

# **Delta ISB: Delta Tour Restoration Projects Overview**

## **Goat Island Tidal Marsh Restoration Project<sup>1</sup>**

The project will restore 80 acres of tidal marsh habitat by reconnecting and reestablishing tidal marsh hydrology and related physical and ecological processes within and around Goat Island Marsh. It will also contribute to the restoration and enhancement of rare ecological aquatic and wetland habitats for federally endangered fish, wildlife, and plant species within their critical habitat. The purpose is to reinitiate tidal flows to the site and to reestablish characteristic marsh features (ponds, pannes and SAV areas) and vegetation. The main project actions include creating an oversized channel, lowering the perimeter levee, expanding existing SAV ponds, active weed control and native species re-vegetation, and replacing the levee trail with an interpretive nature trail and boardwalk.

## **Hill Slough Tidal Marsh Restoration Project<sup>2</sup>**

The project, located within the DFG Hill Slough Wildlife Management Area, will restore tidal wetlands and moist grassland habitat to approximately 200-1,100 acres of diked seasonal and perennial wetlands. Restoration will re-introduce tidal action to the site, restoring a transition of perennial aquatic habitat in the deepest areas, low intertidal marsh, high intertidal marsh, and lowland alluvial habitat. The restored habitat will provide rearing and productivity for delta smelt and Sacramento splittail, and rearing habitat for Chinook salmon. The desired outcome is a self-sustaining marsh ecosystem created through restoration of natural hydraulic and sedimentation processes and reliance on natural abiotic and biotic successional processes. The project site is a former tidal brackish marsh and lowland alluvial habitat along the northern edge of Suisun Marsh that currently supports nontidal, seasonally ponded and perennial wetlands, and non-native grasslands.

## **Blacklock Restoration Project<sup>3</sup>**

The project has restored 70 acres of diked, managed marsh to tidal wetlands, using a minimally engineered approach. In 2006, a natural breach occurred in mid-July, and a 61 foot-long engineered breach was constructed in October. Current activities include implementation of a 10-year monitoring program. The project goals are to restore the area to a fully functioning, self-sustaining marsh ecosystem created through restoration of natural hydrologic, sedimentation and biological processes; increase the area and contiguity of emergent wetlands providing habitat for tidal marsh species; and assist in the recovery of at-risk species.

## **Property 322 (Overlook Club)<sup>2</sup>**

DWR is evaluating acquisition and restoration of the property. The site is well suited for restoration to tidal marsh, as it includes 160 acres of diked wetlands that are minimally subsided, and remnant tidal channels are intact. Restoration will require minimal landscape modification and has the potential for establishing broad tidal connectivity with the shallow open waters of Little Honker Bay. Adjacent habitat includes upland ecotone, broad fringing tidal marshes, and shallow open waters in Little Honker Bay. Relatively high native fish abundance in this region has been documented, and may be related to structural habitat diversity and enhanced primary and secondary productivity associated with existing tidal marsh and shallow open water habitat.

## **Meins Landing<sup>2</sup>**

This property, unlike many sites in the Suisun Marsh, is geographically isolated from other managed wetlands so there is no need to construct and maintain new interior levees in order to restore tidal action. The project provides an opportunity for large-scale tidal wetland restoration that will include intertidal, subtidal and upland habitats in Suisun Marsh. The long-term restoration goal of the project is to develop a multi-species habitat enhancement project, which will provide habitat for marsh-dependent sensitive plant and animal species, including the endangered salt marsh harvest mouse. The property is currently operated as a duck club and managed wetland. The project will also provide habitat mitigation for levee improvements and increased flood protection on 24 miles of levees in Suisun Marsh under the DWR Delta Levees Program and habitat mitigation for a Suisun Marsh dredging program.

## **Prospect Island Tidal Habitat Restoration<sup>2</sup>**

The project entails permanently breaching the levees on Prospect Island to restore up to 1,320 acres of open water, tidal marsh, mudflats, and shaded riverine aquatic habitat. This would provide spawning and rearing habitat for delta smelt and Sacramento splittail, and rearing and migration habitat for winter-run Chinook salmon. Upland areas in the northern part of the island would accommodate new marsh formation when sea levels rise. This island offers a unique opportunity for restoration due to minimal subsidence, which has left elevations in the island interior ranging from +1 to -5 feet msl.

## **Yolo Ranch<sup>2</sup>**

Yolo Ranch was acquired by Westlands Water District with the intention of creating tidal marsh and open water to benefit delta smelt and the delta food web. This area is currently being used for farming and grazing. The primary goals of the project are to enhance regional food web productivity in support of delta smelt recovery and to provide rearing habitats for outmigrating salmonids utilizing the Yolo Bypass. The secondary goals are to support a broad range of other aquatic and wetland-dependent species, including Sacramento splittail, and to restore ecosystem functions of the Delta freshwater tidal marsh/ floodplain/lowland grassland interfaces.

## **Liberty Island<sup>2</sup>**

Liberty Island lies within the Yolo Bypass and is part of the Cache Slough Complex. It spans Yolo and Solano Counties and covers approximately 5,200 acres, the majority of which are under water. The island is ideal for tidal wetland enhancement due to the minimal subsidence that has occurred on the island, with typical interior island elevations ranging from 5 feet in the north to -10 feet or deeper in the south. The entire island is ringed with deteriorated levees that have numerous breaches. Within the ten years that the island has been flooded, over 800 acres of freshwater tidal marsh have developed, without any human intervention, management, or funding. Enhancement options might range from making more numerous breaches and allowing subsequent floods and tidal action to bring about the development of slough and island features, to giving tidal marsh channels a head start by excavating starter channels. Naturally forming or created meandering sloughs could improve habitat quality, improve native fish access, and help prevent stranding. Filling agricultural delivery and drainage ditches and leveling the existing road bisecting the property are also possible actions.

### References:

1. Bay Area Integrated Regional Water Management Plan. <http://bairwmp.org/>
2. DWR. 2012. Fish Restoration Program Agreement Implementation Strategy.
3. DWR. 2007. Restoration Plan for the Blacklock Restoration Project.

## DISB Delta Tour: Map of Habitat Restoration Projects

