

Project Managed By:
Falmouth Rod & Gun Club

Upper Childs River Restoration

Cape Cod – Falmouth and Mashpee, Massachusetts

Author: Dennis Martin

29 Private and Public Partners



Project Objectives:

- Re-establish a coldwater fishery for sea run brook trout
- Convert established cranberry bogs to wetlands
- Improve water quality of the watershed and at the estuary
- Preserve the project area
- Enable access for the public to enjoy nature

Remove barriers to fish passage – by eliminating earthen dam, spillway, non-functional fish ladder at the southern mill pond, and water control structures in the bogs. **Replace the clogged / deteriorated culvert. Re-channel the river** - to enable the groundwater-fed system to flow freely. **Create the proper environment for propagation and survival** – ensure colder water temperature, highly oxygenated clean water.

Enhance habitat for migratory birds and other wildlife - wetlands improve biodiversity by providing critical habitat, breeding grounds, and sources of food for wildlife. **Prevent flooding and excessive run-off** - the sponge-like nature of wetland plants and soils help control water flow allowing slow release into the river. **Help moderate global climate conditions** – through storage of large amounts of water and carbon.

Reduce sediment and pollutants - the unique plants and soils of wetlands filter, absorb and remove undesirable materials. **Eliminate stagnant pooling** - by removing the earthen dam, bog ditches, and water control structures, the clean groundwater flows uninhibited.

Establish conservation restrictions – situated within the Mashpee National Wildlife Refuge, the restored area will remain undeveloped.

Create a pedestrian trail along the project corridor - provides an excellent opportunity to learn how nature functions, and enables hiking, animal / birdwatching, and photography within a relaxing atmosphere.

5 Areas of Transformation

Southern Mill Pond



Clogged / Deteriorated Culvert



Northern Mill Pond



Farley Bog (12.5 Acres)



Garner Bogs (24.7 Acres)



Before - 2018



After - 2021

Research, Model, Assess, Communicate

Plan, Design, Fund, Acquire,

Permits

Implement

Monitor, Evaluate, Adjust

2014
Discussion
Begins

5/8/17
Team
Kick-off

7/19/17
Concept
Plan

5/14/20
100% Design
Plan

8/20/20
Final
Permitting

8/26/20
Construction
Begins

Spring-2022
Construction
Complete

2026
5-Year
Report

Southern Pond Area

Site of Earthen Dam, Spillway, Fish Ladder, Warm Shallowing Pond



Google Map



January 2021 – Dam Removal



April 2021



July 2021



November 2018



March 2021 – New River Channel Created

With an earthen dam at the south end of the pond, water was blocked from freely exiting the Upper Childs. This inhibited fish passage and created an unhealthy environment for aquatic life. The pond area water was temporarily diverted to enable sediment removal and channel construction. The dam and old spillway were removed, the fish ladder buried, and the winding river was channeled along the western tree line to mitigate late afternoon heat and to provide a coldwater habitat for brook trout.



Northern Pond Area

Large Deposits of Sediment, Warm Shallowing Pond



Google Map



November 2018

A diversionary channel was dug to drain the impounded water and direct water away from where the new river channel was to go. In addition to the diversion, water had to be pumped to a distant drainage basin so that sediment could be removed and the new river constructed.



Early April 2021 – Things are Drying Out



April 2021 – New River Channel & Floodplain



June 2021 – Culvert in Place



July 2021 – River Turned On

Like the south pond area, the river was positioned along the tree line on the western side to protect the water from the summer afternoon sun as much as possible. Aided by plantings, it did not take long for the vegetation to take hold and the area to green up.

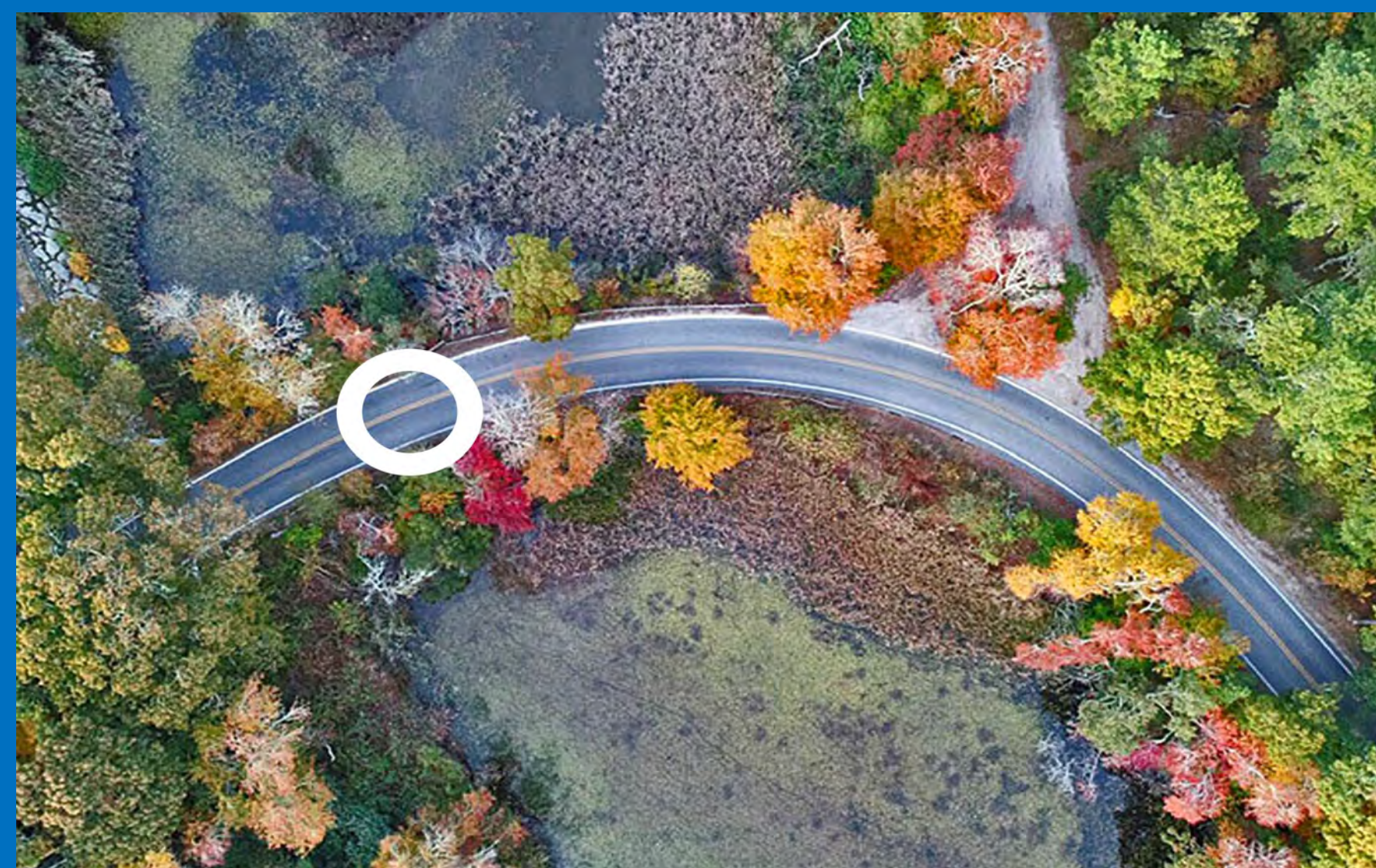


Culvert at Carriage Shop Road

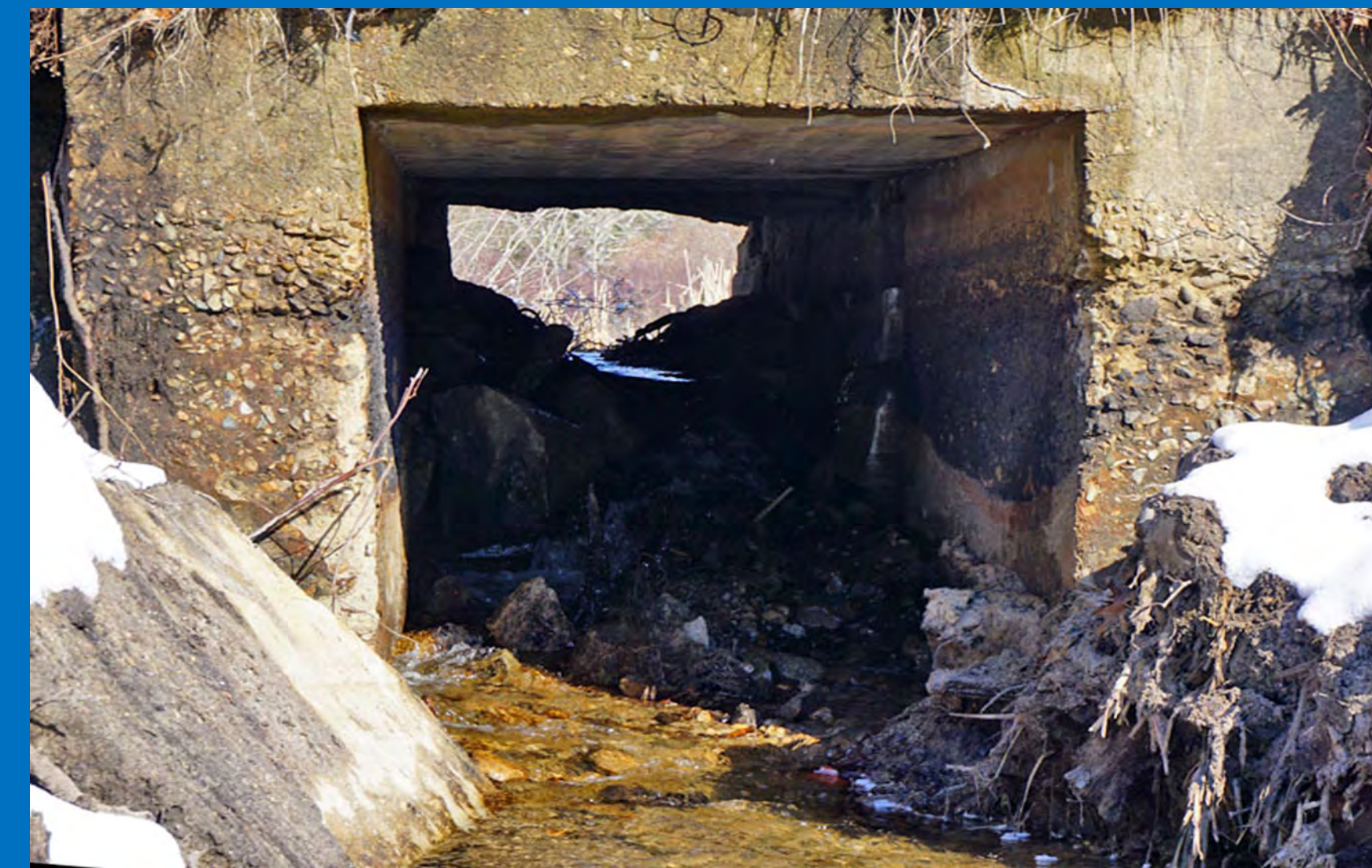
Deteriorated and Undersized Culvert Removed and Replaced



Google Map



November 2018 – Carriage Shop Road



Early February 2021 – Deteriorated Culvert



Late February 2021

With the former ponds north and south of Carriage Shop Road eliminated, construction complete and the river now free-flowing, average water temperatures in July have dropped from 70 degrees to 58 degrees. This dramatic change will create a thriving habitat for the return of brook trout and other aquatic life.



June 2021 – New Culvert in Place



June 2021 – Construction of New Road



August 2021 – Road Paved



Farley Bog

12.5 Acre Abandoned Cranberry Bog Converted to Wetlands and Wildlife Habitat



Google Map



November 2018 – Bog Overgrowth

With abandonment of the bogs in 2014, invasive plants, shrubs and small trees began to overgrow the area where cranberries once thrived. At the beginning of the restoration, a diversion channel was dug to direct water away from targeted construction areas.



September 2020 – Diversion Channel



January 2021 – Logs & Root Wads Protect the River and Aquatic Life



June 2021 – Microtopography – Plant Life



June 2021 – With Enlarged Duck Pond

Excess sand from farming was removed. The bog holding pond was expanded to provide diving and dabbling duck habitat. Microtopography work was done to turn over the bog surface allowing dormant wetland seedlings to sprout. Ditches were filled and a new river channel created.



Garner Bogs

24.7 Acres of Bogs Converted Wetlands, Ponds and Wildlife Habitat



Google Map



November 2018 – Garner Bogs, Holding Pond

It is difficult to imagine how two cranberry bogs and a holding pond could be transformed into a coldwater fishery and wetland area for wildlife habitat. The groundwater-fed river will bring brook trout upstream once again. The three discrete ponds will attract waterfowl and other aquatic wildlife to this haven. Restoration efforts have benefited the environment.



October 2020 – Eastern Bog, River Channel



October 2020 – Diving Duck Pond



November 2020 – 3 Ponds Completed



June 2021 – Forever Wetlands

It takes many years of dedication, planning and execution to complete such a project. The Falmouth Rod & Gun Club wishes to congratulate and thank all of the partners who made this total effort possible.

