

Herring Observations in the Aberjona (2019)

This season, a small group made observations in Horn Pond Brook and the Aberjona River, mainly to see if herring were moving through the underground culvert by Winchester High School into the upper Aberjona.

Here are the observations:

This year, we saw fish in the upper Aberjona, upstream of the culvert, but fewer fish than in 2018. *(When the new culvert was installed under the field, the Conservation permit required that skylight openings be placed in the top allowing shafts of sunlight to attract migrating fish, which would open upriver habitat. Elaine)* In 2018 there were lower flows in Horn Pond Brook, so maybe the herring were more willing to explore the Aberjona and go through the culvert that year. Also, there was more cloud cover in 2019, so maybe the fish did not go up the culvert this year because the culvert was darker in 2019 compared to 2018. This is the second year we have seen herring in the upper Aberjona.

Herring seem to travel quickly. We saw them shortly after they appeared in the Upper Mystic. The days that herring were observed in the upper Aberjona coincided with the days of peak counts at the Mystic Lake Dam, which was on 05/22 and 06/03.

This year was characterized by rain, cloud cover, and high flows in Horn Pond Brook and the Aberjona. The rain and clouds sometimes made observation difficult. Wedge Pond was flowing downstream and was not observed to be flowing upstream.

Sue Brown (with input from others) made a great spreadsheet that captures our observations. You can see it here:

<https://docs.google.com/spreadsheets/d/1vhfff7-txJL1zU8Hgv69c2o5ja19OfokKqXKR9H9zVE/edit?usp=sharing>

Other Herring News

The Mystic River Watershed Association estimates that 642,000 herring used the fish ladder at the Mystic Lakes Dam. This is slightly more than 2018 and about the same as 2017. Many thanks to MyRWA for their work and support.

Data from Winchester's fish ladder and from Horn Pond Brook will be available later this year. Also, scientists from MIT and the Division of Marine Fisheries conducted a

study tracking some herring that were outfitted with acoustical pingers. Results will be ready later this year.

Photographers flocked to Winchester to take fantastic photos of herons and other birds feasting on the fish. It has become a destination for the photographers. *(We hope to use this migration to create an event - attract tourists, and couple it with public art, now that we have a designated cultural district. Elaine)*

Save the Date: The annual River Herring Network meeting will be on October 17. Up north this time, at the Andover Public Library, usually the meeting is on the Cape. It's an interesting day for all things herring.

Here's a chart from the Mystic River Watershed Association for 2019 from the count at the Mystic Lake Dam. Check out Mysticherring.org for more info.

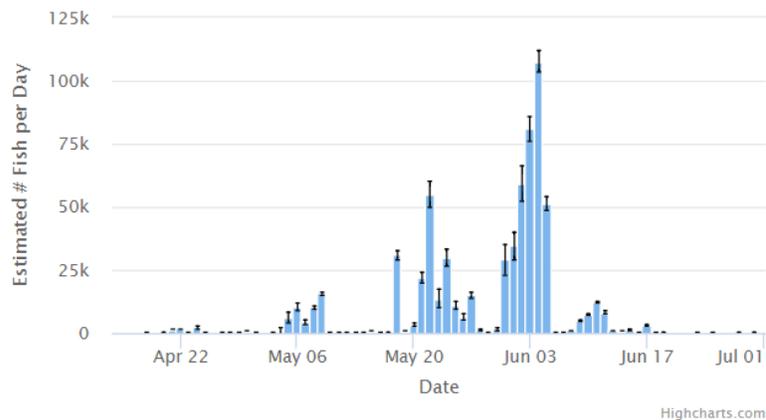
Total Estimated Fish Run

Each bar shows our current estimate of the total number of fish migrating each day. These totals are updated in real-time using a statistical model that estimates how many fish migrate over the entire day based on the individual counts of videos recorded on that day. The error bars represent our uncertainty in the daily total (95% confidence interval).

648,701

+/- 15,236

Total Estimated
Fish Run



Also, we are taking a look at locating an information kiosk about the migration run, since it generates a lot of interest. Here is the information - we are working on

how to do it and where, with review from the Design Review Committee and others. The project objective is to inform the public of the CFD fish ladder, the Mystic River herring migration and the importance of reopening herring habitat to the ecosystem.

HERRING MIGRATION PATHWAY Winchester Center's Fish Ladder

THE FISH LADDER AT THE CENTRAL FALLS DAM

Winchester's fish ladder is a vital passageway that enables river herring to swim over the Central Falls Dam and continue their amazing journey from the ocean to upstream freshwater spawning habitat, where they lay their eggs. Located beneath the metal grating on the concrete structure at the far side of the falls, the fish ladder provides enough water for the fish to pass, but not so much to make swimming upstream difficult. As a result, the fish ladder gives the herring critical support to reach their spawning area, helping them thrive and reestablish as a species.



THE MIGRATION: FROM THE OCEAN TO WINCHESTER'S LAKES AND RIVERS

The Mystic River Watershed river herring migration is one of the largest in Massachusetts. In mid to late spring, the river herring begin their migration from the Atlantic Ocean up the Mystic River and Lakes in Medford. A fish ladder in the Mystic Lakes Dam now allows these tenacious fish to continue their freshwater journey to Winchester, swimming up the Aberjona River right here to the Central Falls Dam, where this fish ladder opens access to the upstream spawning grounds of Horn Pond in Woburn.



ALEWIFE HERRING



BLUEBACK HERRING

Herring migrate through the Mystic River Dam before arriving here and use our fish ladder to gain access to the next fish ladder at Horn Pond.



Large numbers of herring, in the thousands, swarm the Mystic River Watershed each spring in their annual rite of passage.

FISH IN OUR PAST: "HERRING SWARMED IN OUR WATERS"

Herring and a fish ladder have occupied this place before. In 1870, Winchester built a fish ladder here at the Central Falls Dam. By 1872, people wrote that the herring "swarmed in our waters." Just upstream in Wedge Pond, fish "crowded each other out." Residents at the time took "thousands of barrels" of fish for "food and other purposes."

But river pollution and artificial obstructions killed off the herring by the early 1900s. And when the Town built the current semi-circular Central Falls Dam in 1914-1915, the original fish ladder was gone. A century later, the current fish ladder was installed in November 2016, and dedicated at Winchester Town Day in June 2017 — once again restoring this critical passageway for the herring, and supporting the reemergence of a wider natural ecosystem of fish, birds, and mammals.

RIVER HERRING AND THE FOOD WEB

River herring include two fish species: Blueback Herring (*Alosa aestivalis*) and Alewife (*Alosa pseudoharengus*), pictured above. These fish spend most of their lives in the ocean. When mature, they return to freshwater rivers and lakes each spring to lay their eggs. After spawning, the adults return to the ocean, leaving their young to grow in freshwater and make their own way to the ocean in the summer and fall. River herring support a multi-ecosystem food web. They primarily eat aquatic insects (zooplankton), and in turn are prey for striped bass, tuna, cod, seabirds, herons, eagles, and mammals such as fox and raccoon.

End