

ACTION 6

Maximize habitat benefits of managed wetlands and ponds

Maximize habitat benefits of managed wetlands and ponds for all species. In the near term, continue to support studies on bird use of managed ponds and sensitive species in managed wetlands to inform long-term management options for how these habitats can sustain these species.

TASK 6-1 Analyze the response of birds to management of wetlands and ponds to provide increased nesting, foraging, roosting, and high tide refuge habitat. Investigate the effectiveness of specific habitat enhancement measures such as management of water levels in and adjacent to ponds, varied pond topography, levee improvements, and the creation of islands. Conduct monthly bird surveys in the Bay to assess species response to these measures.

2016 -2021 Produce a yearly report on bird response to specific management measures, and share progress within five years.

TASK 6-2 Study the ability of managed ponds to sustain waterbird numbers in the Bay. Analyze regional waterbird monitoring data with regard to managed pond use and bird density over time, as compared to other habitats.

BY 2020 Produce report comparing bird use of various habitat types in the Bay and share results.

TASK 6-3 Study the ability of managed wetlands to sustain diverse species of vertebrates, invertebrates, and endemic and endangered plants over time. Analyze species use, density, and diversity as compared to non-managed wetlands.

BY 2020 Produce report comparing species use and diversity in various managed wetlands in the Bay, and share results.

TASK 6-4 Develop a methodology for assessing the long-term costs and benefits of managed wetlands and ponds. Methodology should take into account habitat benefits for multiple species and changes in maintenance requirements resulting from sea level rise and climate change.

BY 2020 Develop and implement a methodology.

BACKGROUND

For more than a century, humans have “managed” tidal action and water levels in some marsh and pond habitats to attract waterfowl for hunting; more recently, diked former wetlands and salt ponds now being converted to tidal habitats need “management” to address subsidence issues, species protection goals, and restoration priorities. The hydrology and salinity in these habitats affects species distribution and health.

Managed ponds (shallow or deep open water areas) can provide feeding, roosting, resting, and breeding areas for a variety of waterbird species. Managed wetlands (such as diked or muted marshes) can provide habitat for critical vegetation, marsh dependent bird species, and small mammals in areas where full tidal restoration is not feasible. The 2015 *Baylands Ecosystem Habitat Goals Science Update* recommends actively restoring diverse habitats for waterbirds and small mammals. When possible, it recommends providing sufficient habitat by modifying managed ponds and reconfiguring former salt ponds. (Section V of the CCMP links actions to critical management issues for listed species.)

Recent efforts to support food chains in these kinds of habitats have been successful. According to the 2015 *State of the Estuary Report*, the South Bay Salt Ponds have become a productive nursery for grass shrimp, diverse native fish species, and other aquatic organisms. Shorebirds are nesting on specialized bird islands and making the most of experimental topographic changes in shallow ponds. More information on how birds respond to habitat changes is being collected by the South Bay Salt Pond Restoration Project. The Project’s Pond Management Working Group meets regularly to fine tune management responses.

Managing large areas for targeted water depths and salinity is a time- and resource-intensive effort. The effects of climate change and sea level rise challenge the long-term viability of managed ponds. Projected higher water levels, more frequent and intense storms, and regional salinity shifts, may make it difficult or even impossible in the future for managers to maintain target habitat conditions inside the ponds.

In addition to climate change challenges, uncertainties remain about how certain avian groups adapted to using managed habitats might be affected as more ponds and shallows are restored to tidal wetlands. This CCMP action reaffirms adaptive management approaches to such challenges and uncertainties, and recognizes that various ecological and economic trade-offs must be assessed in conjunction with other regional planning efforts such as US Fish & Wildlife’s *Recovery Plan for Tidal Marsh Ecosystems* and the *Baylands Goals*.

OWNERS

CA Department of Fish and Wildlife (Task 6-1)
CA State Coastal Conservancy (Tasks 6-1, 6-2, 6-3, 6-4)
US Fish and Wildlife Service (Task 6-1)
US Geological Survey (Task 6-2)

COLLABORATING PARTNERS

Point Blue Conservation Science, SF Bay Bird Observatory,
SF Bay Regional Water Quality Control Board

NEXUS

Actions 1-8, 15-18; Goals 1,2; Objectives a,b,d,e