Brita Jessen: Narragansett Bay’s menhaden treasure

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WHEN YOU TAKE a good look at Narragansett Bay, you can see a shimmering silver patch on the surface. This is the typical sign of a menhaden (a.k.a. pogey, bunker, or fatback) school, which contributes commercial and ecological value to the Narragansett Bay community for the summer.

Rhode Islanders have depended on this seasonal windfall for centuries. Menhaden oil and meat have been used for machinery, animal feed, fertilizer and fishing bait. In addition to supplying several commodities, menhaden also contribute to the functioning and productivity of the Bay’s ecosystem.

It is the responsibility of fisheries managers to keep the local stock at a sustainable level that meets economic and ecological needs, which is akin to hitting multiple moving targets at once. Having a greater understanding of the role that menhaden play can help all stakeholders communicate on the best strategy for managing the local population.

After almost two centuries, the Rhode Island menhaden harvest for oil was banned in 2002, as the stock had plunged since the 1970s. A menhaden management area was also established and monitored in Narragansett Bay. Since then, catch for use as bait is the only commercial menhaden harvest allowed in Rhode Island waters. The majority of this harvest is used by local lobstermen and fishermen, at a lower cost compared with imports from outside areas.

Another commercial benefit comes from menhaden’s role in the food chain. Menhaden are key prey for larger coastal fish such as striped bass and bluefish. The presence of a menhaden school in the Bay attracts the sport fish, which are then pursued by commercial and recreational fishers. A loss of menhaden abundance can result in lower amounts of food for the carnivorous species, affecting economic potential in the fishing sector.

There is the ecological value of the menhaden population in Narragansett Bay as well (which arguably translates into economic gain). Menhaden feed by filtering out small algae, plankton, and detritus in the water. Although those algae and plankton are an essential basis for the Bay’s food web, an excess amount can throw the system off-balance. It’s possible that the filtering capability of menhaden contains some of the periodic algae overload. This activity led to the description of menhaden as “livers of the Bay,” a reference to our own organs that remove substances before a critical level is reached. Over a summer season, an adult menhaden can filter around four million liters of water. At that rate, the estimated 2007 population could filter up to 70 percent of the total volume of Narragansett Bay. The active role of menhaden within the Bay provides value to our community as well as when they are harvested from the Bay.
It can be hard to determine the status of the Atlantic menhaden population, as stock levels are known to fluctuate. The local population appears to be increasing: 2008 was the fourth consecutive year of higher menhaden abundance in southern New England, with 24 million pounds estimated in Rhode Island waters. The 2007 menhaden population supported a bait fishery that landed 450,000 to 500,000 pounds per week. It remains to be seen if changes in local management strategies have contributed to the increase. The state Department of Environmental Management currently limits commercial menhaden harvest to 50 percent of the incoming population, a level that has already been reached for the beginning of this season, but could be adjusted if more menhaden come.

Humans have a visible impact on the coast-wide menhaden stock. One example is apparent in the average age of the fish. Menhaden can live 10 to 12 years, but most of the current population is no older than three. The reason for this is fishing pressure, which takes out the adults before they have reached a large size. Menhaden are now much smaller than they once were, which may be affecting the coastal food web. But with reasonable management practices, the population could approach former levels.

This small, oily fish is an important asset for many stakeholders in the Bay and surrounding communities. Multiple perspectives need to be considered when determining what the status of the local stock should be. Stakeholders, managers, and policy makers need to make a coordinated, systemic effort to carefully manage menhaden populations to the greatest benefit, and communicate these intentions to the public.

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