsburg, California. No impacts would occur to ITAs from implementing the SMP.

6. IMPLEMENTING THE DECISION

6.1 Monitoring and Reporting on Implementation of Mitigation Measures and Environmental Commitments

Reclamation and the Service have adopted all practicable means to avoid or minimize environmental harm for the preferred alternative andare committed to implementing the

measures identified in the EIS/EIR. Attachment A to this ROD includes a detailed description of the environmental commitments.

6.2 SMP Implementation Strategy

The SMP is predicated on the assumption that each Principal Agency will implement or approve activities in the Marsh consistent with the SMP and its own mission and jurisdictional authority. The primary components of the strategy are to:

- implement the environmental commitments and mitigation measures in the EIS/EIR and other required State and Federal permit measures to ensure that resources are protected and that restoration and managed wetland goals are met simultaneously,
- implement adaptive management to ensure impacts described in the EIS/EIR are not exceeded and improve the ecological effectiveness of restoration over the period of implementation of the SMP, and
- prepare annual reports on the status of SMP restoration and managed wetland activities.

As described in Attachment A and in Chapter 2 of the EIS/EIR, the preferred alternative includes a strategy to meet restoration and managed wetland goals simultaneously over the 30 year period of SMP implementation. Based on the analysis in the EIS/EIR, implementation of the preferred alternative and environmental commitments is intended to provide tidal restoration and resource protection of fish and wildlife resources to both offset potential impacts on those resources and contribute to recovery of listed species. The managed wetland activities will be implemented only if at least one third of the total tidal restoration activities will be implemented in each of the 10-year increments. Therefore, it is expected that under the preferred alternative, for example, 1,600–2,300 acres of tidal marsh habitat will be restored in the Marsh by year 10, an additional 1,600–2,300 acres will be restored by year 20, and the full 5,000–7,000 acres will be restored by year 30. This will ensure that all actions will be implemented in a timeframe similar to that of the impacts, and that restoration efforts will contribute toward recovery throughout the plan implementation period. If these 10-year incremental SMP restoration goals are met, both the managed wetland activities and tidal restoration will continue to ensure that the SMP goals are met. Under this strategy, the tidal restoration and managed wetland goals will be achieved concurrently. Options for addressing conditions in which these incremental goals are not met are described below.

To track the progress of tidal restoration and managed wetland activities, the SMPA agencies (Reclamation, SRCD, DWR, and DFW) will submit implementation status reports no less frequently than every other year to DFW, NMFS, the Service, and other regulatory agencies as appropriate, that describe the implemented tidal restoration activities, monitoring, application of adaptive management, results of adaptive management, and any tidal restoration activities that are being planned.

Applying Adaptive Management

Many questions remain as to how proposed actions may result in changes in habitat functions and values. To ensure that impacts do not exceed those described in the EIS/EIR and to improve the ecological effectiveness of restoration projects as they are implemented, an Adaptive Management Plan (AMP) will be implemented as a crucial component of the SMP.

Adaptive management of the SMP will consist of an iterative process of:

1. defining goals and objectives;
2. developing conceptual models of the full range of natural processes, ecosystems, and stressors pertinent to achieving the goals and objectives;
3. implementing actions that apply the understandings and test hypotheses contained in the conceptual models;
4. collecting science-based field data at implementation areas and in any needed other locations that specifically evaluate the hypotheses being tested;
5. interpreting these data;
6. reevaluating goals and objectives, updates to conceptual models and hypotheses, and adjusting subsequent implementation actions and, as appropriate, adjusting prior implemented actions; and
7. reviewing the progress of restoration and managed wetland enhancement to determine if changes in the adaptive management plan are necessary.

This process allows for implementing tidal marsh restoration in the face of uncertainty, with an aim to reducing uncertainty over time through system monitoring. In this way, decision making simultaneously meets resource objectives and accrues information needed to improve future management. The information produced through adaptive management of the SMP will permit changes to be made that will assist in the design of future steps. Adaptive management will assist project proponents in understanding the restored system and will aid in their ability to explain their management actions to Marsh neighbors and the general public. An AMP for the SMP will be implemented consistent with available funding. As such, the AMP is an important component of the implementation strategy and will be used throughout the 30-year implementation period.

Reporting

As previously mentioned, the SMPA agencies will report the status of tidal restoration and managed wetlands in reports to the appropriate regulatory agencies. In general, reports will include the following information: the location, extent, and timing of land acquisition for tidal restoration; the location, extent, and timing of restoration planning, protection, enhancement, restoration, or creation of tidal wetlands; status of restoration planning for acquired properties; descriptions of conservation agreements, lands acquired in fee title, interagency memorandums of agreement, or any other agreements entered into for the purposes of protecting, enhancing, or restoring tidal or managed wetlands; descriptions of the previous year's managed wetland activities; descriptions of monitoring results, including any actions that will be implemented as a result of this information; and a summary of how implemented activities compare to SMP goals in terms of habitat types, managed wetland operations, acreage goals, and species composition. If any report indicates that restoration or managed wetland targets are not being met or have the potential not to be met, the SMPA agencies along with NMFS and the Service will coordinate to determine how to get plan implementation on track. The mutually agreeable plan of action may include a range of potential solutions, including: changes to the manner in which the SMP is implemented, temporarily or permanently adjusting certain SMP provisions through an amendment or other process, or slowing or stopping aspects of the managed wetland activities permit issuance until tidal restoration catches up with impacts.

7.0 PUBLIC ISSUES AND AREAS OF CONTROVERSY

During preparation of the EIS/EIR, the public and agencies identified the following major areas of concern: ecological processes; property acquisition; changes in habitat and land uses; maintenance of managed wetland functions; levee system integrity; nonnative species; water and sediment quality; public use and waterfowl hunting; and long-term funding plan implementation, and regulatory reliability and efficiency. These primary areas of concern all relate to maintaining an acceptable balance of habitat functions and values and private and public land use. Also, as previously described, public and agency comments were received on the Draft EIS/EIR involving several major themes. Further information on this is contained in Chapters 1, 11 and 14 of the EIS/EIR.

8.0 COMMENTS ON FINAL EIS/EIR

Three letters were received commenting on the Final EIS/EIR. A letter was received from the Delta Stewardship Council (DSC) providing comments on the SMP EIS/EIR related to impacts of land subsidence, science integration, tidal marsh restoration approach and modeling, and consistency of the SMP with the Delta Plan. Since receipt of this letter, the DSC has been participating in Principal Agency meetings to provide their input into planning efforts for implementing the SMP, and especially the AMP. This coordination has ensured that the

comments in this letter are addressed, and will continue to be addressed, as appropriate, during implementation of the SMP.

A letter was received from the US Environmental Protection Agency (EPA) commenting on the preferred alternative. EPA recommended that the lead agencies select Alternative C (7,000-9,000 acres of tidal restoration) as the preferred alternative, and that the lead agencies commit to:

- detailed project-specific environmental analyses for tidal restoration projects and major managed wetland activities;
- project-specific quantitative assessments and modeling to disclose potential water quality impacts for all pollutants, including selenium and Polychlorinated Biphenyls
- implementing the AMP and studying, assessing, and improving dredging techniques on a regular basis
- regular monitoring and as necessary, adaptive management to ensure improvements in levee integrity

Consistent with the Draft and Final EIS/EIR, and as described in Attachment A, project specific environmental analysis will be completed and monitoring and mitigation measures will be incorporated into project planning efforts, as appropriate, for tidal restoration projects and for any future managed wetland activities for which impacts have not been fully analyzed and disclosed in the EIS/EIR. Dredging activities under the SMP will be implemented in accordance with all anticipated relevant permits, including the letter of permission from the Corps, water quality certification from the Regional Water Quality Control Board, and biological opinions from FWS and NMFS.

As the CEQA lead agency, DFW received a letter from Contra Costa Water District (CCWD) addressing monitoring and mitigation for potential water quality impacts for site specific tidal restoration projects. Tidal restoration projects will undergo site specific environmental analysis, as appropriate, addressing any potential water quality issues. DFW coordinated with CCWD to address these issues.

The comments received do not lend additional substantive information that would change the analysis of impacts and no changes have been made to the Final EIS/EIR.