

Regional Differences Among Estuaries

by Kenn Oberrecht



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estuaries can differ greatly. The North-Atlantic region, for example, extends from Maine to Long Island, New York, comprising nearly 8,000 miles of tidal shoreline. Along Maine's craggy coast, estuaries are deep, rocky, and fjordlike. South through New England, coastal embayments are small, with salt marshes mainly confined to the edges of tidal rivers. In the vicinity of Long Island, however, the marsh-rimmed estuaries broaden and become relatively shallow, more characteristic of the mid-Atlantic region.

Southward, the coast becomes sandy, often forming great barrier beaches and islands and enclosing huge bays and sounds. Rivers and creeks are tidal for many miles, creating sprawling estuarine habitats and salt marshes that reach far inland.

Along the Carolinas and north coast of Florida the sandy barrier beaches and islands, often battered by storms and turbulent currents, are in a constant state of change. But they afford protection to the estuaries behind them, where the salt marshes remain fairly stable, with human encroachment their worst threat.

Estuaries along Oregon's uplifted coast are comparatively small, perhaps amounting to no more than 50,000 acres in the entire state. Generally, those along the Atlantic and Gulf coasts are much larger, mainly because of the lay of the land there.

Even within a state or region,

At the southern tip of Florida is a rich marine environment supported by a vast estuarine nursery system that has suffered tremendously from the abuses of over-zealous land developers. At the lower end of the Florida peninsula are coral islands and reefs on the Atlantic side and a maze of mangrove forests and islands on the Gulf side.

In the mangroves, shallow gulf waters mix with the tannin-stained freshwater flow from the Everglades and Great Cypress Swamp to create a habitat capable of growing 75 percent of the pink shrimp harvested in the U.S. This is also the rearing and feeding grounds for 75 percent of the sport fishes and 90 percent of the commercial species taken in this part of the state.

Long, narrow, sandy barrier islands and reefs skirt the coast of the Gulf of Mexico from northwestern Florida to Brownsville, Texas. Estuaries here are generally broad and shallow, flanked by extensive marshlands.

On the Pacific Coast, San Francisco Bay is the only estuarine system similar to the large eastern estuaries, both because of its physical makeup and the dense urban and industrial development along its shores.

Along the Texas coast, barrier islands have nearly enclosed narrow estuarine lagoons, leaving only small openings to the gulf. Those with major freshwater inflow are subjected to widely varying salinity levels, while several that receive only minimal fresh water are actually hypersaline.

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The North-Pacific Region extends from northern California to Alaska and contains some 40,000 miles of tidal coastline. Most coastal rivers here drop quickly from the mountains to the sea and culminate in relatively small estuaries.

Every estuary is unique, yet all estuaries share certain features. Some are similar enough to be grouped or classified according to their shared characteristics. Others are typical of specific regions. All are greatly affected by geology, climate, and a seemingly endless list of other factors, headed by the ever-swelling human population.

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