

# PROJECTS COMPLETED IN MAINE

## Dead Stream-Bowles Brook

2009 was a busy year for Project SHARE (Salmon Habitat and River Enhancement). With just under 40 stream-crossing restoration projects completed in 2009 alone, SHARE's premier site this past year was located on Dead Stream-Bowles Brook, a highly productive Atlantic salmon rearing tributary that drains into Old Stream in the upper Machias River watershed.

An eight-foot round culvert at this site prevented salmon and native Eastern brook trout from accessing over five miles of upstream habitat throughout a large portion of the year. SHARE replaced the existing culvert with a 20-foot open-bottom arch slightly over 1.2 times the bankfull width of the stream. This new crossing passes salmon and brook trout year-round and even provides passage for terrestrial animals. American Forestry Management was the collaborating landowner.

Funding, technical assistance and volunteer help was provided by the American Recovery and Reinvestment Act, National Oceanic and Atmospheric Administration Restoration Center, Natural Resources Conservation Service, U.S. Fish and Wildlife Service, Department of Marine Resources Bureau of Sea-Run Fisheries and Habitat, Washington Academy, University of Maine at Machias, and the Maine Corporate Wetlands Restoration Partnership.

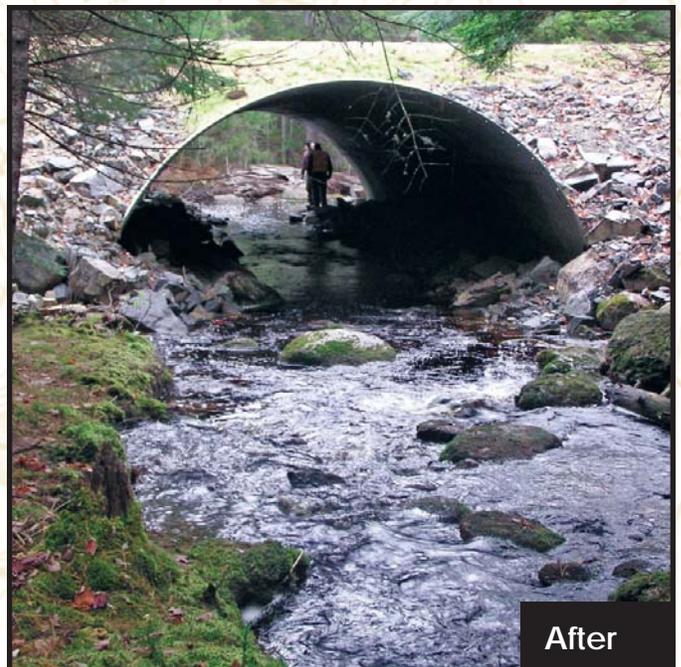
Restoration of this site contributes to SHARE's larger goal of identifying and addressing all site-specific issues within high priority sub-watersheds like Old Stream, the West Branch Machias, Mopang Stream, the Crooked River and the top of the Narraguagus River.

*Between 2005 and 2008 Project SHARE decommissioned or replaced over 30 undersized round and often perched culverts with open-bottom structures designed to provide fish passage throughout the year and accommodate natural stream function. They are actively working towards their goals of reconnecting headwaters to the main-stem and lower watershed, and re-establishing fish passage and natural temperature, sediment and nutrient transport regimes.*



Before

*This undersized round culvert prevented Atlantic salmon and native Eastern brook trout from accessing important habitat.*



After

*The much wider open-bottom arch that replaced the undersized round culvert allows salmon and trout to pass year-round. Open-bottom arch culverts simulate the natural stream channel.*

Parker Pond

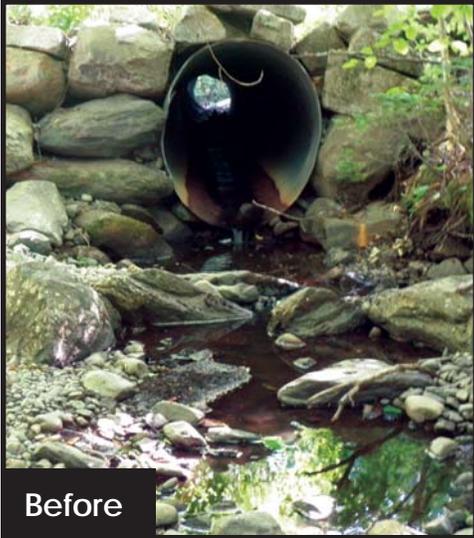
MAINE

## Stream Crossings

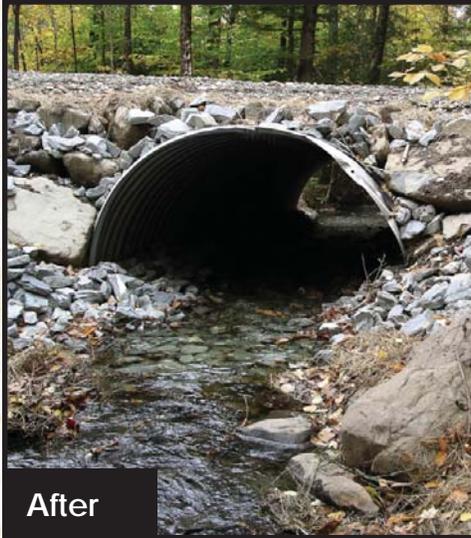
new designs to restore stream continuity

## PROJECTS COMPLETED IN MAINE continued

### *Huber Resources Corporation*



*This undersized culvert was located on a major forestry haul road near Katahdin Ironworks.*



*The replacement took place on a relatively high gradient stream and will serve as a test case for the open-bottom arch under these conditions.*

The Maine Forest Service and the U.S. Fish and Wildlife Service Gulf of Maine Coastal Program worked cooperatively with Huber Resources Corporation and the Appalachian Mountain Club (AMC) to replace an undersized, perched, and partially failed four-foot round culvert with a bottomless arch culvert on land managed by Huber.

Funding for the replacement was obtained from a National Fish and Wildlife Foundation grant that was matched by Huber and AMC.

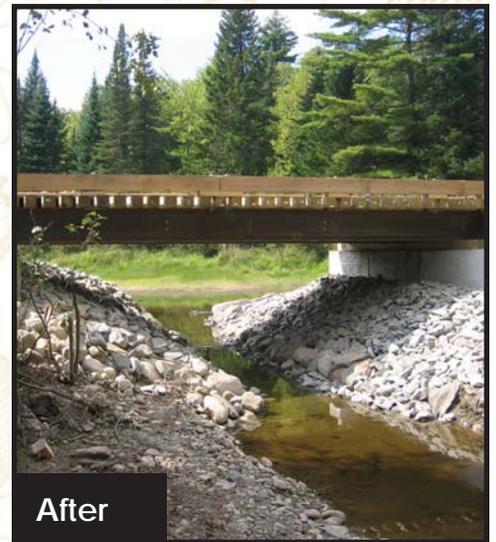
### *Maine Department of Conservation*

The Maine Forest Service and the U.S. Fish and Wildlife Service Gulf of Maine Coastal Program worked together with the Maine Department of Conservation to replace an undersized and regularly debris-blocked five-foot round culvert with a steel and timber bridge. The new bridge will be able to pass fish at all flows and will allow natural stream processes to convey nutrients, woody debris, and sediment downstream.

This project was funded by the NOAA Restoration Center and the National Fish and Wildlife Foundation.



*Before it was replaced, debris would regularly clog this undersized culvert.*



*The new bridge allows fish to pass at all flow levels.*