



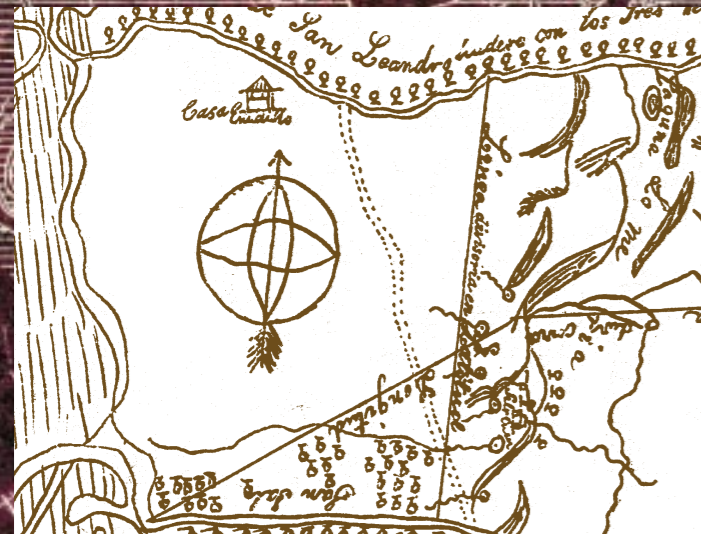
Teams of Bay Area environmental scientists have assessed the past and present conditions of the baylands ecosystem and recommended ways to improve its ecological health. This report presents the Baylands Ecosystem Goals.

Baylands Ecosystem

Baylands Ecosystem

# Habitat Goals

## Habitat Goals



**A Report of Habitat Recommendations  
Prepared by the San Francisco Bay Area  
Wetlands Ecosystem Goals Project**

One possible management technique that could augment existing predator control programs in South Bay is the reestablishment of coyote populations. Coyotes may help control red fox and other similar predators; however, this technique should be pursued very carefully in order to be certain that it would not adversely affect other wildlife species and people.

## **Mosquitoes**

Mosquitoes are one of the many groups of animals that occur in the baylands ecosystem. Certain bayland mosquito species transmit diseases, the most important of which are those caused by encephalitis viruses. Although clinical cases of encephalitis have rarely been reported in recent years, the virus is still detected annually in wild birds, in sentinel chickens, and in mosquito populations. The primary goal of mosquito abatement efforts is to keep mosquito populations below threshold levels for disease transmission to humans, and to reduce nuisance problems that can impact recreational, economic, and agricultural activities and create public distress.

Mosquitoes rarely occur in significant numbers in tidal marshes that have full tidal action. But they can occur in large numbers in seasonally ponded wetlands with inadequate water control engineering or poor water management practices, and in densely vegetated tidal areas that hold water between tides.

The design of wetland restoration and enhancement projects should include input from the local mosquito abatement district in order to prevent or discourage the build-up of mosquito populations. Where mosquitoes are a potential problem, designs should incorporate features to help discourage and control mosquitoes. Appropriate designs include: (1) deep water, especially on the down-wind side, (2) open water with little or no vegetation, (3) long fetch for waves, (4) permanently flooded areas for mosquito predators, and (5) water control capacity. In addition, designs should incorporate a wide buffer between wetlands (especially seasonal ponds) and residential areas, and provide access points for mosquito surveillance and control.

Once a project is constructed, the site manager should maintain good communication with the mosquito abatement district regarding water levels, predator abundance, and observations of mosquito larvae or adults. The manager should also budget funds for mosquito control, especially for lands which do not contribute funds to the local mosquito abatement district, for projects with habitat types that are especially conducive to mosquitoes, and for projects near residential areas.

## **Freshwater Flows**

Freshwater inputs to the Bay are critical to the healthy functioning of the baylands ecosystem. These flows influence salinity gradients, affect shallow bay habitats, contribute sediments to maintain the marsh plain, and provide energy to the aquatic ecosystem. Changes in the volume and timing of freshwater flows have dramatically affected the baylands in measurable ways since about the 1920s, when diversions from the Sacramento and San Joaquin rivers began to increase markedly. While the effects of diversions are Estuary-wide, the most obvious changes in the baylands have been upstream of Carquinez Strait.