

**Environmental Impact Report:  
Bahia Marsh Restoration Project  
(SCH 2005112025)**

**MITIGATION MONITORING REPORT**

*July 12, 2006*

**Introduction**

This Mitigation Monitoring Reporting Program outlines the actions proposed to ensure that the mitigation measures outlined in the environmental impact report (EIR) on the Bahia Marsh Restoration Project are implemented. It has been prepared to fulfill the requirements of Public Resource Code Section 21081.6 of the California Environmental Quality Act (CEQA), which require public agencies to establish mitigation monitoring and reporting programs for projects where they have identified significant impacts and measures that would mitigate those impacts. Copies of the documents and reports relevant to this Mitigation Monitoring and Reporting Program are available at the Department of Fish and Game (DFG), 7329 Silverado Trail, Yountville, California, 94558, during normal business hours.

Marin Audubon Society (MAS) proposes to restore portions of the 632-acre Bahia site to tidal marsh (approximately 375 acres on its lands and those of DFG). The project consists of activities designed to create maximum tidal marsh habitat, including successional brackish tidal marsh and transitional habitat and plant and animal communities similar to historic tidal marshes of the Petaluma River, while maintaining and enhancing the existing seasonal wetland, pond and upland habitat at the site. The Bahia site is strategically located to protect and restore tidal marsh habitat because it is virtually surrounded by publicly owned marshes. Much of the lowland bordering the Petaluma River in this area remains or is slated to be restored to tidal marsh. In addition to creating and protecting habitat, an important goal of the project is to reduce mosquito habitat.

Restoration planning for the Bahia Project is guided by a project team that consists of DFG as Lead Agency, the Marin Audubon Society (MAS), Philip Williams and Associates (PWA), the Point Reyes Bird Observatory (PRBO), ecological consultant Peter Baye, and the Marin Sonoma Mosquito and Vector Control District (MSMVCD). While DFG has ultimate responsibility for the project on its land, MAS is the owner of a portion of the affected area and is the recipient of grant funding for the project and is managing the entire restoration project.

The site was purchased primarily with public funds, including funds from the CALFED Ecosystem Restoration Program (ERP), for the purposes of habitat protection and restoration. Restoring tidal marsh at the Bahia site directly supports the primary elements of the CALFED ERP and is consistent with the intended use of these funds. Proposed activities will assist in the recovery of endangered and special status fish and other wildlife along the Petaluma River, a high priority location for CALFED. Environmental compliance documentation for the Bahia

Project tiers from the Calfed Bay-Delta Program Final Programmatic Environmental Impact Statement/Environmental Impact Report (PEIR [CEQA Guidelines, section 15152(g)], July 2000). The Bahia Project EIR refers to the PEIR as appropriate, and provides impacts analysis and proposed mitigations not considered, or not covered at an adequate level of detail, in the PEIR.

In addition to CALFED, the group of donors that banded together to purchase the Bahia site includes the Wildlife Conservation Board, the California Coastal Conservancy, the California Department of Transportation (CalTrans; Environmental Enhancement Grant Program), the National Oceanic Atmospheric Administration (NOAA; through the Bay Institute), the Marin Community Foundation, and individuals and small grantors through the Marin Community Foundation Donor Advised Fund.

### **Project Description**

The project consists of activities designed to create maximum tidal marsh habitat, including successional brackish tidal marsh and transitional habitat, and plant and animal communities similar to historic tidal marshes of the Petaluma River, while maintaining and enhancing seasonal wetland, pond and upland habitat. Activities to remove impediments to tidal flows consist primarily of restoring (excavating) a complex system of tidal channels; lowering levees and inboard ground elevations; and creating levee culverts and breaches. Note that the word “levee” is used in this document to refer to embankments and other structures which are not engineered to protect life or property from weather or tidal events. Other activities to facilitate the restoration of tidal marsh and improve habitat include grading in some areas and reusing excavated materials to raise ground elevations in some areas. Two temporary structures are proposed: a pump and a 48-inch culvert and tide gate. Specific design elements of the proposed project are subject to some refinement throughout the CEQA process. Final project design will take into account new and more detailed information from the permitting and design processes.

DFG is ultimately responsible for the project on their land (West and Central Bahia), MAS is acting as grant recipient and project manager for design, implementation, and management of proposed restoration activities on the DFG property and the East Bahia site (which MAS holds in fee title). However, as proposed, earth removed from the Western and Eastern Peninsulas of East Bahia to achieve objectives in that portion of the site would be transported to Central Bahia and the Central Peninsula of East Bahia and used to achieve restoration objectives there. Coordination of the restoration efforts would have the dual benefit of providing needed fill material for Central Bahia and of increasing the area available for tidal wetland restoration at East Bahia. Since these projects are logistically and hydrologically connected, they are evaluated jointly in the Bahia Marsh Restoration Project EIR.

A two-phase approach to tidal restoration is proposed at the Bahia site, with most activities completed during Phase 1. This approach would allow for some flexibility and adjustments to project design as suggested by the response in tidal and habitat regimes to

the first phase of construction. This approach would also allow for natural widening of Black John Slough to avoid adverse impacts to upstream marshes that could result if the project captured most or all of the presently limited tidal flows in Black John Slough. Like portions of the project site, Black John Slough has been subjected to significant sedimentation which has reduced the tidal exchange between the Petaluma River and upstream marshes. Measures proposed in Project Phase 1 are partially intended to create a scouring effect in Black John Slough and naturally increase the tidal capacity of the slough.

Proposed activities for each of the phases are outlined below and are discussed in further detail in the EIR.

#### **Project Phase 1-Central and West Bahia**

- Install a temporary pump
- Excavate interior (inboard) starter channels and berms
- Excavate exterior (outboard) pilot channels to Black John Slough
- Grade former RV parking lot, conduct minor excavation at dredge disposal site, and construct transitional habitat and vegetation bench along the southern edge of Central Bahia
- Lower perimeter levees along Mahoney Spur and Central Bahia
- Construct a temporary flow structure at West Bahia
- Construct ditch blocks along West Bahia borrow ditch
- Enhance seasonal wetlands at the former decant pond in Central Bahia
- Construct three breaches in the perimeter levees of Mahoney Spur and Central Bahia

#### **Project Phase 1-East Bahia**

- Lower surface of Western and Eastern Peninsulas
- Western Peninsula - construct levee along PG&E easement and grade transition zone from new levee
- Eastern Peninsula – remove outer levee and grade transition zone from existing inner levee
- Central Peninsula – grade transition zone and establish tidal connection to Eastern Peninsula

#### **Project Phase 2-West Bahia**

- Lower additional perimeter and interior levees
- Construct four West Bahia breaches

Note: All work in Central and East Bahia would be completed under Project Phase 1.

#### **Purpose of the Mitigation Monitoring and Reporting Program**

The purpose of the MMRP is to ensure that the impact minimization and mitigation measures required by the Department of Fish and Game (DFG) for the project are

properly implemented, and thereby to ensure compliance with section 2081 (b) of the Fish and Game Code and section 21081.6 of the Public Resources Code. A table summarizing the mitigation measures required by DFG is attached. This table is a tool for use in monitoring and reporting on implementation of mitigation measures.

## Implementation and Monitoring of Mitigation Measures

This section summarizes which of the project proponents are responsible for implementation of the mitigation measures identified in the Bahia Marsh Restoration Plan EIR and the actions required for implementation, monitoring, and reporting on these measures.

### Table of Mitigation and Monitoring Requirements

The following items are identified for each mitigation measure: Mitigation Measure, Responsible Party, Action Required, Timing, Reporting, and Status.

	<i>MITIGATION MEASURE</i>	<i>STATUS/DATE/INITIALS</i>
1	<p><b>Mitigation Measure A for Water Impact-1:</b> Implement Best Management Practices (BMPs) for siltation and hazardous materials controls, as specified in the Bahia Marsh Restoration EIR (see Section 3.4.1).</p> <p><b>Mitigation Measure B for Water Impact-1:</b> Submit a copy of the Regional Water Quality Control Board (RWQCB) Water Quality Certification to the Bay Conservation and Development Commission (BCDC).</p>	
	<p><b>Implementation</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Incorporate BMPs into project specifications and construction requirements.  <b>Timing:</b> During project construction</p>	
	<p><b>Reporting</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Provide the information required for Project permit monitoring reports.</p>	
2	<p><b>Mitigation for Geologic Impact 1:</b> Use Best Management Practices (BMPs) to protect soil during and immediately after construction, as specified in the Bahia Marsh Restoration EIR (see Section 4.4.1).</p>	
	<p><b>Implementation</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Incorporate BMPs into project specifications and construction requirements.  <b>Timing:</b> During project construction</p>	
	<p><b>Reporting</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Provide the information required for Project permit monitoring reports.</p>	
3	<p><b>Mitigation Measure A for Bio Impact-3.</b> Avoid construction operations during the breeding season.</p>	

Exhibit 4: Mitigation Monitoring; Reporting Plan from Environmental Impacts Report

	<p><b>Implementation</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Avoid prohibited biological windows.  <b>Timing:</b> During project construction</p>	
	<p><b>Reporting</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Provide the information required for Project permit monitoring reports.</p>	
4	<p><b>Mitigation Measure A for Bio Impact-5:</b> MAS will coordinate with San Francisco Estuary Invasive Spartina Project to determine where the nearest populations of invasive cordgrass are located and to ensure that invasive cordgrass is not introduced to the Project Site during or prior to project implementation.  <b>Mitigation Measure B for Bio Impact-5:</b> Gain control of new, establishing populations of invasive cordgrass using protocols suggested by the San Francisco Estuary Invasive Spartina Project.  <b>Mitigation Measure C for Bio Impact-5:</b> Conduct post-implementation monitoring for new, establishing populations of invasive cordgrass. If populations invasive cordgrass is detected implement Mitigation Measure B.  <b>Mitigation Measure D for Bio Impact-5:</b> Conduct post-implementation monitoring for new, establishing populations of pepperweed. If new populations are detected, appropriate control measures will be implemented.  <b>Mitigation Measure E for Bio Impact-5:</b> Manually remove small founder populations of other invasive plants during early flowering stages.</p>	
	<p><b>Implementation</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Coordinate with Spartina Project.  <b>Timing:</b> During project construction</p>	
	<p><b>Reporting</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Provide the information required for Project permit monitoring reports.</p>	
5	<p><b>Mitigation for Traffic Impact-1:</b> Restrict truck traffic to the hours between 9 am and 4:30 pm.</p>	
	<p><b>Implementation</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Restrict truck traffic to construction hours.  <b>Timing:</b> During project construction</p>	
	<p><b>Reporting</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Provide the information required for Project permit monitoring reports.</p>	
6	<p><b>Mitigation A for Traffic Impact-2:</b> Reduce speed limit for project trucks to 10mph.  <b>Mitigation B for Traffic Impact-2:</b> Restrict street parking along Topaz Drive and Bolero Court during construction/truck hauling hours.  <b>Mitigation C for Traffic Impact-2:</b> Notify the Bahia Community immediately prior to the beginning of excavations at East Bahia.</p>	

Exhibit 4: Mitigation Monitoring; Reporting Plan from Environmental Impacts Report

	<p><b>Implementation</b>  <b>Responsible Party:</b> Project Sponsors/ City of Novato Public Works Depart.  <b>Action Required:</b> Reduce speed limit, restrict parking, notify community.  <b>Timing:</b> During project construction</p>	
	<p><b>Reporting</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Provide the information required for Project permit monitoring reports.</p>	
7	<p><b>Mitigation for Air Impact-2: Implement dust control measures recommended by the Bay Air Air Quality Management District (BAAQMD), as specified in the Bahia Marsh Restoration Project EIR (Section 7.3.1.1).</b></p>	
	<p><b>Implementation</b>  <b>Responsible Party:</b> Project Sponsors.  <b>Action Required:</b> Implement dust control measures.  <b>Timing:</b> During project construction</p>	
	<p><b>Reporting</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Provide the information required for Project permit monitoring reports.</p>	
8	<p><b>Mitigation A for Noise Impact-1:</b> Restrict truck traffic to the hours between 9 am and 4:30 pm.  <b>Mitigation B for Noise Impact-1:</b> Instruct the drivers not to use engine breaking on Topaz Drive.</p>	
	<p><b>Implementation</b>  <b>Responsible Party:</b> Project Sponsors.  <b>Action Required:</b> Restrict truck traffic to 9 AM to 4:30 PM- Instruct drivers "no engine breaking on Topaz Drive".  <b>Timing:</b> During project construction</p>	
	<p><b>Reporting</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Provide the information required for Project permit monitoring reports.</p>	
9	<p><b>Mitigation A for Noise Impact-2:</b> Locate staging and stockpile areas, and supply and construction vehicle routes as far away from sensitive receptors as possible.  <b>Mitigation B for Noise Impact-2:</b> Establish and enforce construction site and haul road speed limits.  <b>Mitigation C for Noise Impact-2:</b> Restrict the use of bells, whistles, alarms, and horns to safety warning purposes.  <b>Mitigation D for Noise Impact-2:</b> Equip all construction vehicles and equipment with appropriate mufflers and air inlet silencers.  <b>Mitigation E for Noise Impact-2:</b> Restrict hours of construction to daylight hours.  <b>Mitigation F for Noise Impact-2:</b> Locate equipment as far from sensitive receptors as possible.</p>	
	<p><b>Implementation</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Locate sources of noise as far away from sensitive receptors as possible, limit truck speed, restrict the use of bells, horns, and whistles, construction equipment must have mufflers, restrict construction to daylight hours.  <b>Timing:</b> During project construction</p>	

Exhibit 4: Mitigation Monitoring; Reporting Plan from Environmental Impacts Report

	<p><b>Reporting</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Provide the information required for Project permit monitoring reports.</p>	
10	<p><b>Mitigation for Recreation Impact-1:</b> Post construction barriers (two level tapes) along the street boundary of the parks during the time of construction and pre-construction notification of the neighborhood.</p>	
	<p><b>Implementation</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Post construction barriers (two level tapes) along the street boundary of the parks during the time of construction and pre-construction notification of the neighborhood.  <b>Timing:</b> During project construction</p>	
	<p><b>Reporting</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Provide the information required for Project permit monitoring reports.</p>	
11	<p><b>Mitigation A for Cultural Resources Impact-1:</b> Contractors and construction personnel involved in ground-disturbing activities will be advised of the possibility of encountering cultural resources (including, but not limited to, chipped or ground stone, historic debris, building foundations, and non-human bone) during construction work.  <b>Mitigation B for Cultural Resources Impact-1:</b> There is low probability that historic archaeological materials (including, but not limited to, structural remains, privies, or refuse deposits containing metal, glass, and ceramic items) may be encountered.  <b>Mitigation C for Cultural Resource Impact-1:</b> DFG will pursue a strategy of avoiding impacts to cultural resources, where feasible. If avoidance of potentially significant resources is determined to be infeasible, DFG will conduct a controlled archaeological test excavation to determine archaeological site significance.</p>	
	<p><b>Implementation</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Contractors and construction personnel involved in ground-disturbing activities will be advised of the possibility of encountering cultural resources.  <b>Timing:</b> During project construction</p>	
	<p><b>Reporting</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Provide the information required for Project permit monitoring reports.</p>	
12	<p><b>Mitigation for Cultural Resource Impact-2:</b> If bone is encountered and appears to be human, California law (PRC Section 7050.5) requires that potentially destructive construction work in the vicinity of the find and in nearby areas reasonably suspected to overlie adjacent human remains is halted and the County Coroner (in the county where the find occurs) is contacted.</p>	
	<p><b>Implementation</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> If bone is encountered and appears to be human, potentially destructive construction work in the vicinity of the find and in nearby areas reasonably suspected to overlie adjacent human remains is halted and the County Coroner (in the county where the find occurs) is contacted.  <b>Timing:</b> During project construction</p>	
	<p><b>Reporting</b>  <b>Responsible Party:</b> Project Sponsors  <b>Action Required:</b> Provide the information required for Project permit monitoring reports.</p>	