

A wide variety of wetland types exist worldwide, many of which can be found within the political boundaries of the State of California. It has been well documented that the wetland systems located along the coast of California have been victimized by the direct and indirect impacts of the continuous spread of urbanization. Many estimates show that as little as %10 of the historic coastal wetland habitat of California still exists. Therefore, understanding and defining these remnant wetland systems has become increasingly more important and urgent. However, with the presence of such a prominent anthropogenic influence, these habitats can no longer be fully examined solely through the practices of the natural sciences. With well over 16 million people living in southern California it is essential that we also utilize the social sciences to acquire a well-rounded perspective of these ecosystems.

Coastal salt marshes are unique wetland ecological communities. They exist between the marine, freshwater, and terrestrial realms, and are defined by the highly adapted native flora and fauna that have evolved in accordance to the dynamic, saline wetland habitat. Being estuarine, the salinity levels of a coastal salt marsh fluctuate and are determined not only by daily oceanic tidal fluxes, but also by periodic freshwater input from rivers, precipitation, and urban runoff. Throughout southern California, coastal salt marshes that were once contiguous have become dissected and interrupted by urban areas, which act as avenues for habitat disturbance and as barriers to native plant and animal dispersal. An increasing urban sprawl has led to the demise and desecration of much of our natural salt marshes, leaving around 30 virtual biological islands of salt marsh habitat located along a 160 km strip of coastline between Tijuana, Mexico and Goleta, California. Limited biological interaction occurs between these marshes, yet these degraded and fragmented wetlands still support an abundance of wildlife, including several species of special concern. The movement to preserve these remaining salt marshes has led to the formation of countless public interest groups focused on restoring the integrity of these wetlands. Many of these groups are also concerned with maintaining these sites for recreational, ecotourism, and education activities.

The Los Cerritos Wetlands are one of the 30 aforementioned coastal salt marsh systems of southern California. Overall, 75% of the historic coastal salt marsh habitat in southern California has been lost, and Los Cerritos is no exception. It is estimated that in the early 1900's this marsh, located on the border of the cities of Long Beach and Seal Beach, once covered over 2400 acres of area known as Alamitos Bay. Historically the San Gabriel River was the main tributary for the Alamitos Bay, but currently the San Gabriel is flood controlled and no longer is connected directly to the bay, which has reduced the freshwater influence from this large watershed. In fact, a majority of the Alamitos Bay has been dredged to build marinas, and has filled to accommodate housing developments. Now just 500 acres of undeveloped habitat exists, with only about 50 of these acres considered to be healthy functioning salt marsh. Moreover, much of the remaining land within this urban wetland is currently controlled by as many as 4 private landowners, who continue to abuse the wetlands and show little interest in their restoration. Several oil companies lease these properties where drilling has taken place for over 50 years.

A growing suburban community now surrounds the Los Cerritos Wetlands and the development of these housing tracts, and the road ways that connect them, have led to further fragmentation of the surviving wetland habitats. However, within these human communities a sympathetic sentiment for the neighboring wetland communities can be found. This situation provides a worthy model to implement the study of environmental science and policy.

In the spring of 2007 we developed 4 research teams aimed at conducting a well rounded, interdisciplinary investigation of several important issues surrounding the Los Cerritos Wetlands. Each team focused on the subject from a different perspective. The law and policy team explored how existing regulatory laws can be applied to better protect and preserve the wetlands. The economics team looked at the value of the many beneficial uses that the wetlands offer. The hydrology team performed a variety of geochemical and physical studies to determine the health of the remaining wetland areas. Finally, the biology team surveyed bird population sizes and biodiversity throughout the Los Cerritos Wetlands complex. This report's findings will give direction to decision makers and stakeholders, offer insights for ecological restoration, and provide a springboard for further studies in the environmental sciences.