

Cold Brook Restoration Project

PROJECT SUMMARY

In Harwich, the 66-acre Robert F. Smith Cold Brook Reserve is undergoing ecological restoration work through a partnership with the Harwich Conservation Trust (HCT), Town of Harwich, Massachusetts Division of Ecological Restoration (DER), and U.S. Fish & Wildlife Service. Once a productive cranberry farm, this site has since ceased production. The goal of the Cold Brook Restoration Project is to return this retired bog to a more ecologically resilient trajectory by addressing over 100 years of site stressors from its rich agricultural history. As more Massachusetts cranberry farms retire due to a variety of factors, new opportunities have arisen for these historically farmed lands to restore their natural roots and adapt to climate change.



Removing water control structures like this one from retiring cranberry bogs is part of an approach to restore natural wetlands to the landscape.

Cassidy, M. & Fraser, D.

LOCATION
Harwich, MA

CLIMATE HAZARD ADDRESSED
Flooding and sea-level rise

ACTIONS/TECHNIQUES
Cranberry bog restoration to natural wetland

CO-BENEFITS
Hazard mitigation, improved biodiversity, wildlife passage, water quality, carbon storage, public health, recreation and education

PROJECT STATUS
(as of Feb. 2021)
Design and permitting, est. 2022 completion and 2023+ monitoring

SCALE/SIZE
66 acres

COSTS
Estimated cost of planning, permitting, and construction is between \$1.25-\$1.5 million

FUNDING
State and Federal grants, and direct funding from the Massachusetts Division of Ecological Restoration

PROJECT PARTNERS
Harwich Conservation Trust (HCT), Town of Harwich, MA Division of Ecological Restoration (DER), and U.S. Fish & Wildlife Service

CONTACT
Eric Ford, Division of Ecological Restoration, eric.ford@mass.gov
Mike Lach, Harwich Conservation Trust, mike@harwichconservationtrust.org

Nature-Based Solutions Spectrum

Nature-based solutions use natural systems or mimic natural processes to address natural hazards and climate impacts like flooding, erosion, drought, and heat islands.

Nature-based solutions cross many scales, and include conservation of existing natural areas such as forests or wetlands of forests; restoration of destroyed or degraded ecosystems; and incorporating nature into the built environment.

CONSERVE
EXISTING
NATURAL AREAS

RESTORE OR
ENHANCE
ECOSYSTEMS

INCREASE
NATURAL
ELEMENTS IN
THE BUILT
ENVIRONMENT



Restoring retired cranberry farmland to natural wetlands can provide a variety of benefits to the surrounding ecosystem and communities. This project is an excellent example, as restoration work offers co-benefits such as improved wildlife passage and water quality. Once completed, the site will be entirely self-sufficient and will be adaptable to future changing climate conditions including increased storm intensity and sea level rise.

Due to the nature of cranberry bogging, the Cold Brook Restoration Project site's original hydrology had been drastically altered leading to a decrease in biodiversity, impaired fish passage, and reduced water quality. The brook's original profile was changed to meet the needs of the operation and dams, culverts, and ditches were added. The ecological restoration work currently underway will fill ditches, remove excess introduced sand to expose soil and liberate groundwater, remove deteriorating water control structures to allow for fish passage, and change the profile of the brook to once again allow for a more natural flow. Together these improvements will increase the site's storage capacity for stormwater and reduce area flooding, and improve the site's resiliency to sea level rise. The restored site will also filter and reduce nitrogen and phosphorus in the water, provide improved habitats for terrestrial and aquatic organisms, and provide improved access for surrounding communities.

As the project wraps up, the scenic walking trails will be reopened and an accessible path will be created. New pedestrian footbridges will allow for brook crossings without impeding fish passage. Post-construction monitoring will observe how the site responds to the restoration work over time; as of early 2021, monitoring is still being finalized. It will be performed through a partnership with UMass Dartmouth and will likely include a vegetation and water quality survey.

With a complex project of this nature, Eric Ford (Restoration Specialist with Massachusetts DER) and Michael Lach (Executive Director of Harwich Conservation Trust) emphasized the importance partnerships can have on its overall success. Ford advises to approach a project like this with humility and to not be daunted by all

the uncertainties that arise along the way. Lach encourages property owners who are interested in doing something similar to their property to look into DER's Priority Project Program, which helps to provide access to technical resources, additional personnel, and additional funding towards restoration efforts. Another good way to foster community support is to emphasize to towns and taxpayers the valuable co-benefits that come from restoration projects like this, such as reduced sewer maintenance costs associated from storm events or required water quality standards more easily met. The Cold Brook Restoration Project looked for inspiration from others in Massachusetts (such as Tidmarsh Farms in Plymouth), and the project team hopes to serve as an inspiration and resource for future projects.

This 66 acre restoration site lies a few hundred feet from the coast, and may provide flood abatement and opportunities for salt marsh migration through time.



REFERENCES

Harwich gives wastewater plan a green light
Trust and Town seek agreement on Cold Brook restoration

ADDITIONAL RESOURCES

- [Q & A with project partner Division of Ecological Restoration](#)
- [Mass ECAN Nature Based Solutions Resource](#)
- [Municipal Vulnerability Preparedness Program Nature Based Solutions Toolkit](#)