

**National Park Service**

Cape Cod

National Seashore
Massachusetts

ALERTS IN EFFECT

DISMISS

PARK CLOSURES

ORV Corridor Closed

Due to nesting shorebirds, the entire ORV corridor is closed at this time. Our 6 swimming beaches are still open for recreation. To learn more about the ORV program, please click the link.

More (<https://www.nps.gov/caco/planyourvisit/cape-cod-national-seashore-oversand-beach-driving.htm>)

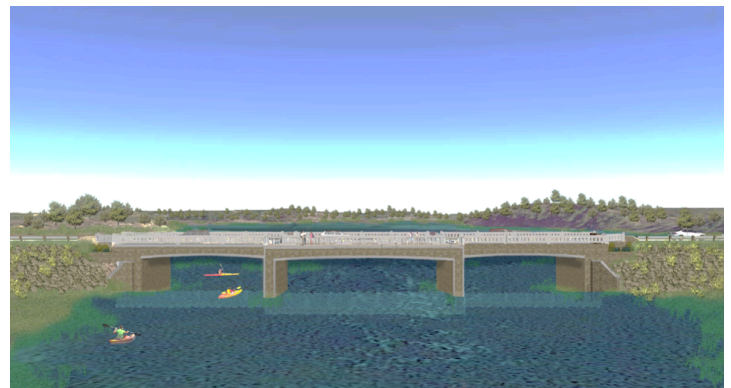
+ [1 more non-emergency alert notifications...](https://www.nps.gov/caco/planyourvisit/conditions.htm) (<https://www.nps.gov/caco/planyourvisit/conditions.htm>)

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/ [Ecosystem Restoration](https://www.nps.gov/caco/learn/nature/ecosystem-restoration.htm) (<https://www.nps.gov/caco/learn/nature/ecosystem-restoration.htm>) / [Herring River Tidal Restoration](#)

Herring River Tidal Restoration Project

◀▶ Current View of Chequessett Neck Dike and Rendering of Final Bridge Design



The image on the left shows the current dike as built in 1909 and the right image shows the rendering of the final project design of the bridge when the tide gates are fully open.

NPS Photo/Kristin Vinduska and NPS Graphic

Project Background

After many years of research and study the Herring River Restoration Project (HRRP) is underway. Working in partnership with the Town of Wellfleet, the tidally-restrictive dike at the mouth of the river is being replaced with a bridge that will allow tidal water to flow freely between the river and Wellfleet Harbor. Increasing tidal flow will also bring saltwater back to the river and return it to the thriving and ecologically productive estuary it was for thousands of years before the dike was built. The vegetation will change to a mix of salt and brackish water loving plants typical of New England salt marshes. River herring will return to once again spawn in Herring, Higgins, and Gull Ponds, the kettle hole ponds that are the headwaters of the watershed. Other culverts and roadcrossings throughout the Herring River floodplain will be replaced to make it easier for herring and other fish to move throughout the river and improve habitat for other wildlife.

Tide gates built into the bridge will be opened gradually over several years so that conditions can be monitored closely. Scientists from Cape Cod National Seashore and other groups are studying tidal hydrology, water quality, vegetation, sediment transport, and a host of other variables to evaluate the effects of the project. As planning for the project was conducted, significant efforts were made to anticipate and clearly define the expected benefits of restoring tidal flow. If unexpected or undesirable conditions are documented, tide gates can be managed to address any problems and avoid harmful effects.

The HRRP is overseen the Herring River Executive Council, including representatives from CACO and the Wellfleet Selectboard, with input from a stakeholder group representing local concerns and interests and financial and technical support provided by wetland restoration experts from the U.S Fish and Wildlife Service, Natural Resources Conservation Service, National Oceanic and Atmospheric Service, Massachusetts Division of Ecological Restoration, the National Park Foundation, and the Friends of Herring River.

Project Benefits

Water Quality Improvement

The Chequessett Neck Road dike at Herring River is causing drainage of the salt marsh and poor tidal flushing. Drainage of the salt marsh leads to prolonged exposure to air causing the salt marsh soils to decompose and release sulfuric acid into surrounding soils. When disturbance by activities like maintaining mosquito ditches, these soils leach toxic acidity and aluminum into the remaining surface water. Before the National Park Service asked the Barnstable County Mosquito Control Project to cease work in mosquito ditches, acidic water was linked to the death of thousands of American eels, river herring, and other aquatic animals. Poor tidal flushing is causing the depletion of dissolved oxygen in the water. Dissolved oxygen enables aquatic animals to breathe. The dissolved oxygen in the Herring River sits at dangerously low levels as it is today. Without tidal flushing, fecal coliform bacteria have been concentrating at the river's mouth. Due to the high bacteria levels, the Massachusetts Division of Marine Fisheries has closed acres of productive and otherwise harvestable shellfish beds in both the river and Wellfleet Harbor.

The water quality of the Herring River and Wellfleet Harbor will be substantially improved with the restoration of tidal flushing and the salt marsh. Infusions of oxygen-rich water from Cape Cod Bay and Wellfleet Harbor will occur twice daily providing more oxygen for the system. Tidal flushing will reduce bacteria loading by dilution and high salinity, which shortens the lifespan of the bacteria. Tidal restoration also will buffer acidity contamination by resaturating wetland soils with salt water. Along with higher high tides, there will be lower low tides that will improve drainage of ponded mosquito breeding sites on the wetland surface. Restoration will lead to improved habitat conditions for many microorganisms, shellfish, finfish, and wildlife. Restoring the natural connection between salt marshes and coastal waters is critical for the nutrients, sediment, and marine life between the ocean and highly productive estuarine habitats.

Marsh Vegetation Restoration and Habitat Change

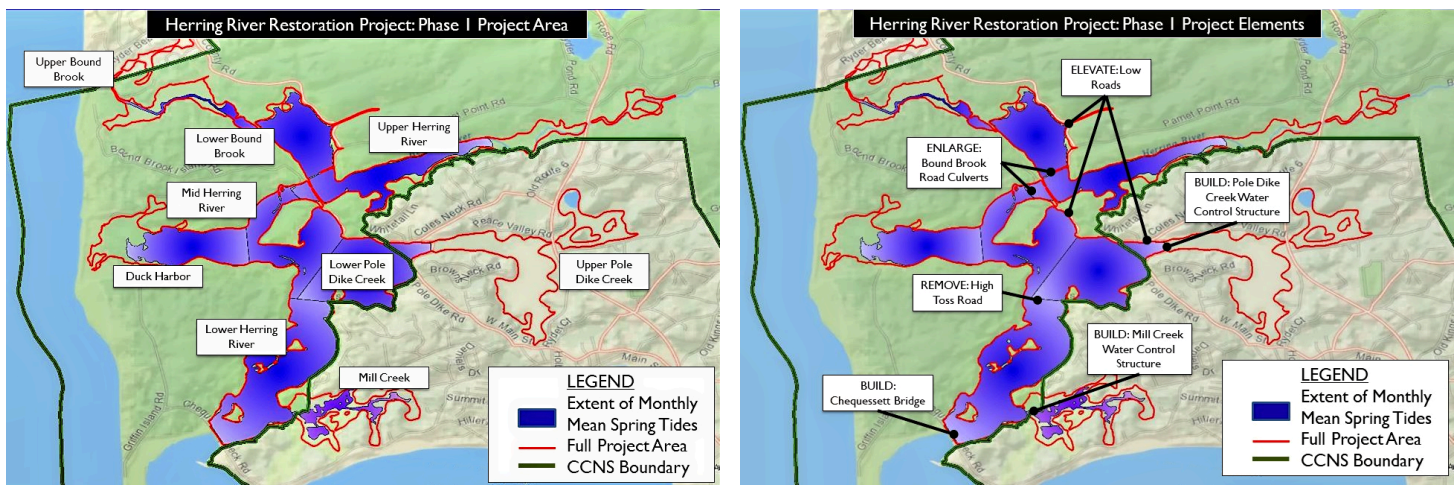
Fish Passage

Sediment Dynamics

Blue Carbon

Recreation

Project Area and Elements



Two maps show the Herring River project area. The map on the left has labels for significant locations within the project area including Upper Bound Brook, Lower Bound Brook, Upper Herring River, Mid Herring River, Duck Harbor, Lower Pole Dike Creek, Lower Herring River, Mill Creek, and Upper Pole Dike Creek. An area highlighted in blue shows the extent of the monthly mean spring tides. A red outline shows the full project area and a green outline shows the Cape Cod National Seashore (CCNS) boundary. The map on the right shows the same area with same blue highlighted area and outlines. This map describes the project elements including elevating low roads, enlarging Bound Brook Road culverts, building Pole Dike Creek Water Control Structure, removing High Toss Road, building the Mill Creek Water Control Structure, and building the Chequessett Bridge.

NPS Maps

Project Elements

The Herring River Restoration Project (HRRP) includes many complex elements to achieve the goals of this project. This consists of public infrastructure construction projects, vegetation management, and restoration of natural salt marsh elevation and hydrology. Reintroduction of tidal flow is a phased process that will occur over several years. The primary reasons to implement the project in this manner are to avoid unexpected or sudden irreversible changes to the river and Wellfleet Harbor and to allow monitoring of the system so that unexpected and/or undesirable responses can be detected, and appropriate remedial actions taken.

Computer simulations (i.e. modeling) of the current and future conditions of the river, form the basis of design requirements for the overall restoration program, including the need for infrastructure modifications and protection of existing infrastructure and structures from restored tidal flow. The hydrodynamic modeling is a computerized simulation of the flow direction, velocity, duration, and depth within the river driven by tides in Cape Cod Bay, wind, rain, and external conditions, and the configuration of water control structures (i.e. tide gates). The primary design objective is to facilitate natural tidal hydrology within the river while protecting roads and structures from regular and storm-driven tidal impacts.

These summaries and more information, including detailed engineering plans, can found in the permit application narratives on the Friends of Herring River website: [Friends of Herring River Restoration Project Updates \(https://herringriver.org/news/restoration-updates/\)](https://herringriver.org/news/restoration-updates/).

Chequessett Bridge

Mill Creek Water Control Structure

Low Lying Roads
Culverts
Property Mitigation
Vegetation Management
Marsh and Channel Restoration

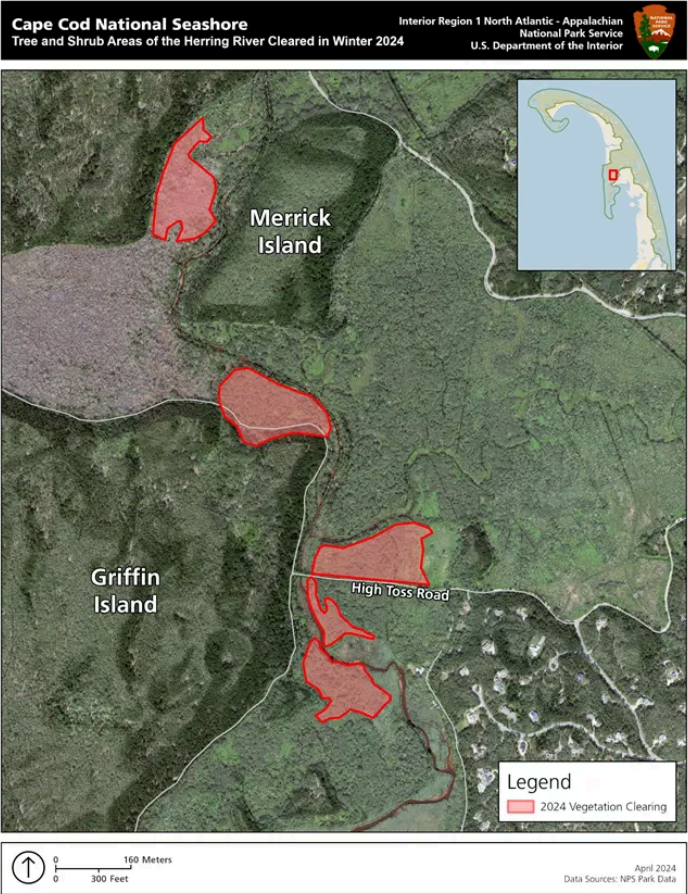
Project Updates

Mill Creek Water Control Structure

Construction on the Mill Creek water control structure has begun and is expected to be completed in early to mid 2025. Project-specific updates related to that work can be found [here](https://www.nps.gov/caco/learn/nature/mill-creek-water-control-structure.htm) (<https://www.nps.gov/caco/learn/nature/mill-creek-water-control-structure.htm>).

Vegetation Management

Vegetation clearing has been completed for the year at Duck Harbor and surrounding areas. There will be other areas selected to begin clearing next year.



Vegetation clearing for Duck Harbor and the surrounding areas has been completed for 2024.
NPS

Resources for More Information

- [Friends of Herring River Website \(http://www.friendsofherringriver.org/\)](http://www.friendsofherringriver.org/)

Photo Galleries



PHOTO GALLERY

The Herring River Over Time

9 IMAGES

Check out how the Herring River has changed over time!

Last updated: April 17, 2024

Was this page helpful?

☐ Yes☐ No

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please call the 24-hour dispatch: 617-242-5659. In the
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