

## Keeping the fish in the Charles

By **Anna Eleria and Rebecca Scibek**/ Special To The Tab

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Not long ago, fishing in the Charles River reaped little reward due to potential health risks and few fish. Today it has become safer, more popular, and more enjoyable with many fishermen casting their lines off the docks, bridges and banks of the Charles. Restored fishing in the Charles can be attributed to efforts by organizations such as ours to improve water quality and fish passage at dams in the lower river reaches.

CRWA, MA Division of Marine Fisheries and the US Fish and Wildlife Service are currently involved in a multi-year collaborative effort to restore the American shad population in the Charles and to create a local sport fishery. The Charles River American shad restoration program, which will span the next three to six years, involves stocking juvenile shad fry in the Lakes District area of the Charles in Newton and Waltham each year from late June to mid-July.

The first step of the American Shad restoration program is to obtain brood stock - adult shad - from the Merrimack River, where the shad population has rebounded in recent years. The brood stock will be transported and spawned at FWS hatchery where the larvae of the adults will be raised for seven to ten days, and then marked prior to their release so their return to the Charles River can be tracked. CRWA's work will involve sampling juvenile fish to estimate fish survival and establish recruitment indices, and assessing the river's chemistry to determine if river habitat conditions are suitable for the young fish.

This year, the project's first, more than 1.8 million shad fry were released in Waltham during the weeks of July 9 and July 16, following successful spawning at the hatcheries. The fry will spend several months in the Charles growing, feeding, and slowly swimming downstream before reaching the mouth of the river, entering Boston Harbor, and moving out into the Atlantic Ocean where they will spend most of their adult lives. CRWA is monitoring water quality twice a week, through September, downstream from the release site in the Waltham, Newton and Watertown areas, to help determine habitat conditions. Following water quality monitoring starting in late September and continuing through the fall, DMF and CRWA will sample the juvenile shad. This process will be repeated for the next few years, with shad fry being released each summer. Beginning in 2009, three to four years after their release, the shad will begin to return to the river to spawn, and they will be identified and tracked by the project coordinators.

One of the largest members of the herring family, American Shad can reach up to 30 inches in length with an average weight of 7-8 pounds. The shad is one of five species of anadromous fish found in the river - fish that are born in freshwater, spend the majority of their lives in the ocean, and return to their native freshwater to spawn in the late spring.

Dating back to the early 1600s, the Charles River supported an abundant population of American shad. Despite historical abundance, the shad population in the Charles was nearly wiped out because of the construction of dams and culverts and the degradation of the river's water quality and flow. Today, only small numbers of adult shad are observed in the river each year despite the fact that the Charles River should support a viable shad population of 30,000 adults based on an estimate by DMF, which takes into consideration historical records of fish in the Basin and the community appropriate for a natural river in southern New England.

Successful repopulation of American shad may involve addressing obstacles to their viability in the Charles including predation by birds, unsuitable flow, poor downriver passage, availability of forage species, such as zooplankton, and habitat alterations. If the shad restoration program succeeds, beginning in 2009 adult shad will come back to the Charles and start a new generation of life.

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