

Solutions for Dredging and Agriculture Impacts on Estuarine Wetlands

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This paper describes two innovative approaches to the resolution of use conflicts between significant economic activities and threatened natural resources in the San Francisco Estuary. These solutions will enable two major California industries, maritime and agriculture, to maintain themselves and grow while restoring and enhancing vital tidal marsh and watershed habitats.

Enclosed seas and their adjacent shorelines and uplands are especially critical because of their high biological productivity for so many species which originate and sustain themselves in these habitats. Because of their attractiveness as primary centers of human settlement and economic activity, these areas, especially at bays and estuaries, are the focus of major conflicts between development and resource protection. Two of the most heated conflicts involve maritime and agriculture impacts on wetlands, watersheds, and other aquatic habitats.

Described here are two non-traditional approaches to resolving such conflicts, which are based on agreement among multiple interests to devise technical solutions that are both economically viable and environmentally sound, and to implement these solutions. One case concerns upland disposal of dredged materials for a major harbor, whose expansion and continued economic viability depends on an environmentally acceptable solution. Alternative disposal sites are needed because of the extreme sensitivity of the estuary and near-shore coastal waters to disposal of material. One demonstration project will use non-contaminated dredged material to restore former tidal marsh to functioning wetland, thus achieving two goals.

A second case focuses on devising and demonstrating alternative cultivation techniques for wine-grape growing that reduce pesticide use, fresh water consumption, and soil erosion. These impacts are adversely affecting a riparian area and downstream wetlands, and many marine and avian species, including an endangered species of fresh water shrimp. This project also brings together diverse interests to demonstrate the voluntary use of economically and environmentally sound methods.

The basic approach underlying these projects is applicable in many other similar situations, because it is based on the recognition by concerned parties of their common interests in reaching mutually acceptable solutions.