

Ecology of the Niantic River

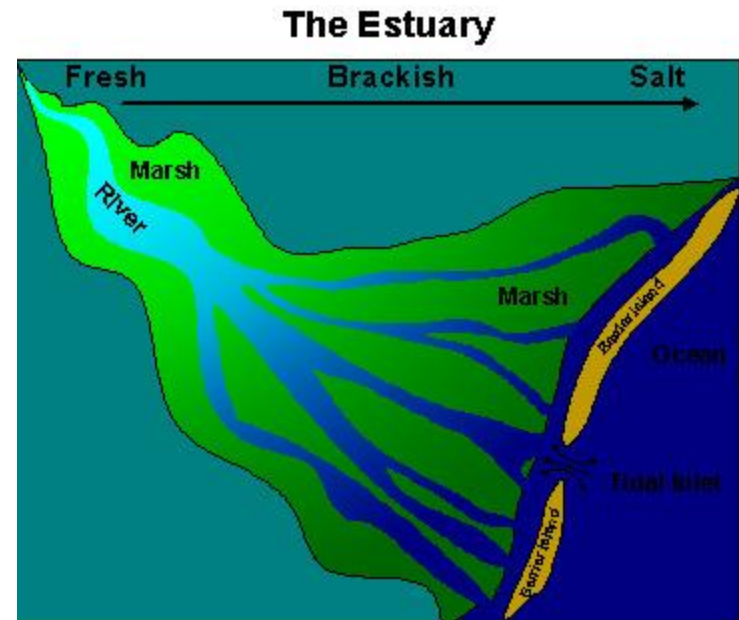


From Texas Parks and Wildlife Department

The Niantic River is an Estuary

An estuary is a waterbody where fresh water and salt water mix, creating brackish water.

Because estuaries contain a mixture of fresh and salt water they can support a wide variety of organisms.



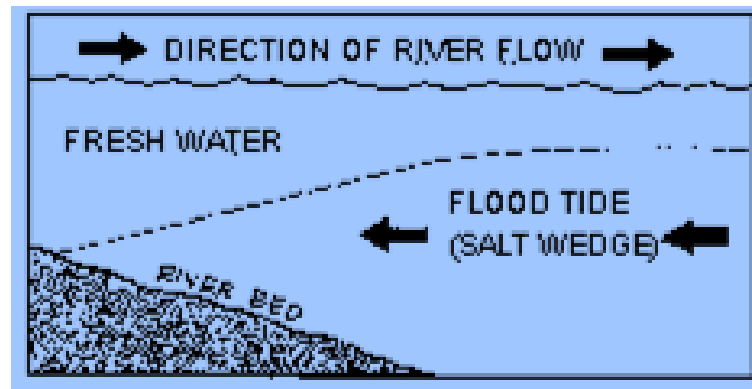
from www.toxipedia.org

The Niantic River Estuary is a *coastal plain estuary*. It was a river valley that became “drowned” as sea levels rose at the end of the last glacial period.



Freshwater-Saltwater Interface

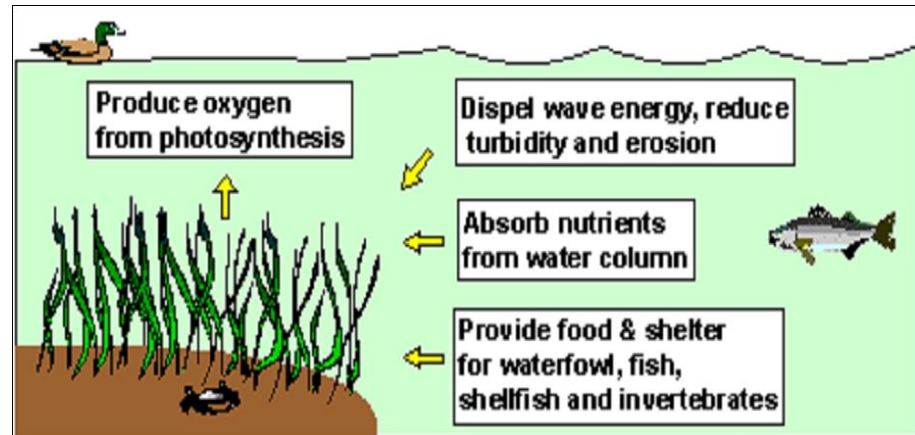
The mixing of fresh water and salt water is an important feature of estuaries. In estuaries, fresh water is lighter than seawater and therefore flows above it.



A wedge-shaped bottom layer of salt water, called a *salt wedge*, is pushed up the estuary along the river bottom by the force of the outgoing fresh water above it, carrying with it nutrients for the estuary's plant life from the ocean. (from Hinterland Who's Who – www.hww.ca)

Natural Value of Estuaries

- Estuaries store and release essential elements such as carbon, nitrogen, phosphorus, oxygen, and sulfur among organisms and the environment.
- Estuaries are rich in nutrients and sediments that are transported from both the land and the sea.
- Estuaries support rich and varied food webs. The seafood we harvest from our estuaries comes from these food webs.
- The cycling of elements and deposition of nutrients and sediments make estuaries rich nursery habitats for many aquatic species.



www.riverfriends.org

(Adapted from The Value of Healthy Estuaries by Robert R. Christian)

Human Value of Estuaries

- Estuaries support both commercial and recreational fisheries.
- Estuaries remove excess nutrients from water.
- Estuaries provide recreational opportunities including fishing, boating, swimming, and bird watching.
- Estuaries protect the land from storm damage.
- Estuaries provide safe ports for marine commerce and recreational boating.

Common Plant & Animal Species found in the Niantic River include:



Herb Segars Photography

Grubby



coz.southernfriedscience.com

Bay Scallops attached to eelgrass



www.woodfishart.com

Tautog



diggerschoice-seafood.com

Clams



Rockweed



warpraptor.com

Blue Mussel



texasgulfcoastfishing.com

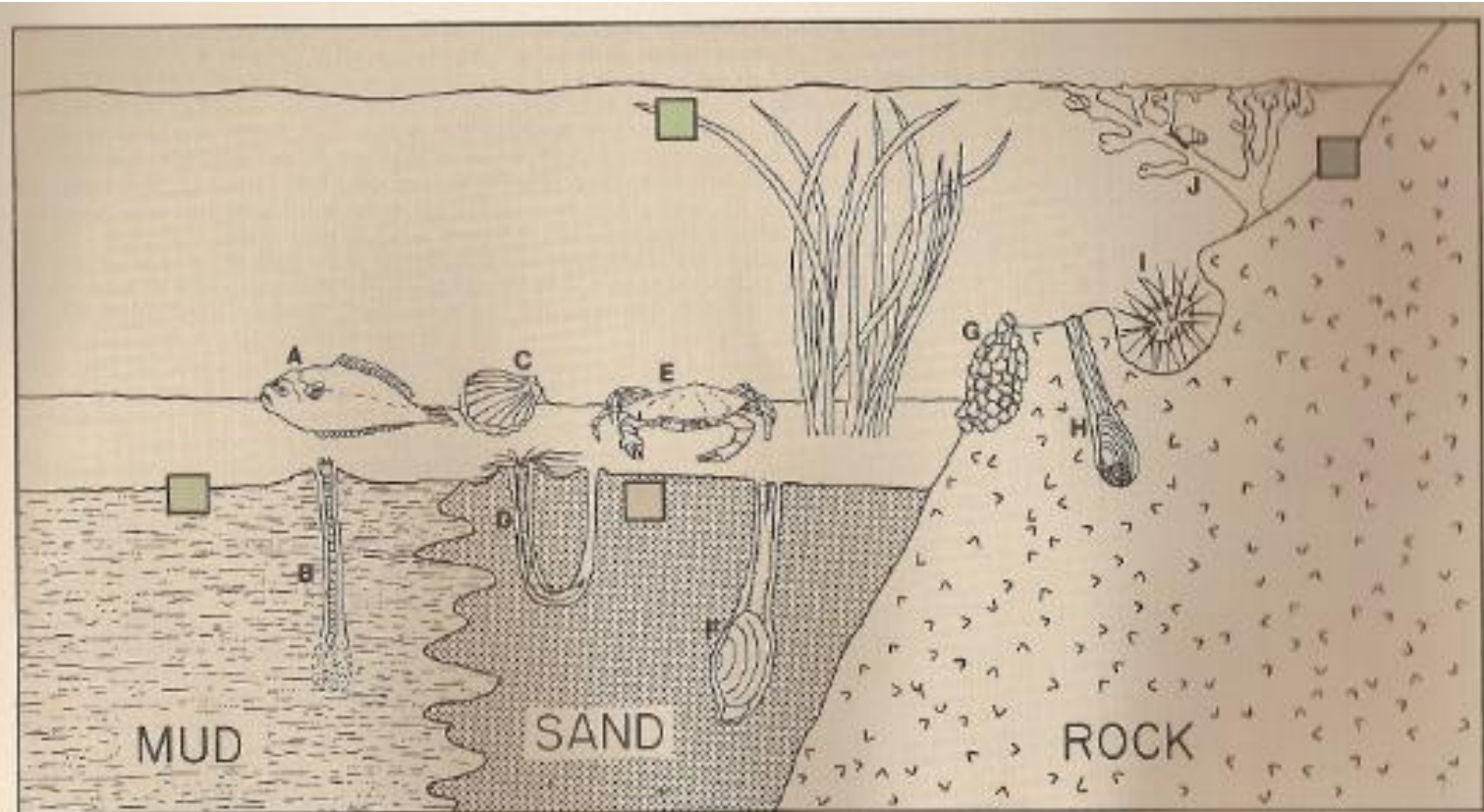
Blue Crab



www.afprotein.com

Flounder

Estuarine Habitat Zones



Granular Sediments (mud and sand)

Epifauna: A. Flounder; C. Scallop;
E. Crab

Infauna: B. Deep deposit-feeding
polychaete worm; D. Surface
deposit-feeding polychaete worm;
F. Infaunal suspension-feeding
clam

Shallow Rock Bottom

Epibenthos: G. Coral Colony; I. Sea
Urchin (living in a groove it bored
into the rock); J. *Fucus* with a
grazing snail

Infauna: H. Boring Clam