

Backwaters Are Important as Nursery Grounds



Places where saltwater mixes with fresh are called estuaries. The Waquoit Bay National Estuarine Research Reserve has several such places. Flat Pond (#1, #2), with its large expanse of freshwater marshland, has the lowest salinity of all the ponds connected to Waquoit Bay (#2). To get to the pond, fish must enter the Bay, swim into Sage Lot Pond (#2), and enter the shallow, narrow channel that connects Sage Lot to Flat Pond (#3a, #4 and #5). Several large groundwater springs (freshwater) flow into Flat Pond where the freshwater marshland is. Saltwater enters via the channel and mixes with the freshwater. The mixture is called brackish water. This is excellent nursery habitat for several marine species that prefer brackish waters when they are young, such as herring (#6) shrimp (#7), and occasionally even squid (#8). This is possibly because many predators can't tolerate brackish (low salinity) conditions. An exception is the Silver Gar (#9). From June to October, one may find juveniles of this fish roaming the channel (and other backwaters of Cape Cod) in search of food (small fish and other organisms)



The role of such backwaters as nursery habitat contributes to one of the very important functions of an estuary. In fact, more than 70 percent of the species of seafood we eat spend part of their life cycle in coastal areas and estuaries, often for this reason. Some, like the herring, enter places like Flat Pond to spawn (lay their eggs and reproduce). Others, like blue crabs and squid, spawn off shore and enter estuaries as safe havens to develop and grow. Those that leave after developing may be part of huge populations that roam vast areas of the Atlantic (example, #10). They are key elements of the food chain in this region of the world. Flat Pond is a small but important link in this vast ecosystem.

Range of shad (shaded area) covered during its oceanic journeys.



Although Flat Pond may seem remote and pristine, the manmade channel that links it to the sea passes under three roads. Two of these are service roads to parking lots of popular beaches: the Mashpee Town Beach (#3 c) and South Cape state beach (#3 d). Care must be taken to avoid discharges or runoff from these surfaces into the surrounding marshland and channels. These, in turn, require periodic maintenance (example #6) to ensure good flow in the system. Nearby homeowners and operators of the golf course adjacent to the pond (#11) also must practice wise use of pesticides and fertilizers to ensure the safety of the Flat Pond ecosystem.



Juvenile Silver Gar

Tylosurus marinus

13.5 inches

(In the ocean adults grow to 4 feet in length.)



Juvenile Shad (Herring)

(Born in Flat Pond)

Alosa sapidissima

1.5 inches



Common Prawn

Palaeomonetes vulgaris

1 inch



Juvenile Long-finned Squid

Loligo pealeii

1.5 inches