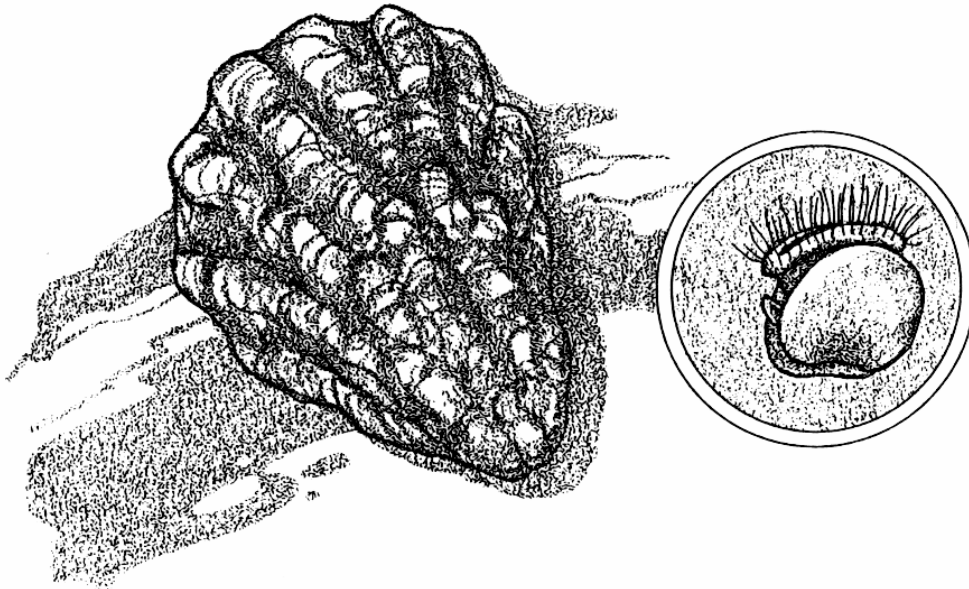


Aquaculture in Oregon's Estuaries

by Kenn Oberrecht



Aquaculture is a kind of water-based farming in which aquatic plants and animals are cultivated in natural or fabricated freshwater, saltwater, or brackish environments . The practice, in

its crudest form, may have begun with the ancient Egyptians and was certainly underway during classical Greek and Roman times. It subsequently spread around the globe, but is most widely employed in Asia as a means of providing essential protein to that grossly overpopulated continent. Currently, Asia accounts for nearly 85 percent of the world's aquaculture production, North America for less than two percent.

Commercial aquaculture along coastal Oregon is solely devoted to the cultivation of mollusks--namely oysters and mussels, the latter grown only on the Umpqua estuary, near Winchester Bay.

America's first aquaculture operations began in the 1850s, but it took another century before large-scale cultivation got underway. The history of aquaculture in Oregon's estuaries is as rocky as the Oregon coastline itself.

Although major salmon-ranching facilities were operating on Coos Bay and Yaquina Bay during the past decade, there are no salmon ranches functioning now on any of Oregon's estuaries. Commercial aquaculture along coastal Oregon is solely devoted to the cultivation of mollusks--namely oysters and mussels, the latter grown only on the Umpqua estuary, near Winchester Bay.

Oysters seem to do well in Oregon's estuaries. Currently, they are under cultivation on Coos Bay, Winchester Bay, Yaquina Bay, Tillamook Bay, and Netarts Bay.

The total worldwide sustainable harvest of commercial aquatic species is estimated to be between 240 and 265 billion pounds a year.

Native oysters are now nearly gone from Oregon's coastal waters. A Japanese species commonly known as the Pacific oyster (*Crassostrea gigas*) makes up the bulk of the commercial-oyster harvest here. Oregon's coastal waters are too cold for these oysters to spawn naturally, so oyster growers either buy spat (tiny juveniles) to seed their oyster beds, or adult oysters are spawned in special tanks under controlled conditions. After spat attach to old oyster shells, the young oysters are allowed to mature in the estuary--a process that takes from two to three years.

Oysters are grown in a number of ways on an estuary: directly on the bottom, attached to stakes set in the bottom sediments, in trays suspended from floats, in bags attached to racks, in lantern nets, and on lines suspended from floats, racks, or floating docks.

The total worldwide sustainable harvest of commercial aquatic species is estimated to be between 240 and 265 billion pounds a year. We are already taking more than half that annually and will doubtless soon reach the maximum sustainable yield. Presently, aquaculture accounts for only about 10 percent of the world's seafood supply. Potentially, it could increase the total worldwide harvest by tenfold. For estuaries to play a role, however, they must be kept clean and functional.

Water quality is extremely important to aquaculturalists, which is one reason Oregon's relatively clean estuaries might prove ideal for various commercial operations in the future. Already, more than half the commercial shellfish beds along the Atlantic coast have been closed because of pollution.

Depending on technological advances, public acceptance or demand, legal issues, and our ability to preserve the integrity of our estuaries, aquaculture could hold some promise for the future in Oregon and elsewhere along the Pacific Coast.