

Eastern Brook Trout Joint Venture Completed Project Report Form

Project Title: EBTJV/NFHAP Carloe Brook ME Fish Passage Restoration

- **Location:** T27ED BPP Washington County, Maine

- **Lat / Long Coordinates:**
-67.68 45.07

- **Sponsor:** Maine Forest Service

- **Completion Date:** August 12, 2011

- **Partners involved:** Wagner Forest Management, US Fish and Wildlife Service Maine Fisheries Resources Office and Gulf of Maine Coastal Program.

- **Project costs:**
 1. Total cost: \$42,000
 2. Non federal amount: \$18,200
 3. Federal amount: \$23,800

- **Final Funding:**
NFHAP Funding Through EBTJV: \$21,000
Total Federal Contributions: \$23,800
Total Non-Federal Contributions: \$18,200

- **Action strategy implemented in the project (according to EBTJV range wide, regional, or state level habitat strategies).**
This project addresses Regional Habitat Objectives: 1 – Maintain the status of 477 Northern subwatersheds classified as Healthy; 2 – Strengthen brook trout populations in 20 Northern subwatersheds classified as Healthy; 7 – Validate the predictive status model by contributing toward the assessment of 700 Northern predicted status subwatersheds.

- **Priority score of the sub-watershed where the project took place.**
Protection of a 1.63 “best of the best” subwatershed (230467).

- **Describe any additional species of greatest concern or the state wildlife action plan listed habitat conservation goal (s) supported by the project.**
American eel has been petitioned to be listed under the Endangered Species Act and are found within the project area.

- **Description: project objective(s):**

The project replaced an undersized and failing stream crossing on Carloe Brook a major tributary to Clifford Lake that has wild brook trout. This stream crossing currently limits passage for trout and other aquatic organisms. The current crossing is also a significant sediment source do to improper construction and overtopping. The crossing will be replaced with a 1.2 bankfull open bottom arch culvert (15ft wide) designed to allow passage at all flows.

- **Methods used:**

New crossing was designed using stream simulation techniques to ensure proper sizing and placement of the new structure. A 1.2 x bankfull width open bottom arch culvert replaced 5 undersized and damaged round culverts.

- **Project outcomes: Describe outcomes and whether or not the objectives were met. If not why? What lessons were learned?**

Project restored natural stream function at a highly degraded stream-road crossing.

- **What is the Brook trout population response to the project outcome?**

All aquatic organisms now have unhindered access upstream and downstream.

- **If applicable, what is the number of stream miles and or acres of brook trout habitat?:**

This project opened 3 miles of stream habitat.

- **If applicable what is the number of stream miles and or lake/pond acres of brook trout habitat gained access to as a result of removing a fish barrier. Include the # of fish barriers removed?**

One stream-road crossing

- **If applicable, what is the number of stream miles and or lake or pond acres of brook trout habitat with sediment, phosphorous, or nitrogen inputs that were rehabilitated to within 25% of natural or other desired levels such as numeric state water quality criteria?**

- This project opened 3 miles of stream habitat.

*******Please include before and after photos of the project with a photo release form and appropriate credit line for the photos.*******

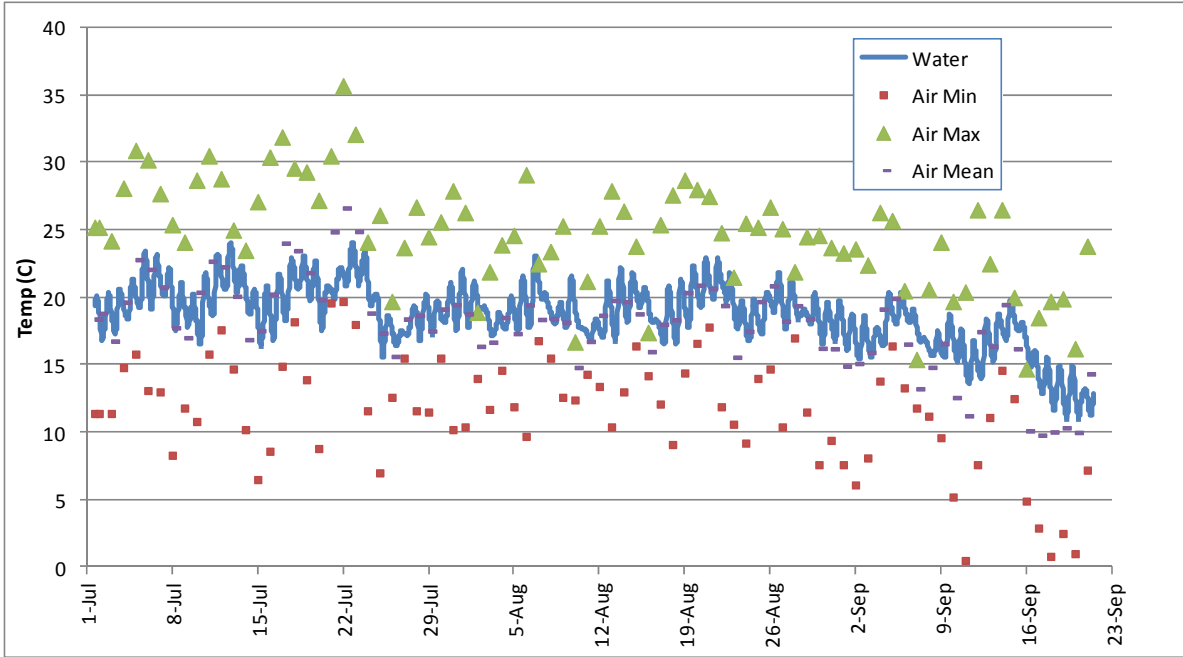


Looking upstream to Old Culverts (n=5).



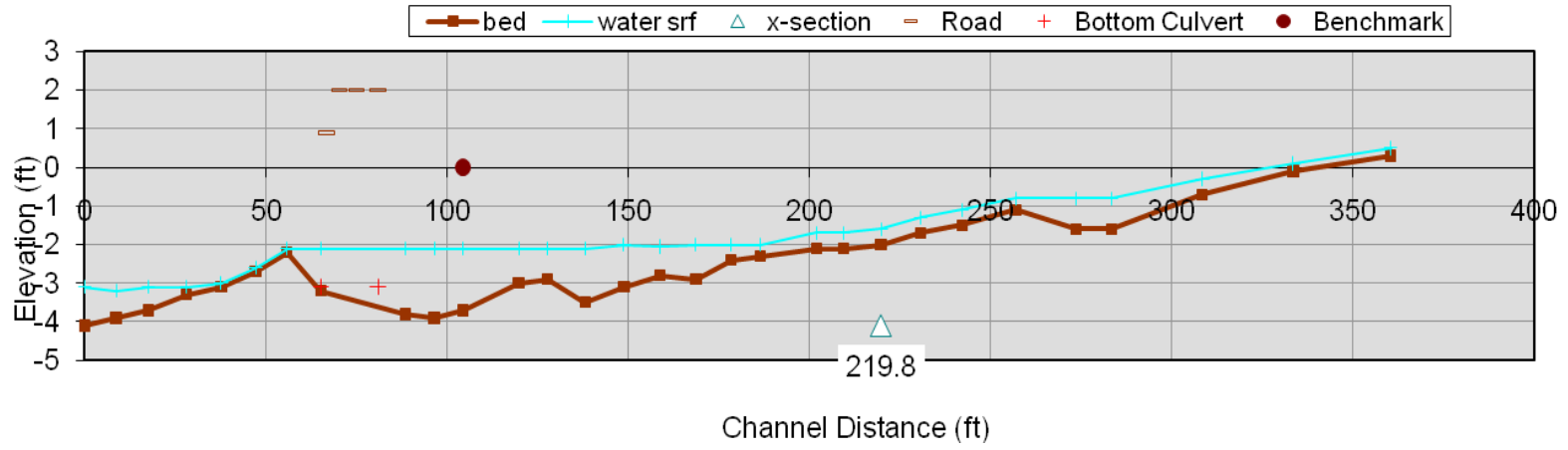
Looking upstream to new 15 ft wide Open Arch. Aug 12, 2011

Photo Credits- Bob Cousins (Old Crossing) Keith Kanoti (New Crossing)



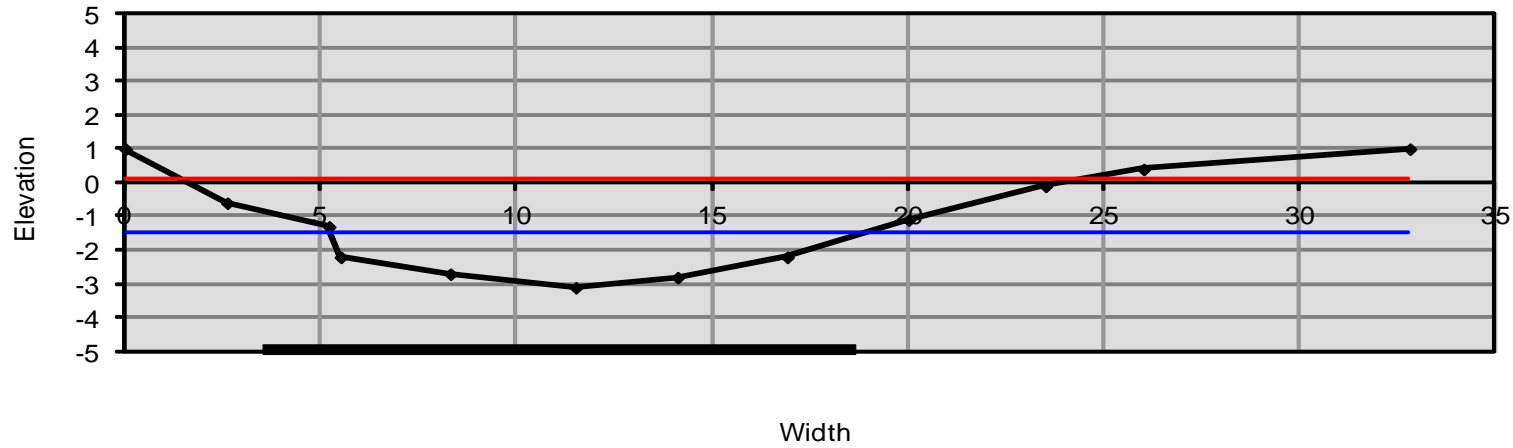
Water Temperature of Carloe Brook (above road) in summer 2011.

Carloe Brook



Longitudinal Profile- Pre Project.

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Bankfull Dimensions

- 14.5 ▾ x-section area (ft.sq.)
- 13.6 ▾ width (ft)
- 1.1 ▾ mean depth (ft)
- 1.6 ▾ max depth (ft)
- 14.4 ▾ wetted parimeter (ft)
- 1.0 ▾ hyd radi (ft)
- 12.8 ▾ width-depth ratio

Flood Dimensions

- 23.0 ▾ W flood prone area (ft)
- 1.7 ▾ entrenchment ratio
- ▾ low bank height (ft)
- ▾ low bank height ratio

Materials

- ▾ D50 (mm)
- ▾ D84 (mm)
- 31 ▾ threshold grain si

Channel cross section at location 219.8ft (Reference Area). Blue line= Bankfull, Red Line Flood Prone Elevation