

Altering the Estuary

by Kenn Oberrecht



Whether in the name of progress, comfort, safety, or greed, humans have a penchant for modifying the environment to suit their

immediate needs and wants. Nowhere is this more evident than along the nation's coasts and particularly in the vicinity of estuaries, which have attracted people and invited settlement throughout the history of human wandering.

We have straightened, deepened, levied, and dammed thousands of rivers and creeks, thereby altering the quality and often the quantity of fresh water that eventually reaches our estuaries.

Consequently, our estuaries--especially the larger ones--have undergone considerable change that has largely coincided with pioneer settlement and subsequent agricultural, industrial, and urban development.

We have straightened, deepened, levied, and dammed thousands of rivers and creeks, thereby altering the quality and often the quantity of fresh water that eventually reaches our estuaries. We have also dredged and channelized the estuaries and ditched, diked, and filled adjacent wetlands.

We have filled in, built on, and dredged out every major estuary, from Boston Harbor to San Francisco Bay. In so doing, we have tremendously decreased their sizes, altered their circulation patterns, impeded their cleansing and filtering capabilities, reduced their biological diversity, and diminished their appeal.

In a few instances, human alteration of estuaries and wetlands has been beneficial to certain wildlife species. For example, some marshes that have been ditched and diked support greater numbers and diversity of bird species than natural, unaltered marshes in the same area. Some birds even prefer nesting in the woody vegetation found along narrow spoil strips adjacent to ditches.

Dredging, of course, greatly affects the estuary bottom. It disturbs bottom-dwelling organisms, kills many of them, and reduces or severely alters their habitat. The deep channels also influence estuarine circulation and can increase salinity by allowing salt water to penetrate farther upstream.

In general, though, alteration is detrimental to plant and animal communities and larger ecosystems, of which humans are a part. Spoil banks and dikes, for example, impede essential water exchange and flushing. They inhibit or prevent sediment deposition, and they interfere with or prevent movement of free-swimming organisms.

Dredging is an expensive, on-going, and never-ending process associated with navigable estuaries. Large estuaries, such as Coos Bay, that function as deep-water ports for large freighters, tankers, and other ships require the deepest channels and most frequent channel maintenance.

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Dredging is destructive and expensive but has become a necessary nuisance in Coos Bay and elsewhere. Many other alterations also appear to be permanent and irreversible, such as marshes that have been filled and then highly developed for commercial and residential purposes.

We have the opportunity, however, to operate in the future with a little more intelligence and to be less destructive and counterproductive. Now that we're aware of their importance, we can avoid destroying or damaging any of the remaining tidal marshes and can protect vital eelgrass beds. We can even create new marshes and eelgrass beds to function as nurseries and feeding grounds for important commercial and sport fishes and shellfishes.

Some of our ditched and diked coastal areas are of marginal value as pastures and croplands, whereas they could prove extremely useful functioning in their original capacity as coastal wetlands.

Perhaps the time has come to supplant wetland destruction with wetland restoration.

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