

Adaptive Management Advisory Team Charter for the Suisun Marsh Habitat Management, Preservation and Restoration Plan

Adopted May 9, 2013; Revised April 2, 2014

I. Background

The Suisun Marsh Habitat Management, Preservation and Restoration Plan (SMP) is a 30-year comprehensive plan that addresses habitats and ecological processes, public and private land use, levee system integrity, and water quality through tidal restoration and managed wetland activities. The SMP's purpose is to create an acceptable balance between protection and enhancement of managed wetlands and the restoration and protection of tidal wetlands (SMP Final EIR/EIS, Volume II, Appendix E, Page E-4).

The SMP was developed and will be overseen by the Suisun Principal Agencies (the Principals). These agencies are the U.S. Fish and Wildlife Service (USFWS); U.S. Department of Interior, Bureau of Reclamation (Reclamation); California Department of Fish and Wildlife (DFW); California Department of Water Resources (DWR); National Marine Fisheries Services (NMFS); Suisun Resource Conservation District (SRCD); and the Delta Stewardship Council (successor to the CALFED Bay-Delta Program).

Guiding Principles for SMP Implementation

1. The SMP will be implemented through the application of adaptive management.
2. The SMP Adaptive Management Plan targets multi-species benefits rather than focusing on individual species.
3. The SMP will be implemented in a manner consistent with the 1977 Suisun Marsh Preservation Act, Suisun Marsh Preservation Agreement (SMPA), the Department of Fish and Game's Ecosystem Restoration Program (ERP) *Conservation Strategy*, the U.S. Fish and Wildlife Service's *Draft Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California*, the Delta Stewardship Council's *Delta Plan*, and the San Francisco Bay Conservation and Development Commission's *San Francisco Bay Plan*, *Suisun Marsh Protection Plan* and Suisun Marsh Local Protection Program.

II. Purpose of the Charter

The SMP states that adaptive management is essential to keeping the SMP on track toward its objectives and minimizing potential impacts associated with the implementation of SMP actions (SMP Implementation Strategy, p. 65). The SMP Adaptive Management Plan calls for the formation of an Adaptive Management Advisory Team (AMAT). The purpose of the AMAT Charter is to:

- Summarize the SMP objectives;
- Describe how the adaptive management process will be applied in the implementation of the SMP;
- Define the mission and objectives of the AMAT;
- Describe the relationship of the AMAT to the Principals and other groups; and
- Define the core membership and the roles and responsibilities of the AMAT.

III. SMP Objectives

The SMP objectives may be summarized as follows:

1. Restore 5,000 to 7,000 acres of tidal marsh to contribute to the recovery of threatened and endangered species.
2. Protect and enhance 40,000 to 50,000 acres of managed wetlands to benefit waterfowl and other resident and migratory wildlife species.
3. Improve ecological processes and reduce stressors, such as invasive species and contaminants.
4. Maintain waterfowl hunting heritage and expand opportunities for hunting, fishing, bird watching, and other nature-oriented recreational activities.
5. Maintain and improve Marsh levee system integrity.
6. Protect and, where possible, improve water quality for beneficial uses in the Marsh.

(For the full description of the SMP objectives, see the SMP Final EIR/EIS, Volume II, Appendix E, Page E-5.)

IV. Definition of Adaptive Management in the Context of the SMP

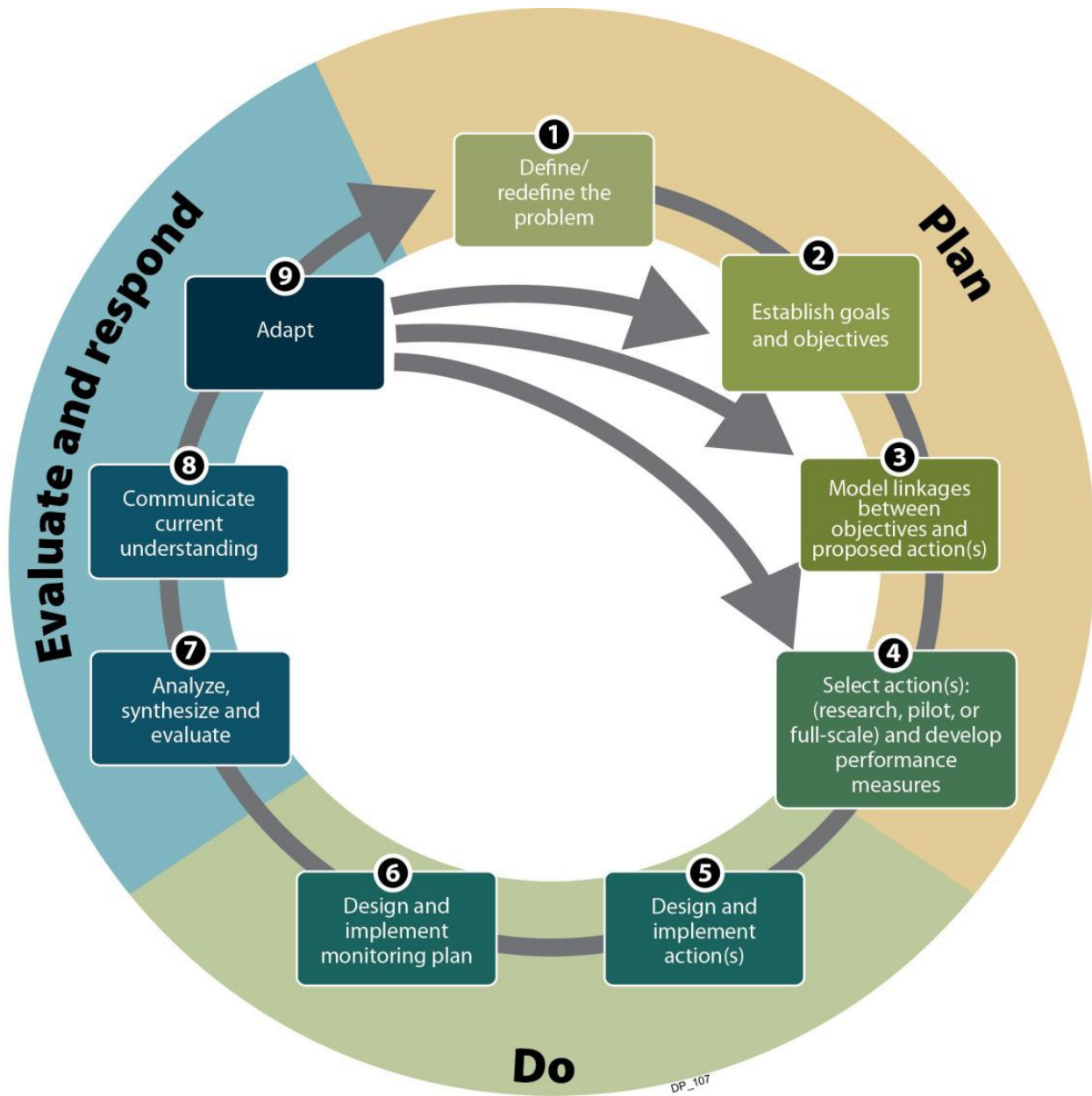
The SMP Adaptive Management Plan (SMP Implementation Strategy, Appendix A) defines adaptive management as “the process of learning by doing and then using the results to improve management actions (Walters and Holling, 1990).” The SMP Adaptive Management Plan further states that adaptive management “involves ongoing, real-time learning and knowledge creation. In an adaptive management approach, resource management and restoration policies are viewed as scientific experiments.” (SMP Final EIR/EIS, Volume II, Appendix E, Page E-5)

The SMP Implementation Strategy calls for passive and active adaptive management (SMP Final EIR/EIS, Volume II, Appendix E, Page E-6), described as follows:

- Through passive adaptive management, the Principals will learn how to ensure better attainment of the SMP objectives based on monitoring the effectiveness of management actions.
- Active adaptive management will involve the Principals encouraging project proponents to carry out targeted studies to resolve uncertainties related to the best approach to achieving specific objectives.

The Principals will, where appropriate, use the adaptive management framework presented in the Draft Delta Plan. The Draft Delta Plan describes the adaptive management process as shown in Figure 1. This process will be applied, as appropriate, at both the landscape scale and the project scale.

Figure 1. A Nine-Step Adaptive Management Framework



Source: Draft Delta Plan (2012), Delta Stewardship Council, Sacramento, CA.

V. AMAT Mission Statement

The mission of the AMAT is to support the Principals in using adaptive management, including use of best available science, to achieve the SMP objectives. This will be accomplished by staffing the AMAT with technical experts who will provide guidance to project proponents and the Principals. The members of the AMAT are discussed later in Section VII below.

VI. Relationship of the AMAT to the Principals and Other Groups

The Principals will:

- Establish the AMAT by drafting and signing a memorandum of understanding among participating agencies and directing their technical staff to participate in the AMAT;
- Review projects for consistency with the SMP goals and objectives (SMP Final EIR/EIS, Volume II, Appendix E, Page E-16);
- Determine whether a proposed habitat restoration project in the Suisun Marsh can be expected to help achieve the habitat goals of the SMP based on input from the AMAT;
- Request that the agencies with responsibility for issuing permits for tidal restoration projects in the Suisun Marsh facilitate permit coordination by convening regular meetings with permit applicants ;
- Facilitate coordination of monitoring for regulatory compliance and to support adaptive management, with guidance from the AMAT; and
- Use the information, analysis and synthesis provided by the AMAT to adapt implementation to better achieve the SMP objectives.

Project proponents will:

- Seek review of project design and the adaptive management plan from the AMAT, *if the project proponent intends to tier from the SMP environmental documents and the Principals determine that the project will help achieve the objectives of the SMP*;
- Apply for all necessary permits from the regulatory agencies; and
- If applicable, request habitat mitigation credits from the appropriate groups, such as the Fisheries Agency Strategy Team (FAST), which handles habitat crediting for the Fish Restoration Program Agreement (FRPA) and the Bay Delta Conservation Plan early implementation projects.

(Coordination with the AMAT does not preclude project proponents from their regulatory due diligence. Each AMAT participating agency retains its own regulatory authority. No habitat mitigation crediting authority has been delegated to the SMP Principal Agencies or the AMAT.)

Revised SMPA Agencies. To track the progress of restoration and managed wetland activities, the Revised Suisun Marsh Preservation Agreement agencies (Reclamation, SRCD, DWR, and DFW) will submit implementation status reports no less frequently than every other year to DFW, NMFS, and USFWS, and other regulatory agencies that would describe the implemented restoration activities, monitoring, application of adaptive management, results of adaptive management, and any activities that are being planned (SMP Final EIR/EIS, Volume II, Appendix E, Page E-20).

Delta Science Program. The Delta Science Program (DSP) will support the AMAT by working with others to develop a landscape-scale conceptual model for the Suisun Marsh, building upon existing resource specific conceptual models developed for the SMP (SMP Final EIR/EIS, Volume II, Appendix E, Page E-8). The Delta Science Program will coordinate with the SMP to:

- Identify uncertainties associated with the conceptual model and assist in seek funding and in-kind contributions to accomplish studies and analysis to reduce uncertainties.
- Determine how information gained from project-specific monitoring can be used to reduce uncertainties in the landscape-scale conceptual model.
- Use the landscape-scale conceptual model to inform implementation of the SMP and serve as the repository for what is learned.

The DSP will assist project proponents by providing early consultation on project design and adaptive management plans for restoration projects that are covered actions under the Delta Plan. The DSP will also support SMP implementation through the development of the Delta Science Plan, which will be a shared plan that organizes and integrates ongoing scientific research, monitoring, analysis, and data management for the Delta science community. The Delta Science Plan will recommend approaches for an integrated monitoring approach, data management and accessibility, shared computer models, and synthesis of scientific knowledge.

ECAT. The Principals and the AMAT will coordinate with other programs with jurisdiction in or focus on the Suisun Marsh, such as the Environmental Coordination and Advisory Team (ECAT). The ECAT's responsibilities include: (1) ensuring compliance with mitigation and monitoring requirements of the Revised SMPA, related permits, and biological opinions, and (2) provide technical guidance and oversight of Suisun Marsh monitoring, management, and restoration programs conducted as part of the SMPA (page 26 RSMPA).. Monitoring data collected and reports generated by the ECAT may provide useful inputs to the performance measures that will be used to track progress toward achieving the SMP objectives.

VII. Membership, Roles and Responsibilities of the AMAT

The AMAT will be comprised of technical staff from DFG, DWR, SRCD, Reclamation, USFWS, NMFS, and the Delta Stewardship Council, with invitations to other technical experts (i.e., Delta Science Program staff) to participate as appropriate. These seven agencies serve as the Core AMAT Members and have primary responsibility for implementation of the AMAT Charter. The other technical experts may be drawn from public agencies, academia, research institutes, non-profit organizations and the private sector.

The AMAT will guide adaptive management at the landscape and project scale.

LANDSCAPE-SCALE ADAPTIVE MANAGEMENT

For the purposes of this Charter, landscape-scale adaptive management refers to adaptive management at the scale of the geographic area covered by the Suisun Marsh Plan.

Roles of the AMAT in Landscape-Scale Adaptive Management

1. **Coordinate with the Delta Science Program in its Development of a Landscape-Scale Conceptual Model for the Suisun Marsh.** During preparation of the SMP, conceptual models were developed for several resource categories, including managed wetlands, tidal marsh and aquatic habitat, levees, scalar transport and geometry, and water quality. These conceptual models have been developed to assist projects with information regarding the current scientific understanding of the Marsh, and identify

uncertainties and potential actions. The models can be used to assist with selecting, designing, and predicting outcomes of project-specific design and objectives (SMP Final EIR/EIS, Volume II, Appendix E, Page E-8). Coordinating with the AMAT and building upon the existing conceptual models, the Delta Science Program will work with others to develop and continually refine a landscape-scale conceptual model for Suisun Marsh based on the best available science (Draft Delta Plan, Ecosystem Chapter, Science Needs section). During the development of the landscape scale conceptual model, the AMAT will proceed with project review using existing conceptual models.

2. **Pursue Research to Address Key Issues.** Conduct research and pilot projects to address key issues, such as fish and wildlife recovery, subsidence reduction and reversal, and water quality, as ecologically appropriate opportunities and associated funding become available.
3. **Advise Principals in Using Performance Measures to Track Plan Implementation.** Advise the Principals in developing performance measures to track progress toward achieving the SMP objectives such as acreage of tidal marsh restored, abundance of waterfowl and listed species, water quality, etc.
 - Advise in the development of standardized monitoring protocols.
 - Advise in data management to facilitate easy access to the full range of existing monitoring data, including ECAT data.
 - Report, at a minimum, yearly to the Principals, other resource managers and stakeholders, on progress in implementing the SMP, based on the performance measures. Include a synthesis of whether the restoration projects are producing the outputs and outcomes expected and a status update on the progress made toward the SMP objectives.
4. **Advise in Adaptive Management of the Suisun Marsh Plan.** As appropriate, advise the Principals of the need for changes to the SMP objectives and/or implementation strategy based on new information (SMP Final EIR/EIS, Volume II, Appendix E, Page E-20).
 - Work with the Delta Science Program to facilitate periodic independent scientific review of SMP implementation (SMP Implementation Strategy, page 66).

PROJECT-SCALE ADAPTIVE MANAGEMENT

As described above, before the AMAT becomes involved in guiding the adaptive management of a proposed restoration project, the Principals must determine whether the project will fall under the purview of the SMP. The screening process consists of the following steps:

1. The project proponent determines whether s/he intends to use the SMP environmental documents rather than developing project-specific environmental documents.
2. The project proponent will be required to consult with the AMAT in the development of a monitoring and adaptive management plan for the project. The AMAT will also provide project design review.
3. The Principals may also request that agencies with permit authority convene a regulatory group to facilitate coordination of permit requirements for restoration projects. The group may request input

from the AMAT on monitoring parameters and adaptive management actions to include in permit conditions.

Roles of the AMAT in Restoration Projects

1. Review tidal restoration project designs and advise project proponents on how to increase chances of achieving project objectives and minimize adverse effects, based on lessons learned from ongoing and completed projects.
2. Review monitoring and adaptive management plans. Advise on the use of standardized monitoring protocols where possible. Help each project proponent develop a monitoring program tailored to the purpose of the project in order to enable evaluation of project success, and designed to address scientific uncertainties in order to help inform future restoration projects. Provide input to regulatory agencies on monitoring needed to track project performance.
3. Review project monitoring reports and evaluations of project success. Draw conclusions regarding success or failure of projects. Determine lessons learned and conditions under which those lessons are applicable for future restoration actions and updating the landscape-scale conceptual model.

VIII. AMAT Operations

The AMAT will meet quarterly, at a minimum, and it may hold additional meetings as appropriate. The AMAT will have an appointed chairperson from one of the core member agencies, as defined in Section VII above, and the position will rotate to a different agency every two years. Notes from each AMAT meeting will be prepared, and will include a summary of the meeting discussions, record any decisions made, and identify action items with schedules. The AMAT will utilize an internet-based data portal for information sharing and progress tracking.

IX. Updates to the Charter

The AMAT Charter may be updated as necessary.