

Landlocked (Atlantic) Salmon (*Salmo salar*)

General Information

Stocked originally in the 1950's, in a then privately owned lake, the hard fighting Atlantic salmon was re-introduced again in New Jersey in 2006 in Lake Aeroflex and Lake Wawayanda. The fishery is maintained through annual stockings from fingerlings received each year from the State of Massachusetts. It can best be distinguished from their close cousin, the brown trout, by the raised tooth patch along the roof of the mouth. Atlantic salmon have a single line of teeth along the patch, while brown trout have two rows of teeth in a zigzag pattern.



Native Range

Naturally found in the basin of the North Atlantic Ocean comprising the entire water region of Greenland, Portugal, Iceland, Southern Greenland, the Ungava region of North Quebec and south to Connecticut River. Landlocked forms were introduced to the New England States and parts of Canada with success. (Scott and Crossman 1973)

Habitat Description

River: Utilizes rivers only for spawning and nursery purpose, juveniles migrate out to open water after spending considerable time in the river. Preferable habitat for successful spawning is rapid moving water with a good gravel substrate, although may occur under a variety of water flow conditions with different substrate. Salmon will not spawn in still water with a muddy substrate. (Leim and Scott, 1966)

Lake: Prefers Oligotrophic lakes that are deep, low in organic matter, chemically infertile with good dissolved oxygen levels with a maximum temperature of 23°C, however can tolerate marginal and homothermous Lakes that have less stringent water quality condition. Requires tributaries flowing into the lake in order to have successful reproduction. (Havey and Warner 1970)

Optimum Habitat Requirements

Dissolved Oxygen	≥ 5 mg/ l
Temperature	≤ 23°C
pH	≥ 6.0
Turbidity	
Current	

Diet

Fry	Plankton
Juveniles	Aquatic and Terrestrial Insects
Adults	Smelt and Alewife
Note: Diet for adult landlocked salmon only.	

Reproduction

Time of Year	October – November	Age Males Mature	1 - 2
Temperature Range	0-3°C	Age Females Mature	1 - 2
Water Depth	12.7 – 25.4 cm	Nest	Bury in gravel
Substrate	Gravel/Sand	Egg Type	Benthic
Time of Day		Parental Care	None
Critical pH	≥ 6.0	Days to Hatching	99 – 161 (temp. dependent)
Velocity Range		Oxygen Level	≥ 5 mg/ l

Notes: Salmon spawn only in rivers after spending 1 to 2 years in open water.