Update on Suisun Marsh Plan

September 2005

Charter Group

Current Contact Information for Suisun Marsh Science Advisor

Please be sure you use the current contact information, shown below, for Dr. Stuart Siegel of Wetlands and Water Resources, Inc., the Science Advisor for the Suisun Marsh Plan. Dr. Siegel can be reached at (415) 457-0250. Contact information provided in earlier Newsletters was not correct.

Suisun Marsh and Its Role in Survival of Delta Smelt

Suisun Marsh may play an important role in survival of delta smelt and other stressed Bay-Delta pelagic fish species, by providing rearing habitat for juvenile fish.

In the past two years delta smelt and other species have declined to near record low levels in the Delta. In the Suisun Marsh, however, current numbers are higher than the record lows of the 1980s, suggesting that the Marsh may play a role for open water fish species.

Suisun Marsh provides some open water habitat and is away from the Delta water diversions. The Marsh is very productive and has the potential to contribute to the overall Delta pelagic community. We will be watching closely during the fall sampling period to see how the abundance of pelagic fish in the Marsh relates to that in the main Delta.

Federal and state agencies are working to determine why delta smelt and other fish species continue their decline to near-record low levels. While several species show evidence of long-term decline, there appears to have been a precipitous "step change" to very low abundance in 2002-2004. The decline among once-common pelagic fish was unexpected given the relatively wet hydrology since 2003.

In addition to the decline in fish species, monitoring by the Interagency Ecological Program (IEP) also found declining abundance trends for zooplankton, with a substantial drop in calanoid copepod abundance in 2004. Scientists suspect there may be at least three factors in the fish decline: 1) toxins; 2) invasive species; and 3) water operations.

Over the past decade, the State Water Project and Federal Central Valley Project have shifted the timing of water exports through establishment of the Environmental Water Account, and the California Bay-Delta Authority has supported habitat restoration projects, including actions in Suisun Marsh.

The Suisun Marsh Plan is intended to enhance habitat for migratory birds and other wildlife, improve levees, restore tidal marshes and other ecosystems, and improve water quality. The lands and waters of this unique ecosystem are home to a wide variety of plants, fish, and wildlife that depend upon careful balancing of fresh and saline waters for their survival.

Restored tidal and shallow water habitat in Suisun Marsh will likely play an important part in the overall health of the estuary.

The Promise Takes Hold –Two Suisun Marsh Restoration Projects Get Under Way

As the full Suisun Marsh Plan takes shape, work already has begun on two restoration efforts, on Hill Slough West and Blacklock projects. They provide a glimpse into the rejuvenation effort envisioned for many areas of the marsh once the Suisun Marsh Plan is completed.

Hill Slough West Project – Restoration of 200 Acres

Natural tidal action should return 200 acres in the northern Suisun Marsh's Hill Slough Wildlife Area to high value native habitat. The Hill Slough West Habitat Restoration Project will restore tidal wetlands and moist grassland (alluvial) habitat to land that now is diked seasonal and perennial wetlands.

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The Suisun Marsh Plan is:
Local, state and federal agencies that, through the CALFED Bay-Delta Program, help improve the San Francisco Bay-Delta Estuary are partnering on a plan to protect and enhance wildlife values and water quality in Suisun Marsh, the largest brackish wetland in the western United States. Members of the partnership, known as the Suisun Marsh Charter Group, are the U.S. Fish and Wildlife Service, the National Marine Fisheries Service (NOAA Fisheries), the U.S. Bureau of Reclamation, the California Department of Fish and Game, the California Department of Water Resources, and the California Bay-Delta Authority. The partnership also includes the Suisun Resource Conservation District, which represents the interests of private landowners. The Charter Group works with other participating agencies, including the San Francisco Bay Conservation and Development Commission and U.S. Army Corps of Engineers, in developing this plan.

The restoration will return 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 goal is a self-sustaining marsh ecosystem created through restoration of natural hydrologic and sedimentation processes and reliance on natural abiotic and biological succession processes.

Owned by the California Department of Fish and Game (DFG), the site is currently a mix of seasonal and perennial wetlands, and non-native grasses. Hardstem bulrush and cattail occur on the bayside of the levee separating the area from the adjacent slough. Inside the levee are a variety of wetland plants, including pickleweed, several species of bulrush, salt grass, alkali heath, and several species of rushes.

Much of the site has subsided from historic marshplain elevations. Unscreened culverts limit site drainage to the adjacent tidal channel. The site now has limited waterfowl, wading birds, and the endangered salt marsh harvest mouse.

The Hill Slough West Restoration and Management Plan was prepared under management of DFG staff with a Technical Advisory Committee from DFG, U.S. Fish and Wildlife Service, Department of Water Resources, Suisun Resource Conservation District, and UC Davis.

Blacklock – Beginning a Tidal Restoration Effort

The California Department of Water Resources (DWR), in cooperation with other SMP agencies, is developing a restoration plan to restore tidal action on the 70-acre Blacklock parcel. Located adjacent to Little Honker Bay, Blacklock was acquired by DWR in 2003 with CALFED funds. Restoration of this seasonal wetland will contribute to CALFED's goal of 5,000 to 7,000 acres of restored tidal wetlands in this ecologically diverse area of the Suisun Marsh.

The goal is to establish a self-sustaining tidal marsh ecosystem, with functioning natural hydrologic and sedimentation processes, promoting native vegetation and a tidal marsh channel network. As the plan is developed, the site is being monitored for salt marsh harvest mice, fisheries, vegetation and avian species.

The site has remnant tidal sloughs and topographical variation. But the big restoration challenge is the subsided elevation and site specific attributes. Interim management, already is addressing some needs, through manipulation of water levels within the pond, vector control, and work on levee overtopping, maintenance and repair.

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