

Project Title: Atlantic Salmon Research: Scale Aging & Analysis of Emigration Patterns and Growth

Project Location : Woods Hole, MA

Project Leaders : Ruth.Haas-Castro@noaa.gov

Project Time Frame: June 2022 – August 2022

Total Hours: up to 520

Summer Hour Allocation: 40 hrs/wk

NOAA's Atlantic Salmon Ecosystems Research Team monitors emigration of Atlantic salmon smolts in Maine rivers and studies the growth patterns in the scales from both juvenile and adult life stages of this endangered species. We examine the growth rings in scales because the patterns observed are characteristic of specific river populations and help identify returning adults. This research is conducted in collaboration with Maine's Department of Marine Resources.

Scales provide a valuable record of growth in Atlantic salmon since they record patterns of growth over the lifetime of a fish, instead of providing only a snapshot of condition at one point in time as is observed through measures of length, weight, or lipid content upon capture. This position will contribute to a time series of age data collected from scales from Atlantic salmon smolts captured annually during the monitoring of smolt emigration since 1996. Student will have the opportunity to develop a Capstone or independent project and access archived and current data for use in their project.

The intern will be involved in:

- Preparing 2022 smolt scale samples for imaging
- Imaging and aging prepared scales
- Archiving and organizing all processed scales and associated scale images
- Measuring scale images for intern's project to be determined in first week, if applicable

Opportunities include:

- Use of an image analysis system
- Learning about the river and marine phases of Atlantic salmon life history
- Learning about the factors influencing the growth of Atlantic salmon
- Learning to interpret age and origin (hatchery or wild) of Atlantic salmon using scales
- Accessing available data for a future Capstone, if appropriate