



## 2024 Cape Cod River Herring Update

In November several staff from APCC attended the [River Herring Network](#) annual meeting in Weymouth, MA. The River Herring Network is a community of river herring conservationists and managers working to facilitate communication among stakeholders, strengthen community engagement, and ultimately increase the numbers of alewife and blueback herring in the waters of Massachusetts.

The annual meeting featured updates from the Massachusetts Division of Marine Fisheries on a variety of topics. Attendees learned about the latest [stock assessment](#) and population trends for river herring in Massachusetts, as well as ongoing efforts to restore their habitat. An update was given on [Amendment 10](#) to the Atlantic Herring Fishery Management Plan which aims to include measures to protect river herring and shad while at sea. Additionally, several research projects were highlighted, including studies on the impact of herbicides on river herring pond habitat and the innovative use of artificial intelligence to count river herring populations.

### Key Findings of the Stock Assessment:

- **Coastwide Depletion:** Overall, river herring populations are much lower than historical levels. Human activities like fishing, dams, and climate change are significantly impacting their productivity.
- **Population Trend Data:** The assessment didn't find many significant changes in population size over the past 15 years. However, there are indications that alewife and blueback herring abundance might be slightly higher now than in 2009. Localized trends may vary from the coastwide trends.
- **Cape Cod Results:** Two runs from Cape Cod were evaluated in the stock assessment – Stony Brook in Brewster and the Herring River in Wellfleet. No significant trends were found in either run, and both runs were above the reference point set by fishery managers to determine baseline health.
- **High Mortality Rates:** More than half of the river herring populations are experiencing excessive death rates due to fishing and natural causes, preventing them from recovering.
- **Reduced Fishing Pressure:** Currently, total river herring removals from all fisheries are less than 3 million pounds per year, a tiny fraction of what was caught in the mid-1900s.



The annual meeting also provided an opportunity for APCC to share [the results of the 2024 Cape Cod river herring monitoring efforts](#) with the larger community. These data are the result of countless hours of dedicated work by partner organizations, municipalities, and volunteers across Cape Cod.

The key results from the 2024 Cape Cod river herring monitoring:

- **Monitoring effort:** There were more than 6,600 observations collected by over 500 volunteers across Cape Cod in 2024. The 2024 sampling effort was slightly greater than the 2023 effort.
- **The raw data:** Over 54,000 returning herring were observed at 19 different sites. The overall number of observed herring across all sites declined compared to 2023.
- **Run size indices:** The Division of Marine Fisheries uses the raw observations to calculate run size indices using a mathematical model. The model accounts for the number and timing of observations and provides a relative index of population trends over time. While six of the monitored runs experienced increases over 2023 run estimates, the median percent change across all runs was -28%, indicative of overall declines in 2024.
- **Overall status:** The 2024 herring run indices are below the long-term averages for most sites, indicative of depleted populations.

Our dedicated volunteers are making a significant impact on understanding and protecting Cape Cod's vital herring populations. While longer-term data are needed to definitively identify trends, each year of consistent and sustained fish counts adds to our knowledge base.

By adhering to a consistent methodology, our volunteer programs are generating valuable data for fishery scientists and managers. The more years we dedicate to these efforts, the more comprehensive our understanding of fish populations becomes. To better understand these data, APCC has developed an [interactive mapping tool](#) allowing users to explore how the size of herring runs vary across the Cape and over time. The map shows values calculated by the Massachusetts Division of Marine Fisheries based on data collected by volunteers.

Photos/Figures



## 2024 Cape Cod Volunteer River Herring Sampling By the Numbers



Approximately 500  
volunteers



More than 6,600  
visual observations  
at 19 sampling sites



Over 54,000 river  
herring counted  
returning to Cape  
Cod ponds



River herring  
populations on Cape  
Cod declined by a  
median of 28% in 2024\*

*\*Not all runs on Cape Cod declined in 2024 - increases were observed in 6 of the 19 monitored runs*

### **Figure Caption**

Figure 1: River herring make their way up the Quashnet River in Mashpee on their way to the spawning habitat in Johns Pond.

Figure 2: Summary of the 2024 Cape Cod volunteer river herring sampling.