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CHARLES RIVER

**The Boston Globe**

## Clean living gives Charles a shot at new life -- shad

By Tim Wacker, Globe Correspondent | December 3, 2006

For the past century, dams and pollution made the Charles River more burial ground than breeding ground for herring, shad, and salmon -- fish whose life cycles once revolved around the waterway.

But conditions have recently improved along the Charles, and scientists now think it's time to bring one of those fish back. A team of experts this summer stocked 1.8 million baby American shad in the Charles. As the last of the fish, by their normal cycle, left the river last month to spend the next three years maturing in the Atlantic, those experts say there is reason to hope they will return to spawn.

It's news that should excite more than just the experts.

"One reason the shad are so important to this river," said Kristine Ferry, an aquatic biologist with the state's Division of Marine Fisheries, "is that they are an excellent game fish. Many anglers like to fish for shad," which can grow to 30 inches or slightly more in length and weigh up to 11 pounds.

Once the fishermen come out, other water sport enthusiasts are likely to follow, advocates say. The Charles is getting cleaner and cleaner, helping to shed an old image that has kept people away for decades.

"We wouldn't be here today, stocking the river with American shad, unless the river had a viable habitat for the fish," said Anna Eleria in a recent telephone interview. She's a member of the Charles River Watershed Association, a nonprofit advocacy group that is monitoring the shad restoration project. "The river is now clean enough to restore American shad."

The shad restoration project is a multiyear, multiagency, multimillion-dollar effort funded by federal grants and mitigation money paid by the developers of the HubLine natural gas pipeline project underneath Massachusetts Bay, according to Ferry.

The young shad that were released this summer came from federal hatcheries in New Hampshire, the first of their kind in the state converted specifically for the Charles program, said Joe McKeon, an official with the US Fish and Wildlife Service.

The fish were released in July near the Woerd Avenue boat ramp in Waltham, in the center of the shad's historic range on the Charles. It's now hoped the half-inch fingerlings have learned over the summer that the Charles is their home and will return to the river to spawn after spending the bulk of their adult life in the Atlantic.

Before the fish were released into the river, they were marked with a harmless chemical that shows up under ultraviolet light. That's how the shad collected in samples between the summer and the end of last month are known to be from the stocking program, Eleria said.

Some of the fish in the samples seemed to be healthy, growing a few inches over the summer, Eleria said. But whether they now consider the Charles their home habitat will take a few years to find out.

"It's gone well. A couple of sampling events we did this year did find some juvenile shad living in the river," she said. "But the larger question is: How many are surviving? That's harder to determine. This is a multiyear project, and only time will tell. Not until 2009 will we see these fish return."

There is reason to be optimistic. Just 30 miles north of the Charles, annual shad runs have been restored in the Merrimack River, where spring runs have exceeded 70,000 fish in recent years, according to figures from

the US Fish and Wildlife Service.

Environmental conditions on the Merrimack are not that different from the Charles, Eleria said, except that cleanup efforts on the Merrimack have been going on a little longer and fish lifts that transport the fish past dams also seem to be working a little better there.

"The state Division of Marine Fisheries has made repairs at all five fish passages in the lower Charles," she said. "Short of removing the dams, that's the best we can do."

Dams are believed to have caused the demise of shad runs throughout New England. Shad were plentiful in the Charles until the mid-1800s, and there are historical records identifying shad in the river as early as 1633.

After 1850, the population began to decline due to construction of dams and the degradation of water quality, according to the watershed association's website. Only small numbers of adult shad have been observed in the river in recent years, although the Charles should be able to support a population of up to 30,000 adult fish, according to the website.

The river will be stocked each summer for at least the next three years, said Ferry. A small number of shad already breed in the Charles, but it's hoped this effort will boost those numbers here as similar efforts have in the Merrimack.

"I think we'll be able to do that," Ferry said. "The Charles River once had a thriving shad population. Before dams were installed, it was once a great shad river."

"Fish are indicators of a river's health," said Eleria. "The fact that the river is now healthy enough to support American shad, which are very sensitive to pollution, says a lot about the other options for public recreation, not just fishing, but boating, sailing, and just walking along the banks. We've got a clear, clean river now that people can enjoy."

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