



## Natural Heritage & Endangered Species Program

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*Massachusetts Division of Fisheries & Wildlife*

## Atlantic Salmon *Salmo salar*

State Status: **None**  
Federal Status: **None**

**SPECIES DESCRIPTION:** The Atlantic Salmon and the related Brown Trout are similar in appearance, but adult Atlantic Salmon have small X-shaped spots on the body, a smaller mouth, a more deeply-forked tail, and longer pectoral fins than the Brown Trout. They can be distinguished from the various Pacific salmon by the lack of black spots on the caudal fin. Juvenile Atlantic Salmon (parr) have 8 to 11 narrow parr marks with a single red spot between each pair of parr marks. The average size of anadromous and landlocked Atlantic Salmon differs, with landlocked populations rarely exceeding 20 inches in length while anadromous forms commonly reach 30 inches. Anadromous Atlantic Salmon spawn in freshwater streams and then return to the sea. Young salmon remain in fresh water for two to three years, descending to the sea as "smolts" when they reach 5 to 9 inches. At sea, they live for one or two more years before returning to their natal streams to spawn. Unlike most Pacific salmon, which die after spawning, many post-spawning Atlantic Salmon survive and return to the sea. Food habits vary with life stages. At sea, salmon eat a variety of marine organisms, including crustaceans and smaller fishes. Young Atlantic Salmon

feed primarily on aquatic and terrestrial insects while they are in fresh water. Landlocked Atlantic Salmon in large Massachusetts reservoirs feed principally on introduced Rainbow Smelt, young White Perch, and midges and ants.

**DISTRIBUTION AND ABUNDANCE:** In Massachusetts, native anadromous Atlantic Salmon were historically known from the Connecticut and Merrimack rivers. Populations may also have been present in other suitable rivers before they were also overfished and/or dammed. For many years, ongoing attempts to restore Atlantic Salmon to Massachusetts rivers have had limited success due to a combination of many factors, including poorly designed fishways, inferior genetic stock, turbine mortality, and poor survival rates at sea. Landlocked Atlantic Salmon have been introduced into the Quabbin, Wachusett, and Littleville reservoirs. These landlocked forms, originating from lakes in Maine and New Hampshire, are genetically similar to anadromous Atlantic Salmon but differ primarily in their nonmigratory habits and their ability to live in deep lake environments.

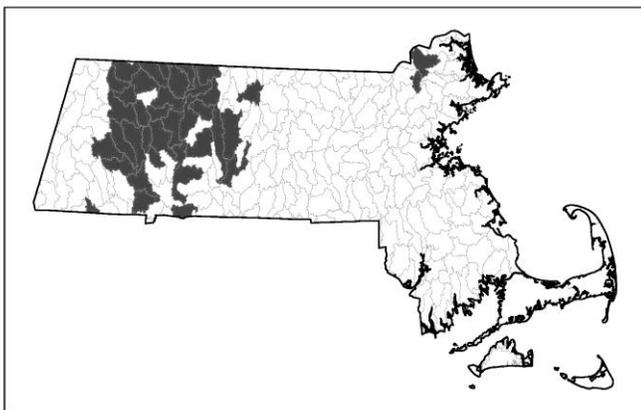
**HABITAT DESCRIPTION:** This species requires cold, clear, clean, gravel-bottomed lotic environments in which to spawn.

**THREATS:** The primary threats to this species include dams which impede or prevent up- and downstream movements of adults and young; water pollution; and siltation of spawning habitat.

### REFERENCE

This species description was adapted, with permission, from: Karsten E. Hartel, David B. Halliwell, and Alan E. Launer. 2002. *Inland Fishes of Massachusetts*. Massachusetts Audubon Society, Lincoln, Massachusetts.

*Updated 2015*



*Data from DFW Fisheries Surveys and Harvard Museum of Comparative Zoology*

**A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan**

## Massachusetts Division of Fisheries & Wildlife

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Please allow the Natural Heritage & Endangered Species Program to continue to conserve the biodiversity of Massachusetts with a contribution for 'endangered wildlife conservation' on your state income tax form, as these donations comprise a significant portion of our operating budget.

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