



# Friends of Herring River

## Wellfleet and Truro, Massachusetts

To: Herring River Executive Council  
From: Gary Joseph, Chair, Herring River Restoration Committee  
Don Palladino, President, Friends of Herring River  
Date: September 20, 2017  
Re: Herring River Restoration Project Update

The Herring River Restoration Committee (HRRC), with assistance from Friends of Herring River (FHR), is working to develop environmental permit applications necessary to implement the Herring River Restoration Project (Project). The purpose of this memorandum is to update you on a number of issues related to the Project and permit applications. We hope this information will also serve to clarify any misunderstandings about the Project and the permitting process that are circulating in the community.

**The environmental permit applications being developed for the Project will seek approvals to implement Phase 1 of the Project, to restore approximately 570 acres of native tidal wetlands.**

Phase 1 consists of the following physical improvements:

- Replacing the existing Chequessett Neck Road (CNR) dike with a new bridge and tide gates;
- Installing a Mill Creek dike and tide gates;
- Elevating low-lying sections of Pole Dike Road and installing a tide gate;
- Elevating low-lying sections of Old County and Bound Brook Roads, and installing upgraded culverts;
- Removing the portion of High Toss Road that crosses the estuary and blocks tidal flow, and elevating an upland portion of that same road; and
- Completing flood protection measures at Chequessett Yacht and Country Club (CYCC) and specified private properties.

During Phase 1, tide gates at CNR and Mill Creek will be configured to allow partial tidal flow into Herring River and Mill Creek up to a maximum water level specified for each respective basin. The Pole Dike Road river crossing will be equipped with tide gates that allow (outgoing) drainage while preventing any tidal flow from entering Upper Pole Dike Creek as a result of Phase 1 restoration. Maximum water levels in all areas of the estuary affected by Phase 1 tidal restoration will be kept below elevations that could impact any private structures that are not protected by Phase 1 flood protection measures.

Any proposed future increases in water levels beyond those approved in permits for Phase 1 would require permit amendments or new permits, with full regulatory review and opportunities for public input. Any future proposal to increase water levels above Phase 1 levels would only be made after agreements have been reached with property owners for necessary flood protection measures.

As was reported to the Herring River Executive Council (HREC) in June, permit-ready design plans for the proposed tide control infrastructure at Chequessett Neck Road, Mill Creek and Pole Dike Road are nearing completion. The first permit application submitted will be to the Cape Cod Commission for a Project of Community Benefit Hardship Exemption. That application will be followed by other applications to the Massachusetts Department of Environmental Protection (MassDEP), and the U.S. Army Corps of Engineers. Once the Cape Cod Commission review process is completed, Notices of Intent will be filed with the Wellfleet and Truro Conservation Commissions.

The Towns of Wellfleet and Truro, as Project proponents, will submit these state, regional and local permit applications. The HRRC and FHR are assisting the Towns in the preparation of permit applications. The Cape Cod National Seashore, a federal property of the National Park Service, is not subject to state, regional or local regulations but is a full Project Partner with the Towns and will be an applicant on federal permit applications needed for the Project.

**Applications to the Towns' conservation commissions will be submitted in accordance with Ecological Restoration Limited Project provisions under the MA Wetlands Protection Act (WPA) and local wetland bylaws. This designation allows regulators to approve projects that restore tidal flow to degraded freshwater wetlands and other WPA resource areas, provided that structures are protected and other requirements are met.**

The Ecological Restoration Limited Project provisions of the WPA protect the public's rights in the values and services that healthy wetlands provide to the community, including clean water, protection from storm damage, and harvesting of shellfish, while also ensuring that public and private structures and infrastructure are not impacted by significant increases to flooding and storm damage. In the case of the Herring River, where tidelands have become so severely degraded over the past century, the WPA allows regulators to approve the return of tidal flow to revive the damaged river and its wetlands, so long as the proposed work complies with applicable WPA provisions.

**Based on extensive surveys of low-lying properties, five private properties have been identified as having structures that require on-site flood protection measures under Phase 1 restoration.**

Properties with structures affected by Phase 1 include: Chequessett Yacht and Country Club (which has entered into a conceptual agreement with the HRRC for pursuing flood protection); one property owner currently in negotiations with the Cape Cod National Seashore for a land exchange; and three other property owners with structures that would require flood protection measures. The Project team is working with these property owners to develop flood protection plans for their respective structures.

**The Project's conservative design features and carefully managed implementation provide additional protection of public and private properties.**

Tidal flow will be restored in specified increments over a number of years through the new CNR tide gates while the system responses are carefully monitored. The tide gate openings can be reduced at any time if system conditions warrant. Secondary tide gates installed across Mill Creek and at Pole Dike Road will ensure protection of private properties in those sub-basins by providing an additional layer of water control. Site-specific flood protection measures will be provided for low-lying roads and structures affected by changes in tidal flow. These measures will be in place prior to a change in water levels that could affect them.

Changes to water levels (including under storm conditions) will be kept to elevations that protect all low-lying structures. Maximum Phase 1 water levels for the main Herring River basin will be specified in the permit applications, along with measures for ongoing system-wide monitoring and adaptive management.

**The existing 40-year old CNR tide gates are at the end of their useful life and the potential for an uncontrolled gate failure poses risks to private property and the environment, as well as town finances.**

There is no flood protection in place for upstream properties that could be severely affected if tide gates fail, as they did in the late 1960's. Without the Project, the Town of Wellfleet can expect to bear the full cost of repair or eventual replacement of the existing structure.

Tidal restriction caused by the existing structure is responsible for significant ongoing environmental degradation. One of the many indicators of impacts is water quality, which is impaired year-round, and experiences alarmingly low levels of dissolved oxygen. Data measured by the US Geological Survey over multiple years show that dissolved oxygen in river water regularly falls below established thresholds for causing stress and mortality for fish and other aquatic life. Data also show high levels of acidity in the water, as well as high concentrations of bacteria. The Massachusetts Division of Marine Fisheries has designated the CNR dike as a point source of bacterial contamination, resulting in large areas being closed to shellfish harvest. Water quality and other ecological problems will continue until the Project reconnects the river and wetlands with the marine environment.

Other environmental risks associated with current conditions include:

- Continued closure of shellfish beds upstream and downstream of the CNR dike due to poor water quality;
- Continued loss of estuarine salt marsh which provides critical habitat for fisheries and other wildlife and combats climate change by absorbing and storing carbon from the air (in contrast to the significant amounts of methane the estuary is currently emitting due to lack of tidal circulation);
- Continued loss of opportunities for recreation and education, such as fishing, shellfishing, kayaking, birdwatching, etc., that help bolster the region's economy and quality of life;
- Nuisance mosquito production from vast areas of stagnant freshwater that cannot drain from the wetlands; and

- Continued impediments to river herring migration.

The Towns of Wellfleet and Truro, and the Cape Cod National Seashore, had the foresight to develop a restoration plan to reverse these conditions.

**The Project represents one of the largest opportunities to restore the environment of Cape Cod and revive the ecological and economic benefits provided by a healthy natural coastal river and tidal wetland system.**

In addition to vastly improved water quality and habitat for fish, shellfish, and coastal wildlife, the return of tidal flow to the Herring River system will:

- Protect and enhance harvestable shellfish resources in the river and Wellfleet Harbor;
- Restore the river's functions as one of the largest estuarine nurseries and food sources for marine life in Cape Cod Bay and the Gulf of Maine;
- Remove physical impediments to fish migration for river herring and American eel;
- Re-establish natural tidal marsh habitats in place of the invasive non-native and upland plants that have colonized throughout the system;
- Restore normal sediment deposition needed to allow marshes to gain elevation in response to sea-level rise;
- Combat climate change by restoring lost carbon storage volume and reducing methane emissions from altered salt marsh habitats; and
- Re-establish the natural control of nuisance mosquitoes by restoring tidal range and flushing, water quality, and access for fish that prey on mosquito larvae.

We are planning to provide you with a presentation of this information at the HREC's meeting on September 25<sup>th</sup>, and look forward to discussing the Project status with you. In the meantime, please contact us if you have any questions about this information.

Cc:

Wellfleet Board of Selectmen

Truro Board of Selectmen

Hon. William Keating

Hon Julian Cyr

Hon. Sarah Peake

Jonathan Idman, Cape Cod Commission

Lealdon Langley, MassDEP