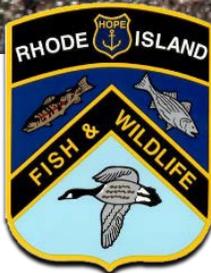


Wild Rhode Island

Winter 2022 ∞ Volume 15 ∞ Issue 1



Mallard ducks (*Anas platyrhynchos*) Photo: Alex Feuti



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New ADA Boat Launch at Olney Pond Increases Access for Rhode Islanders

By Jillian Thompson, Conservation Engineer, RIDEM Planning and Development

RIDEM and The Nature Conservancy are happy to announce improvements to the Olney Pond boat ramp at Lincoln Woods State Park are complete. Skurka Construction of West Warwick was selected through the State competitive bid process to revitalize the Olney Pond boat ramp, including installation of accessible features. Improvements will ensure that boating, paddling, and fishing opportunities are available for people of all abilities. Construction began in March 2021 and the new boat launch facility was opened to the public in May 2021.

Lincoln woods has a rich history as a recreation mecca for the region, as it

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THE DIVISION OF FISH AND WILDLIFE
MISSION STATEMENT

Our mission is to ensure that the freshwater, wildlife, and marine resources of the state of Rhode Island will be conserved and managed for equitable and sustainable use.



Red fox (Vulpes vulpes). Photo: Dean Birch

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New ADA Boat Launch at Olney Pond, continued from page 1

was the first Rhode Island State Park. Residents would take a break from the city to visit via trolley in its early years. Olney Pond is the scenic backdrop of this increasingly popular park as Rhode Islanders and visitors desire to be outdoors more than ever.

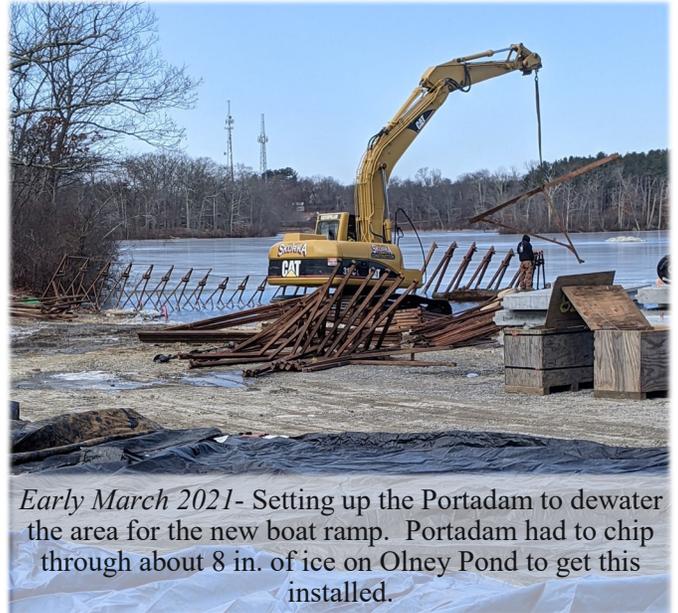
The boat ramp construction project at Olney Pond included the installation of a new 12-foot wide, single-lane concrete ramp, replacing the old deteriorating one. Additionally, a 6-foot by 20-foot floating dock and concrete abutment was installed adjacent to the ramp to allow for easier launching and retrieving of vessels for boaters of all abilities. A second T-shaped dock anchored to the shore includes a canoe and kayak launch that is ADA-compliant, providing universal access for all paddling enthusiasts. This was installed in September 2021 due to manufacturing delays caused by COVID-19 impacts. A portion of the parking lot was also paved to include ADA-designated spaces, including one for trailered vehicles.

Funding for this project was provided by the U.S. Fish and Wildlife Service Sport Fish Restoration Program and the Governor’s Commission on Disabilities. The grant from the Governor’s Commission on Disabilities funded the universal access portions of this project.

The design and construction of the Olney Pond boat launch improvements is a component of a state-wide effort and partnership between RIDEM and The Nature Conservancy to improve the State’s most valuable freshwater boating and fishing access sites and to promote their use and enjoyment for all.



September 2021- The new EZ Dock Kayak Launch system was installed to provide universal access for paddlers of all abilities.



Early March 2021- Setting up the Portadam to dewater the area for the new boat ramp. Portadam had to chip through about 8 in. of ice on Olney Pond to get this installed.



Early March 2021- The boat ramp area is dewatered and excavation is on-going to lay the gravel base for the new concrete slabs



Mid-March 2021- The slabs and abutment are in place

Going, Going, Gone: Winter Migration Patterns of Rhode Island Woodcock

By: Alex Fish, Wildlife Biologist, Upland Gamebird Program

The American woodcock (*Scolopax minor*) (Figure 1) is a species of migratory bird native to Rhode Island, although their secretive nature means most Rhode Islanders have never seen them. Woodcock actively feed all day, but they are most commonly observed flying at dusk: silhouetted by the setting sun. For this reason, woodcock can be tough to identify on the wing, since their flight pattern often resembles a bat's, and occurs at the same time of day that bats leave their roost and become active. However, the woodcock's bill is a dead give-away. Over the years, woodcock have accumulated some catchy nicknames, including; mud-bat, bog sucker, timberdoodle, Labrador twister, hokumpoke, woodland hermit, and if you are in Quebec or Louisiana they are known as *bécasse*. Woodcock are quirky birds: they have large eyes on the sides of their head which allow them to see 360-degrees around them, their brain is upside down, their ears are in front of their eyes, and they even have a prehensile bill enabling them to open just the tip while keeping the base closed!

Woodcock are technically a species of shorebird, even though they inhabit the forest, and use their bill to probe for subterranean earthworms and insects near forested wetlands or in young-forest areas. Woodcock are highly cryptic, making them difficult to observe much of the year. The easiest time to observe woodcock is in the spring

when male woodcock have a rather unique breeding display in which they perform a series of "peent" calls on the ground, then produce a twittering sound during a spiraling aerial flight to attract nearby females. Many woodcock choose to nest, raise their young, and eventually initiate fall migration from Rhode Island. Which raises the important question: where do the woodcock that spend the entire summer in Rhode Island, spend their winter?

Since the fall of 2018, the University of Rhode Island's Clay Graham, Colby Slezak, and Dr. Scott McWilliams have been working to determine where Rhode Island woodcock spend the winter as part of a collaborative project with the Eastern Woodcock Migration Research Cooperative (EWMRC) (woodcockmigration.org).

Woodcock migrate overnight like most species



Figure 1. Male (left) and female (right) American woodcock captured as part of the Eastern Woodcock Migration Research Cooperative. Female woodcock are about 20% larger than males and have a longer bill than males. Photo: EWMRC.

of migratory birds, so we cannot observe their migratory movements directly and must rely on some pretty amazing satellite transmitters (Figure 2). The transmitters periodically collect the locations of the woodcock and upload them to an online database using a group of satellites orbiting earth. University of Rhode Island researchers can then log into their computers, access locations, and determine where their marked woodcock are (Figure 3). The locations are accurate within ~30 feet, which is incredible, considering that transmitters weight ~5 grams, or the equivalent of a nickel.

Between fall 2018 and spring 2021, 35 woodcock have been tracked from Rhode Island to their wintering range; from Rhode Island south along the Atlantic Coast to Florida, and west to eastern Texas . There was considerable variation in the areas RI woodcock choose to overwinter. In total, 10 woodcock spent the winter in North Carolina, 5 in Virginia, 4 in Rhode Island, 4 in Georgia, 3 in New Jersey, 3 in Alabama, 2 in Maryland, 2 in South Carolina, 1 in Mississippi, and 1 in Florida (Figure 4). Some of these individuals migrated at least twice as far as other woodcock migrating from RI.

You may be asking, why would woodcock from Rhode Island distribute themselves over such a large area during the winter, especially when individuals are likely spending more time, energy, and effort migrating further than others? Additionally, from an evolutionary perspective, throughout the winter, woodcock may be exposed to stochastic weather events such as hurricanes, tornadoes, snowstorms, and/or ice storms. If we think back to the ‘snowpocalypse’ snow/ice storm that hit Atlanta, Georgia on Jan 28th, 2014, there were days of below-freezing temperatures that brought the city to a standstill. These weather events can cause large mortality events for woodcock, since they cannot feed until the ground thaws, and individuals may die of starvation or exposure. Large winter storms are often accompanied by public reports of dead or dying woodcock across the south-eastern U.S., but since these winter storms seldom cover the entire wintering range of Rhode Island woodcock, only a proportion of the population would be affected by any single storm. Hence, an expansive winter distribution may be an evolutionary adaptation to winter weather and build resiliency within a breeding population.



Figure 2. The harness holds the transmitter on the back of the woodcock, generally above the woodcock’s pelvis. The transmitters harness will eventually degrade and fall-off the woodcock, once the transmitter has lost battery power. Photo: Billy Boyd, Alabama DCNR.

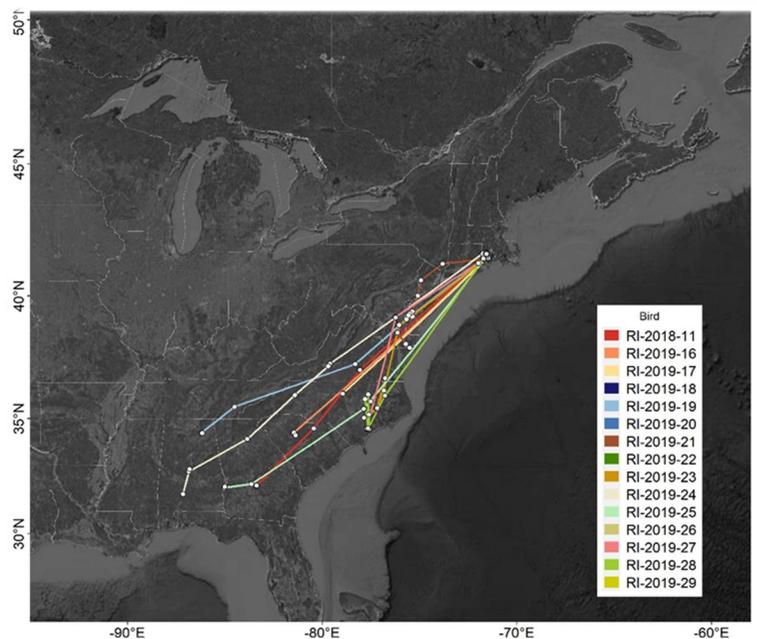


Figure 3: Fall migration routes for woodcock captured and marked in 2019. Each color represent a different individual and white nodes represent sites woodcock used during fall migration.

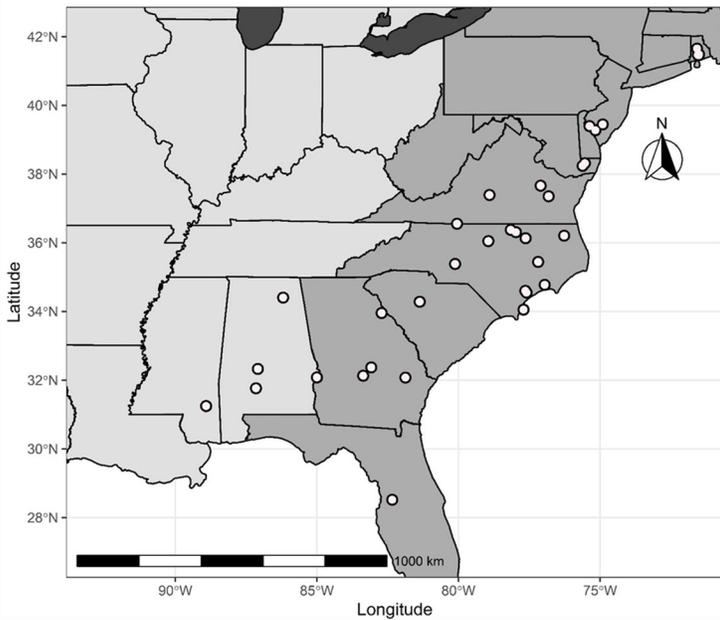


Figure 4. Wintering locations of 35 woodcock captured in Rhode Island falls 2018–2020. More woodcock over-wintered in North Carolina than any other state, but there was considerable variation in over-wintering destination.

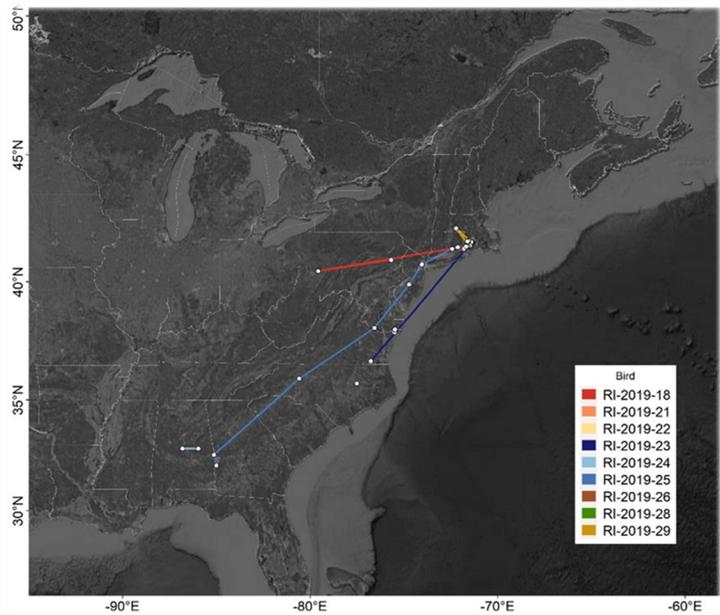


Figure 5. Spring 2020 woodcock locations. Each individual is designated by a different color and the white nodes along each line indicate sites used by woodcock during the spring. Some individuals stopped transmitting locations during migration and only uploaded a partial migration route.

Four woodcock remained in Rhode Island for the entire winter. While southern Rhode Island does not receive large amounts of snow most winters, the area does receive snow. Perhaps woodcock may be able to tolerate some cold weather, as long as the soil doesn't freeze and they can still forage. However, very little is yet known about woodcock wintering in Rhode Island.

In spring 2020, we recorded a few woodcock's return migrations to the state (Figure 5). While we did not receive full migration paths for every individual, we were still able to gather some information on spring migration. Interestingly, the red line into Pennsylvania and the yellow line north into Massachusetts were both from woodcock that spent the winter in Rhode Island. One individual left Rhode Island and did not return (red), but the other only made a temporary journey out of the state and back again (yellow). Clearly, we still have a lot to learn about woodcock migration.

The University of Rhode Island is continuing to track migrating woodcock but are primarily focusing on spring migration, rather than fall. Currently 15 woodcock captured in Rhode Island are still migrating south or have reached their wintering destination in late 2021, or will by early 2022. We should start to receive frequent locations from birds in January. For updates on migrating Rhode Island woodcock and the woodcock migration project at large, navigate to woodcockmigration.org/migration.

This project was made possible by the tremendous efforts of faculty and graduate students at the University of Rhode Island and the Eastern Woodcock Migration Research Cooperative. Partnerships with URI and other non-government organizations are essential for the RI DEM Division of Fish and Wildlife efforts to understand and conserve Rhode Island's native wildlife for future generations.

A special thanks to Dr. Scott McWilliams and Colby Slezak from the University of Rhode Island, for reviewing and providing feedback that improved this article from an earlier version.

For more information about the DFW Gamebird program, please email DEM.DFW@dem.ri.gov. Thank you!



RIDEM DIVISION OF FISH & WILDLIFE

WELCOMES NEW STAFF!

KATIE BURNS, PH.D.- POLLINATOR ATLAS ENTOMOLOGIST

Katherine (Katie) Burns was recently hired as the lead entomologist on one of the Division's exciting new endeavors, the Rhode Island Pollinator Atlas. Katie has an undeniable passion for insect pollinator conservation and ecology, as well as a love of public engagement. These qualities will be a great benefit to achieving all of RIDEM's Pollinator Atlas goals, which not only include field research, but generous amounts of volunteer engagement and public outreach.

Katie is originally from Maine, where she spent her childhood exploring the meadows, forests, and estuaries that surrounded her home and observing the fascinating critters she encountered. She has always had a great love for invertebrates and the "miniature worlds that surround us, yet so often go unnoticed." This, paired with her passion for conservation, led her to pursue a career in ecology.

Katie attended Wheaton College in Norton, Massachusetts and obtained her bachelor's degree in Environmental Science in 2015. She spent several years working as a seasonal research assistant and interpretive naturalist on various insect pollinator studies across the United States, including work monitoring rare butterflies and bumblebees. In 2017, she moved to Ireland to pursue her Ph.D. at University College Dublin, where she studied interactions between wild and managed bees in semi-natural landscapes, the public perceptions of insect pollinators, and the contributions of insect pollinators to Irish crop production. In October, she successfully defended her thesis, "Contributions and Conservation of Insect Pollinators in Ireland." This education and experience will be vital to DFW as she works on Rhode Island's Pollinator Atlas.



ALEX FISH, PH.D.- UPLAND GAMEBIRD BIOLOGIST



Alex joined the Division of Fish & Wildlife as the new Upland Game Bird biologist in the fall of 2021. He grew up hunting grouse, woodcock, pheasants, turkey, and waterfowl in central Minnesota, but has spent the previous 12 years traveling across the United States working with upland game birds, waterfowl, and passerine birds. Alex's dissertation research focused on the migration ecology of the American woodcock throughout eastern North America. Working with his advisors he built Eastern Woodcock Migration Research Cooperative (woodcockmigration.org) which included 35 cooperators across 14 U.S. states and 3 Canadian provinces. Both Rhode Island DEM and The University of Rhode Island were cooperators on his dissertation project.

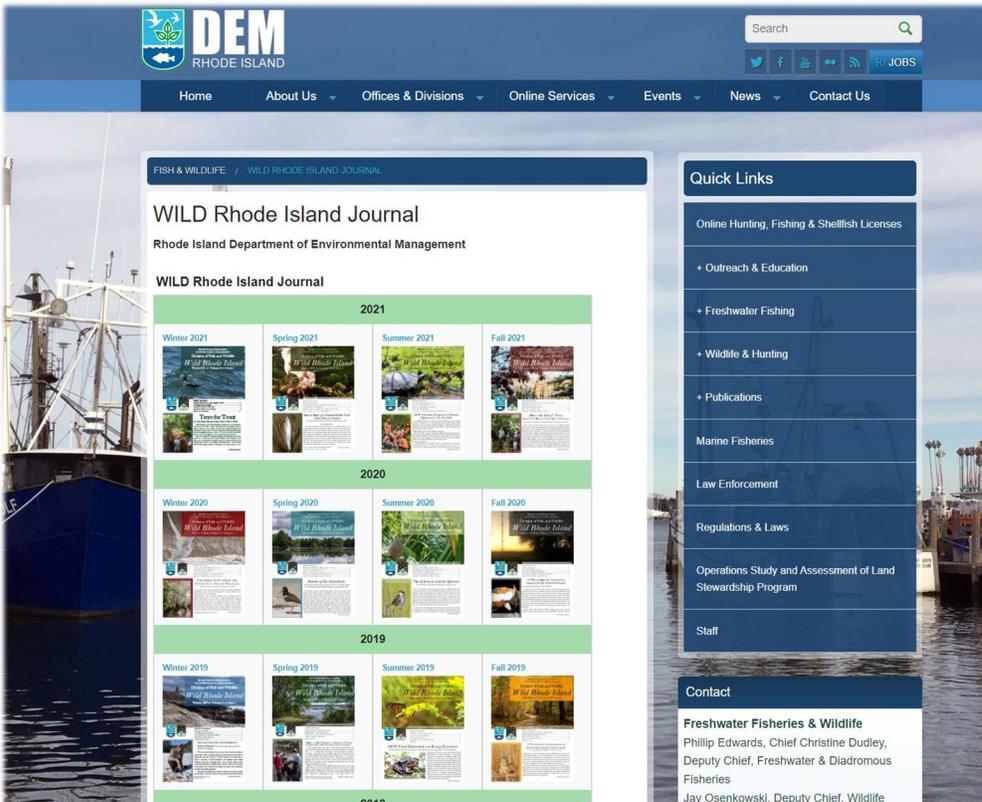
Alex is also passionate about hunter education and spends his free time introducing new hunters to upland bird and waterfowl hunting. He is a naturalist at heart and may be found dissecting animal scat, chasing dragonflies with binoculars, or spending an evening fishing in a canoe. He is ready to experience the Rhode Island coastal life and all that that entails.



NOTICE: *Wild Rhode Island* Printing Temporarily Put on Pause

Due to impacts on the Division related to COVID-19, *Wild Rhode Island* hard copy printing will be temporarily suspended, making publications unavailable for our usual quarterly mailing. This will likely impact the next several issues. However, we will continue to create these publications quarterly, and they will still be available by email, and as PDFs on the RIDEM website.

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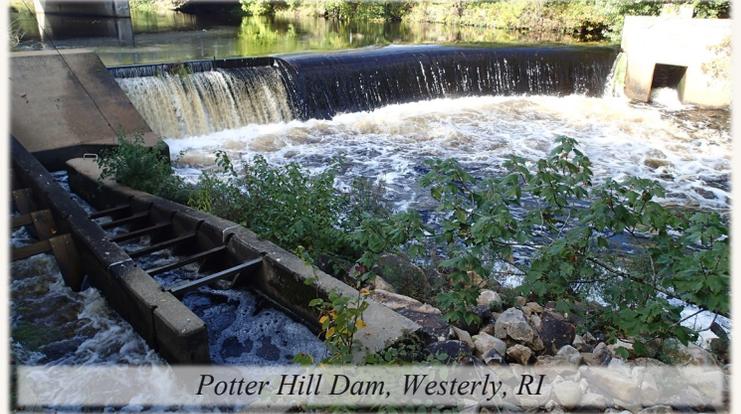
A NEW VIEW: Video Surveying RI's Herring Migration

By Evan Ernst, Seasonal Fisheries Biotechnician, DFW

With the warming temperatures of spring, ponds, lakes and riverways of Rhode Island begin to change and a unique migration occurs: the annual herring run. River herring is the collective name for alewife (*Alosa pseudoharengus*) and blueback herring (*Alosa aestivalis*) which range from Florida to Canada and partake in what is considered one of the best-known fish migrations in New England (Maddigan 2014, Schmidt *et al.* 2003). Thousands of these small, shimmery, filter-feeding fish leave the ocean and return to the freshwater systems where they were born. These little saltwater schooling fish undertake an incredible feat: swimming upstream in rivers throughout Rhode Island to find calm fresh waters in which to spawn. This amazing journey to freshwater ponds and lakes occurs every year so these species can reproduce and then return to the ocean. Alewife and blueback herring are known as anadromous fish, which are fish that migrate between freshwater and saltwater ecosystems, but principally spawn in freshwater habitats.

Historically, these fish migrated to their spawning grounds in immeasurable numbers, but have been on the decline for many years due to pollution, overfishing, and habitat loss. In *Nemasket River Herring: A History*, it states that in 1854 as many as 200,000 herring were taken for a value (at the time) of \$1,800 (Maddigan 2014). Additionally, the many colonial dams and mills built in Rhode Island have caused impassable barriers for fish trying to reach their spawning grounds. This has contributed greatly to the dramatic declines in their abundance, as compared to historic levels (Limburg and Waldman 2009).

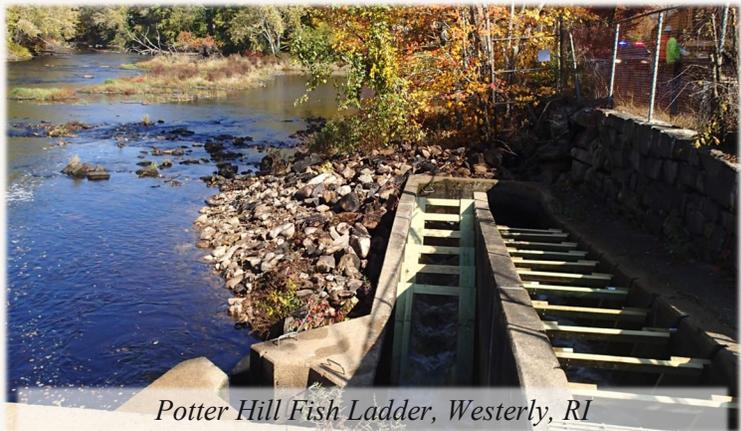
Due to this decline, the Rhode Island Department of Environmental Management (RIDEM) has prohibited the take of river herring and supported the installation of fish ladders to help improve fish passage. For example, a typical migration for an adult herring would



Potter Hill Dam, Westerly, RI



Herring captured on video passing through Fish Passage



Potter Hill Fish Ladder, Westerly, RI

start in Block Island Sound. The herring would begin swimming into Napatree Point Conservation Area, up the Pawcatuck River, and encounter the Potter Hill dam in Westerly, where such a fish ladder has been installed for the safe passage of these migratory fish.

With historic population declines in river herring numbers, it is important to understand how the populations have changed both before and after the closure of this fishery, and as a result of improved fish passage facilities.

For many years, herring populations were assessed at the Potter Hill dam by RIDEM Division of Fish and Wildlife staff, who would stand by the fishway and visually count herring numbers within a ten-minute period. These counts were also conducted at various fishways across Rhode Island. With enough ten-minute counts throughout the state, population numbers could be estimated. In 2021, for the first time, RIDFW began using video analysis to assess herring population numbers. On March 23rd, a high-definition camera was placed within the fishway at Potter Hill as a replacement for the ten-minute counts. The camera was then left for a two-month period, until May 26th. This implementation of video surveys should help improve the accuracy of population estimates to better understand the herring run in Rhode Island.

Analysis of the 2021 data shows that 16,685 herring migrated through the Potter Hill fish ladder. The highest counted herring numbers per hour were between 5:00pm - 7:00pm throughout the season. It's possible these fish migrated most during sunset because the sun glare on the surface of the water reduces predation from shore birds. We found that the herring migrated in three distinct major runs, with the second run being the largest: a 12-day period. These three runs

of the season coincide with three ambient temperature peaks. The two dates with the largest herring run were April 11th and 12th, which correlates with the largest temperature spike seen in Figure 1. This provides evidence that river herring respond to environmental temperature cues which initiate their run into freshwater systems. This also reveals the impact that a warming climate and changing temperatures could have on this migration. A 2021 study using Massachusetts data collected over 28 years, found that water temperature was the most consistent predictor for herring presence in streams (Henry *et al.* 2021). This supports previous studies which found temperature is a major driver of migration (Collins 1952), and that temperature coincides with large herring movements (Ogburn *et al.* 2017).

As natural cycles and weather patterns continue to destabilize due to climate change, it is exceedingly important to track migratory behaviors, analyze the data, and attempt to forecast how they may change in the future. Typically, these species of herring would begin to run when the water is 50°F and stop once it reaches 68°F (Kissil 1974). By looking at ocean temperature data from the National Oceanic and Atmospheric Administration (NOAA) from March and April, we see that in 2021 the ocean temperatures were higher than in 2020. Lombardo (2019) found that herring migration in a North Carolina watershed started 16 days earlier than it had in the 1970s. Warming ocean temperatures could potentially cause herring migration to occur earlier in the spring in Rhode Island.

Alewife and blueback herring are important to our ecosystem, as they are a critical part of the food chain which provides food for many Atlantic Seaboard species, such as striped bass and osprey, whose



migration to RI coincides with the herring migration. These fish are also an integral food source for freshwater species such as herons, snapping turtles, otters, mink, and largemouth bass (Maddigan 2014). Herring provide a foundation of food for salt water and freshwater ecosystems, and they play an important role in keeping these systems stable. Ray (2005) concluded that river herring, much like pacific salmonoids, are a key species in the coastal-estuary ecosystem and provide an ecological service to many species within that habitat. Since herring are a species vulnerable to climate change, this creates problems for other predatory species as well. This year, a study in Maine found that herring spent a prolonged time in the estuarine mixing zone from ages 1-2 years providing forage for estuarine predators (Stevens et al. 2021). Tracking and understanding population numbers of river herring in Rhode Island is essential to managing our local ecosystems as a whole.

The most recent review of the Endangered Species Act listed river herring as a threatened species, and has warranted that these species receive greater conservation efforts in the future (NMF 2019). The annual herring run is a prominent migration for New England and Rhode Island, and the management of these fisheries should be a priority. This new method of video surveying could provide vital new information about RI's herring population, which would allow RIDFW to better protect and manage these species. Additionally, there are many more studies that can be conducted to glean further information about river herring migrations, how anthropogenic disturbance may impact migration, and how to avoid and mitigate future population declines.

Tracking changing air and water temperatures, as well as anthropogenic influence on water temperature, could help predict when herring migrate. For future studies, tracking the food source of herring, pelagic and benthic zooplankton, and how those populations are changing, may be useful in predicting herring run numbers. Looking into flow rates could help provide information as to whether herring are also looking for flow rates in streams and rivers as an environmental

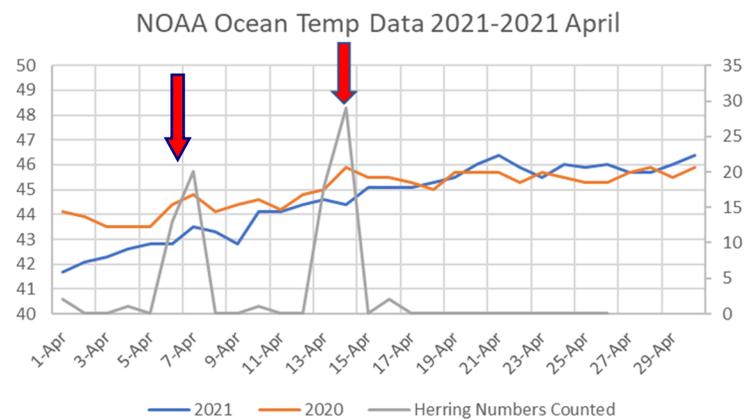


Fig. 1 - Herring count numbers overlaid with NOAA ocean temperature data from Westerly, R.I.

cue. Further studies and data on this incredible migration of river herring across New England is needed to better understand the effects of climate change. Preserving such an iconic migration, with so much historical significance in New England, is critical for helping stabilize and restore our local ecosystems.

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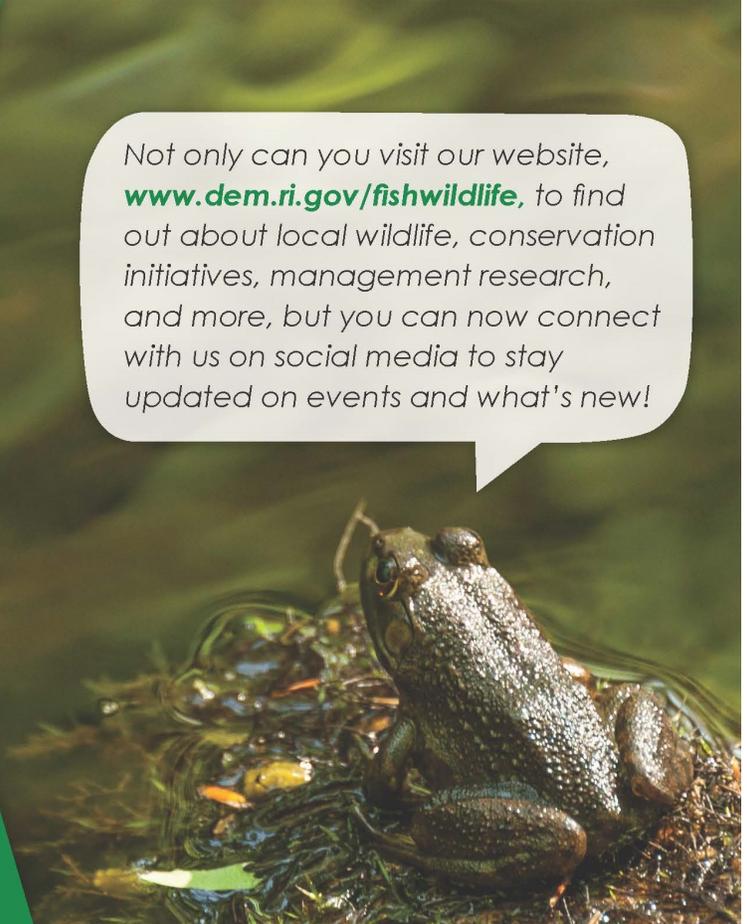


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Photo by M. Stultz at Durfee Hill Wildlife Management Area, Gloucester, RI

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