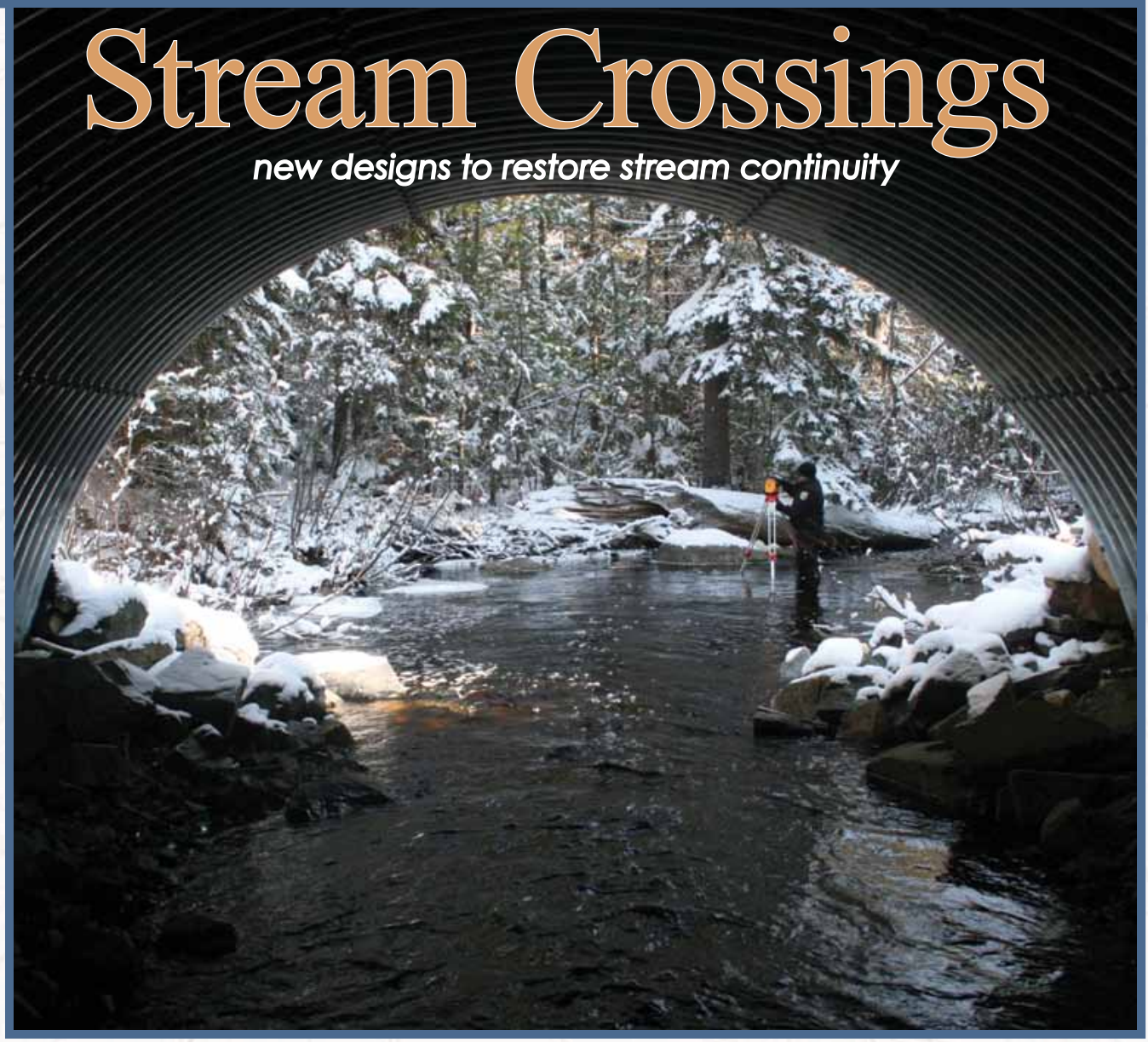
MAINE

Stream Crossings

new designs to restore stream continuity



Jacques Tardie/Project SHARE

Project SHARE Bowles Brook Restoration



Brook Trout

Thousands of miles of streams flow through Maine. These streams are habitat for a variety of fish, birds, insects, reptiles, mammals, and amphibians, and they provide recreational opportunities and economic benefits to Maine residents. Maine also has an extensive network of roads that are vital to the social and economic health of our communities. Wherever a road crosses a stream, a bridge or culvert made that crossing possible. Most bridges allow streams and the wildlife that they support to pass freely under them, but incorrectly sized, poorly placed, or damaged bridges and culverts can prevent fish and wildlife from accessing food, breeding areas, and other important habitat particularly on smaller streams. Fortunately, efforts are underway to improve road-stream crossings. With proper stream crossing sizing and installation, our streams can function naturally, our fish and wildlife can freely migrate, and our roads can be improved.

COMMON PROBLEMS WITH ROAD-STREAM CROSSINGS



UNDERSIZED CROSSINGS
restrict natural stream flow, causing several problems including scouring and erosion, high flow velocity, clogging, and ponding.



SHALLOW CROSSINGS
have water depths too low for many organisms to move through them and may lack appropriate bed material.



PERCHED CROSSINGS
are above the level of the stream bottom at the downstream end. Perching erodes streambeds and can prevent wildlife from migrating upstream. They can result from either improper installation or from years of downstream bed erosion.

Above images courtesy of Ethan Nadeau of Biodrawversity.com



scouring and erosion



high flow velocity



clogging



ponding



low flow areas



damaged culvert

Road-stream crossings that do not allow fish and wildlife to freely migrate are most often undersized structures that would not meet today's design criteria for fish passage. This is primarily because designs were historically based on standards only intended to protect roads.

In many cases, crossings that were once wildlife-friendly are now barriers to migration because of:

- clogging at inlets,
- scouring and erosion around outlets,
- deteriorating construction materials, or
- stream channels shifting out of alignment with the structure.

These problems result in further long-lasting effects on natural systems by:

- degrading stream water quality, and
- isolating large portions of habitat, which in turn alters natural dispersal patterns for fish and wildlife.

Incorrectly sized, poorly placed, or damaged bridges and culverts tend to have a shorter service life. They usually require frequent maintenance and extensive repairs that place a significant demand on the limited resources of towns, forestry companies, and other private landowners.

Safe, stable, and fish and wildlife friendly stream crossings, on the other hand, can accommodate wildlife and protect stream health while reducing expensive erosion and structural damage.

Fortunately, efforts are underway to improve road-stream crossings.

BOX AND PIPE CULVERTS

Box and pipe culverts are the most common structures used for road-stream crossings. However, they are not as effective at allowing fish and wildlife to migrate compared to bridges or open-arch culverts, especially if they are incorrectly sized or installed. When box and pipe culverts are used, some simple steps can be taken to make them more friendly to fish and wildlife:

- Avoid installing culverts that are 60 feet or longer.
- Include secondary culverts on floodplains to pass high flows.
- The widths and depths of the culverts should match those of the natural banks and full stream channels.
- Ensure that they are level and that the streambeds are "flat." In other words, avoid using box and pipe culverts in areas with slopes greater than two percent.
- Embed the culverts into the natural streambed to at least 20 percent of the culvert height at the downstream end.
- Choose corrugated pipe over smooth bore.



culvert properly embedded into streambed

SLIPLINING



Inserting a smooth plastic liner inside an existing culvert may save money in the short term, but it raises water levels and increases flow velocities, which removes bed material and increases downstream scour. These problems make passage more difficult for fish and wildlife.

KEY FEATURES OF GOOD ROAD-STREAM CROSSINGS



bridge



open-arch culvert

Good road-stream crossings simulate the upstream and downstream characteristics of the natural stream channel. Well-designed crossings:

- use *natural substrate* within the crossing;
- match the natural *water depths* and *velocities*; and
- are *wide and high* relative to their length. Structures should be at least 1.2 times the natural stream bank width so they can retain natural substrates and allow fish, wildlife, floods, and debris to pass.

Bridges and open-arch designs are the preferred structure types because they allow characteristics of the natural stream channel to be simulated. Replicating the slope, dimensions and streambed material creates water depths and velocities similar to the natural channel. These structures are also capable of handling a range of flows and will allow most organisms to freely pass through them.

Safe, stable, and fish and wildlife friendly stream crossings can accommodate wildlife and protect stream health while reducing expensive erosion and structural damage.

Above images courtesy of UMASS

WHY UPGRADE ROAD-STREAM CROSSINGS?

Stream crossing designs have improved. Structures based on today's designs:

- **Require less frequent repairs.**
  Upgrading Maine's road-stream crossings will reduce long-term maintenance costs and periodic losses of use. Newer designs also last longer. For example, open-arch culverts can last in excess of 75 years.
- **Help wildlife access stream natural areas.**
  Upgrading will in turn improve fishing, hunting, and wildlife observation opportunities for Maine's residents and visitors.
- **Handle a wider range of flows.**
  Climate change is increasing the amount and intensity of precipitation. A study in Keene, New Hampshire revealed that 30 to 80 percent of the city's culverts were likely to fail under projected flow conditions. Upgrading will prevent or minimize the potential negative impacts of increased flow conditions on Maine's infrastructure.

Grant funding and technical assistance may be available to help defray costs for new stream crossings that are more friendly to wildlife.



American Shad



Blueback Herring

HELP CARE FOR OUR STREAMS

We now understand that a well-designed road-stream crossing should meet our transportation needs *and* allow for natural stream functions and wildlife migration. The Maine Forest Service, the U.S. Fish and Wildlife Service Gulf of Maine Coastal Program, and many other state, federal and NGO partners are eager to work with towns, agencies, and private landowners to improve fish passage at crossings. The goal is to accomplish several objectives: to spread the word of why we need to fix these culverts, to demonstrate improvements in crossing designs, to help find funding to share restoration costs, and, in the end, to restore passage for fish and wildlife in our streams.



Alewife

Produced by Maine Forest Service, GOMC-NOAA Community Based Habitat Restoration Partnership, and USFWS Gulf of Maine Coastal Program.

All photos and illustrations courtesy of USFWS unless otherwise noted.

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 under-sized 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.*



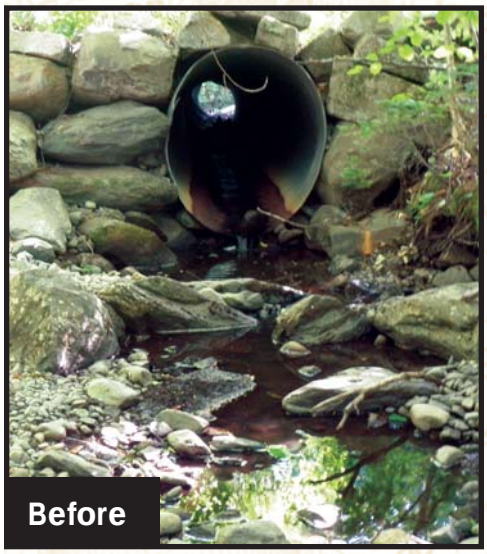
This undersized round culvert prevented Atlantic salmon and native Eastern brook trout from accessing important habitat.



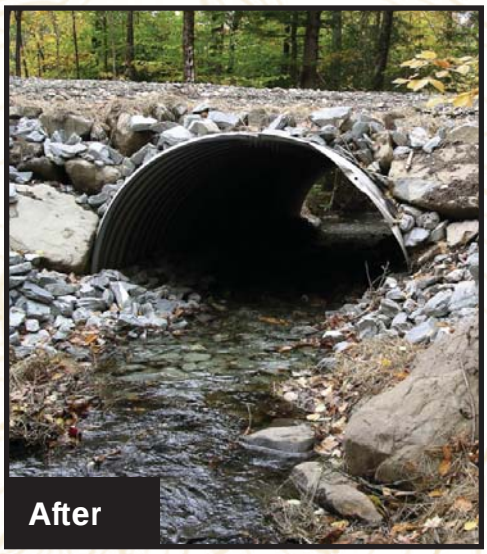
The much wider open-bottom arch that replaced the undersized round culvert allows salmon and trout to pass year-round. Open-bottom arch culverts simulate the natural stream channel.

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.

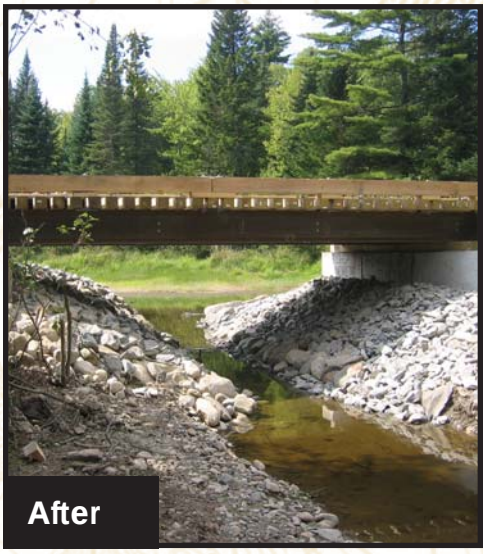
Maine Department of Conservation

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.

Maine Stream Crossing and Dam Inventory





Project

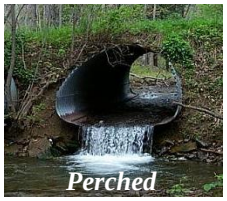
The U.S. Fish and Wildlife Service Gulf of Maine Coastal Program, The Nature Conservancy and Maine Audubon, along with numerous partners, are working to identify barriers caused by dams and culverts and improve fish passage in many watersheds in Maine. Dams and stream crossings affect stream health and often keep fish and wildlife from reaching upstream habitat or moving within streams to find resting, feeding and spawning areas. These surveys are part of a statewide effort to assess and set priorities for removing barriers to sea-run and freshwater fish such as Atlantic salmon, alewives, and Eastern brook trout so state, county, town and private landowners have reliable information to help identify problem areas for future improvements.

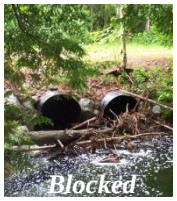
Surveys

In order to collect survey data, crew members generally remain in the immediate vicinity of the crossing. Crews record the dimensions of the crossing to determine if it is undersized, and assess factors such as water depth, velocity and substrate in the culvert compared with those in the natural stream channel.









Maps

The barrier survey maps included in this package show primarily public road-stream crossings on perennial streams, with additional sites shown if authorized by certain landowners. All sites are classified as defined below:

1. ‘Barrier’ is most often a site with a free fall outlet (including cascades), sever physical barriers not at the outlet, or a perched inlet (rare).

2. 'No Barrier' site, often a bridge, is a site that has natural substrate throughout, no perch or blockage, and at least minimum water depths (.33 feet).

3. 'Potential Barrier', is a site that falls between these two categories above. A site with shallow water depths, moderate or minor physical barriers, limited or no substrate throughout, and is generally undersized in comparison to the stream. In general, the Potential Barrier classification represents potential problems for various species and age classes of fish as well as other aquatic organisms and terrestrial creatures.

4. 'Unknown' site is where a crew attempted access, but was unable to reach the site.

Priorities

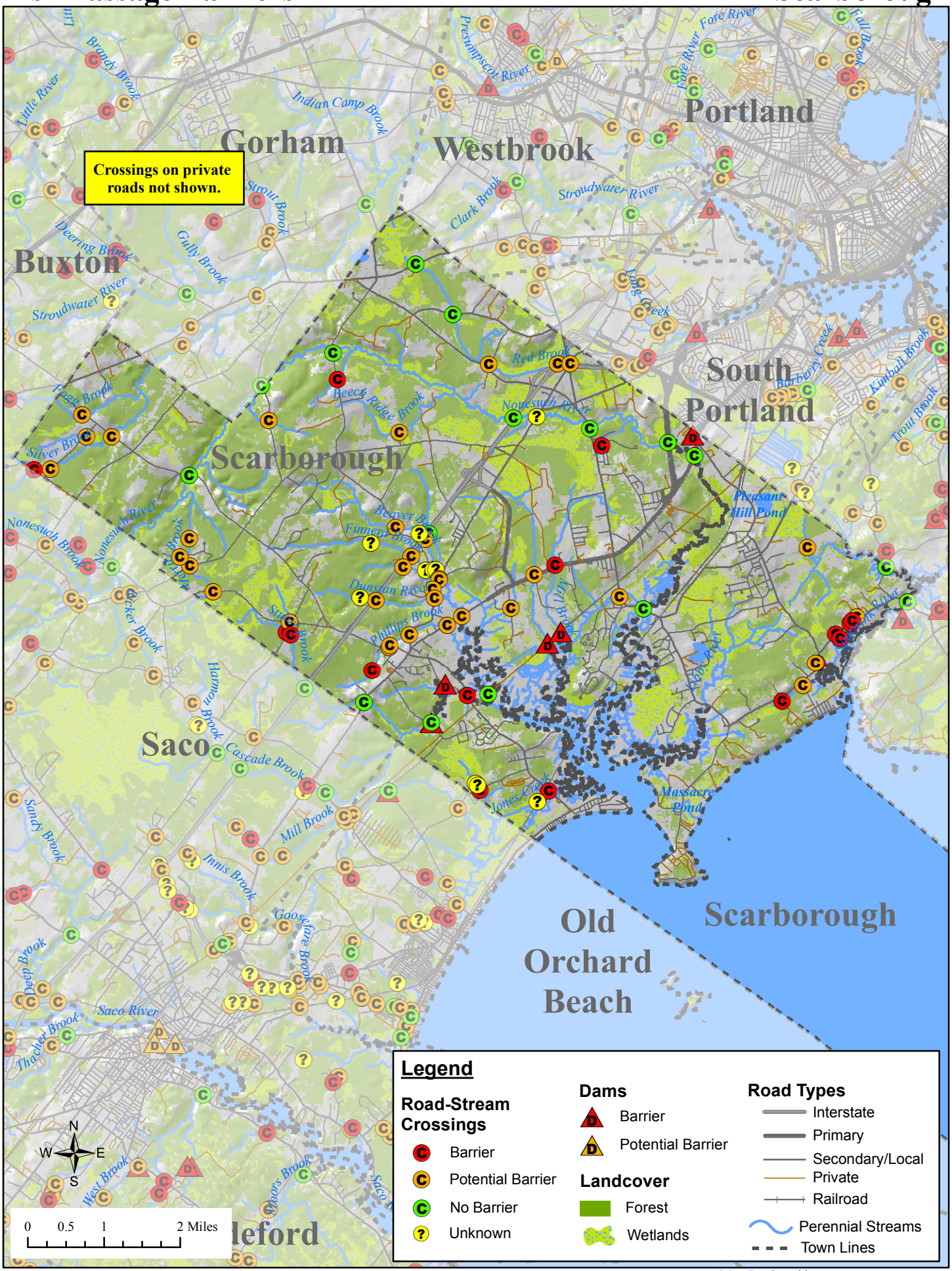
Collecting this information on road crossings will help private landowners, towns and state agencies set priorities and replace structures to improve fish passage. Priorities set in this way also can be helpful to direct private, state or federal funding to replace crossings so that they meet current standards for effective fish passage and reduce expensive repairs from flooding.

For More Information Contact

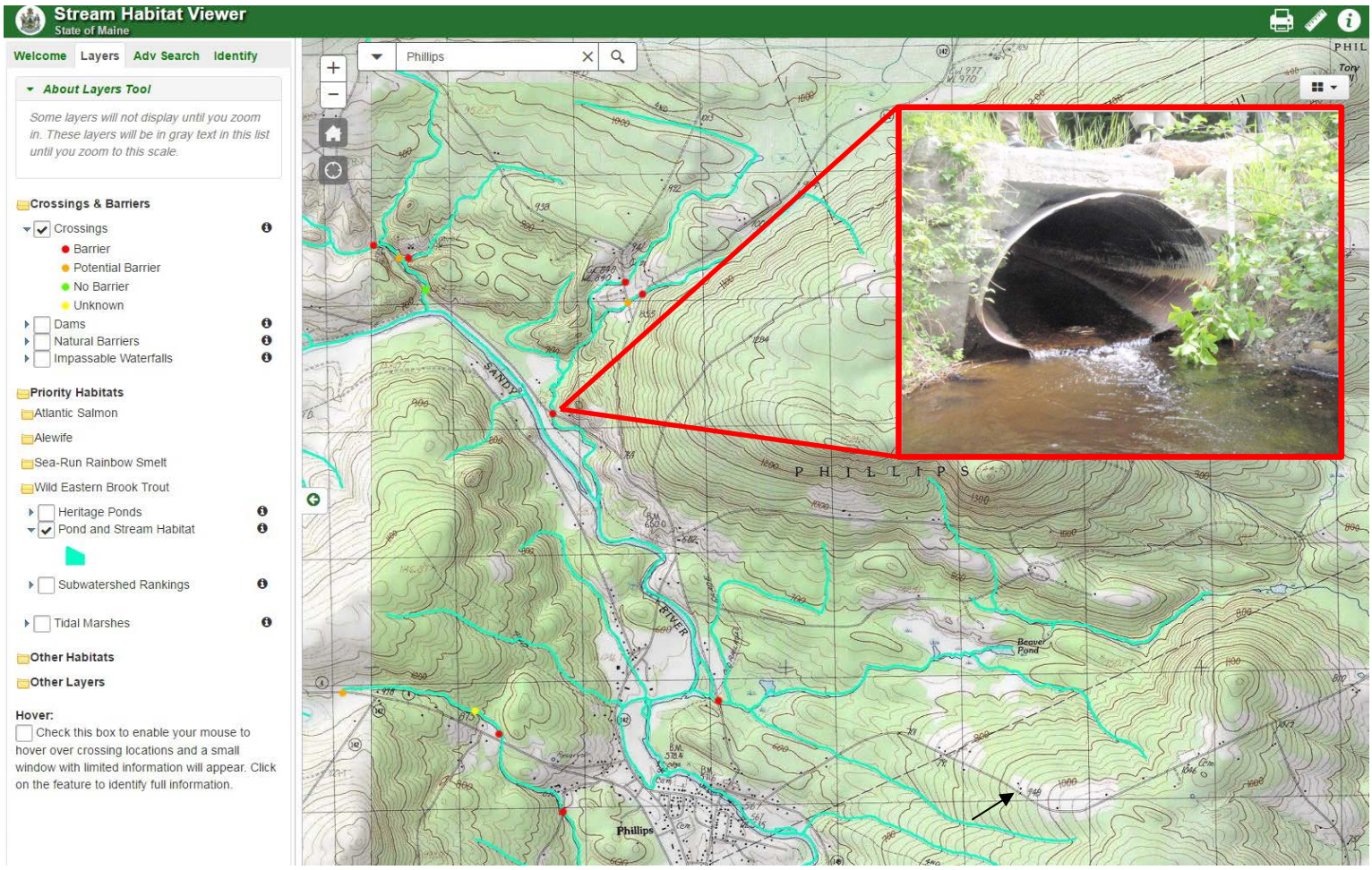
Alex Abbott
Gulf of Maine Coastal Program
U.S. Fish and Wildlife Service
207-781-8364 ext. 21
alexoabbott@hotmail.com

Fish Passage Barriers

Scarborough



Map Produced by:
USFWS Gulf of Maine Coastal Program
Data from MEGIS and GOMCP
10/2016 KChadbourne Map #517



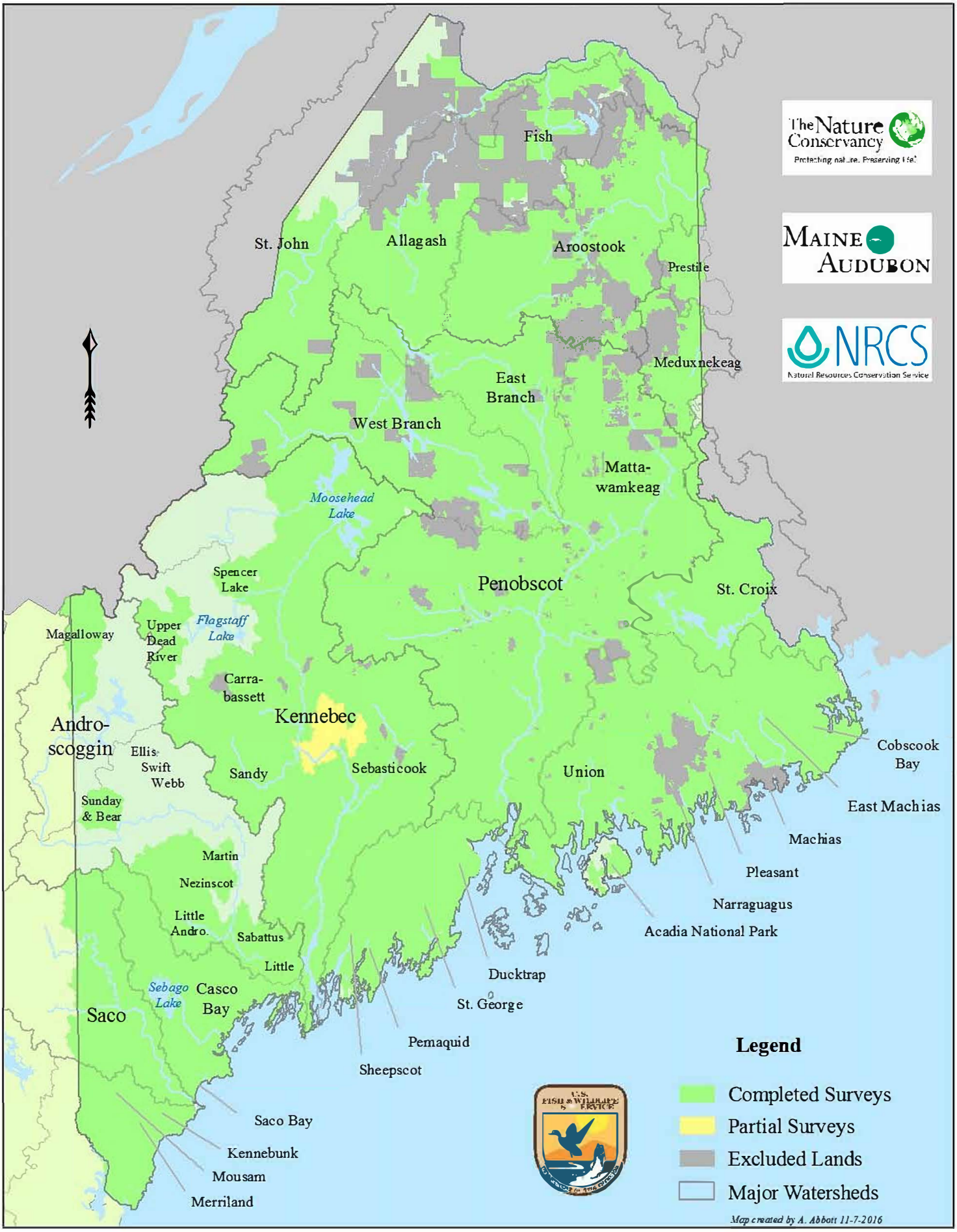
The Maine Stream Habitat Viewer is a useful tool to find out about important fish habitats and barriers to stream connectivity. Use it to map and identify data on

Atlantic Salmon	**Sea-Run Rainbow Smelt**
Alewife	**Wild Eastern Brook Trout**
Tidal Marshes	**Dams**
Stream Crossings	**Natural Barriers**

- **Query data by town, watershed or subwatershed, or specify your own area of interest.**
- **Get surveyed stream crossing, dam and natural barrier details, including photographs.**
- **Export selected data to view, analyze and set priorities in other software.**
- **Turn Habitat and Base Layers on and off; view aerial photos, topographic maps.**
- **Print maps of selected data directly or to PDF or other file formats.**
- **Review documentation on all data layers, and find contact information for experts to provide more information.**

To find the online viewer enter "**Maine Stream Habitat Viewer**" into your Browser (Google works best).

Maine Barrier Survey Status Map



Maine Audubon

Stream Smart

Stream Smart Goals: Connect fish and wildlife habitat while protecting roads and public safety. Prepare for the large and frequent storm events that have been washing out roads around the state and the northeast.

Who Benefits: Fish, wildlife, and people



Brook trout need to move up and down stream...



...and mink need to follow the fish.

The problem:



Perched and undersized culverts fragment stream habitat and restrict movement of fish and other wildlife



Roads vulnerable to washouts and flooding

StreamSmartMaine.org

Visit the Stream Smart website to learn about implementing a Stream Smart road crossing and to access guidance documents, resources, videos and contact information.

Stream Smart Rules of Thumb (4 S's):

1. Span the stream



Replace pinched stream crossing...



...with spanned stream crossing

2. Set elevation right—

crossing should match natural stream elevation.

3. Slope matches stream—

crossing stream bed should match slope of the natural stream.

4. Substrate in the crossing—



...natural streambed materials

THE GOLDEN RULE:

Let the stream act like a stream. Make the road invisible to the stream.

US Army Corps of Engineers
New England District

Gulf of Maine Council on the Marine Environment

Natural Resources Conservation Service

Maine Audubon

maineaudubon.org/stream-smart/ • (207) 781-2330

Technical Assistance for Stream-Smart Road Crossings

Contact	Assistance for (if indicated), Type of Assistance, Geographic Limitation (if any)
Casco Bay Estuary Partnership Matt Craig PO Box 9300 34 Bedford Street Portland, ME 04104 (207) 228-8359 mcraig@usm.maine.edu www.cascobay.usm.maine.edu/	**Type of Assistance:** • Project management, support, fundraising • Culvert barrier inventory, prioritization, maps • Tidal restrictions **Geographic Limitation:** • Casco Bay Watershed
Maine Coastal Program Slade Moore Maine Coastal Program/Gulf of MaineCouncil on the Marine Environment 38 State House Station Augusta, Maine 04333 207-624-6225	**Assistance for:** all road owners **Type of Assistance:** • Project management • Project planning • On-site assistance **Geographic Limitations:** • Historic range of diadromous fish
Maine Forest Service Tom Gilbert Water Resources Forester 22 State House Station Augusta, ME 04333 (207) 287-1073 Thomas.Gilbert@maine.gov www.maine.gov/doc/mfs/	**Type of Assistance:** • Technical Assistance for Forestry ➢ General on the ground site assessment assistance ➢ Guidance on approach **Geographic Limitation:** • Statewide
Maine Inland Fisheries & Wildlife www.maine.gov/ifw/index.html Regional Fisheries Biologists *Region A (Southwestern Maine) - Jim Pellerin, Regional Fisheries Biologist, Gray* RR1, 358 Shaker Road Gray, ME 04039 (207) 657-2345 *Region B (Central Maine) - Vacant, Regional Fisheries Biologist, Sidney* 270 Lyons Road Sidney, ME 04330-9711 (207) 547-5300 *Region C (Downeast) - Greg Burr, Regional Fisheries Biologist, Jonesboro* PO Box 220 Jonesboro, ME 04648 (207) 434-5925 *Region D (Western Mountains) – Vacant, Regional Fisheries Biologist, Strong* 689 Farmington Road Strong, ME 04983 (207) 778-3322	**Type of Assistance:** • Questions about fish and stream habitat

Contact	Assistance for (if indicated), Type of Assistance, Geographic Limitation (if any)
Maine Inland Fisheries & Wildlife (cont'ed) *Region E (Moosehead Region) - Tim Obrey, Regional Fisheries Biologist, Greenville* PO Box 551 Greenville, ME 04441 (207) 695-3756 *Region F (Penobscot Valley Region) – Gordon Kramer, Regional Fisheries Biologist, Enfield* 73 Cobb Road Enfield, ME 04493 (207) 732-4131 *Region G (Aroostook County) - Dave Basley, Regional Fisheries Biologist, Ashland* PO Box 447 Ashland, ME 04732-0447 (207) 435-3231	
National Oceanic and Atmospheric Administration (NOAA) Fisheries Maine Field Station 17 Godfrey Drive, Suite 1 Orono, ME 04473 www.nefsc.noaa.gov/nefsc/orono/	**Type of Assistance/contacts:** • Technical assistance for design and placement of culverts and fishways ➢ Matt Bernier- NOAA Restoration Center, 207.866.7409, matt.bernier@noaa.gov • GIS analysis of Atlantic salmon and other diadromous fish for project planning and permitting ➢ Tara Trinko Lake- NOAA Fisheries, Maine Field Station, 207-866-4238, tara.trinko@noaa.gov • Questions about compliance with the Endangered Species Act ➢ Jeff Murphy- NOAA Fisheries, Maine Field Station, 207-866-7379, jeff.murphy@noaa.gov ➢ Rory Saunders- NOAA Fisheries, Maine Field Station, 207-866-4049, rory.saunders@noaa.gov
Natural Resources Conservation Service (NRCS) – United States Department of Agriculture (USDA) State Office 967 Illinois Avenue, Suite #3 Bangor, ME 04401 (207) 990-9100, ext. 3 www.me.nrcs.usda.gov/	**Type of Assistance:** • Cost share programs - WHIP & EQIP (eligibility limited to private landowners, nonprofits, and Native American tribes): o Planning o Environmental reviews o Surveys • Designs, construction over site • Conservation Technical Assistance program (limited capacity – appropriate for demonstration project or high value habitat): o Initial planning o Design o Hydrology **Geographic Limitation:** • Statewide program with field offices for each county
ProjectSHARE Steven Koenig 14 Boynton Street Eastport, ME 04631 (207) 853-0931 skoenig@salmonhabitat.org www.home.salmonhabitat.org	**Assistance for:** • Municipalities • Counties • Landowners • Land Trusts • Commercial Forest Landowners • Blueberry Industry Landowners

Contact	Assistance for (if indicated), Type of Assistance, Geographic Limitation (if any)
ProjectSHARE (continued)	**Type of Assistance:** • Answer questions • Partner on projects • Fundraising • Design over site • Project management **Geographic Limitations:** • Downeast Maine Atlantic Salmon rivers
United States Fish & Wildlife Service (USFWS) **Gulf of Maine Coastal Program** Jed Wright 4R Fundy Road Falmouth, ME 04105 (207) 781-8364 Fw5es_gomp@fws.gov www.fws.gov/GOMCP	**Assistance for:** • Municipalities • Landowners • Road Associations • Land Trusts **Type of Assistance:** • Culvert barrier inventory and prioritization data • Habitat prioritization data • For areas of the states identified as Atlantic Salmon Distinct Population Segments (DPS), primarily coastal drainages: o Site assessments o Conceptual designs o Project management assistance o Permitting assistance *Note: More in-depth assistance where USFWS funding is available.* **Geographic Limitations:** • Yes, for some types of assistance
United States Fish & Wildlife Service (USFWS) Maine Field Office 306 Hatchery Way East Orland, ME 04431 (207) 469-7300 www.fws.gov/mainefieldoffice/	**Type of Assistance:** • Questions regarding federally endangered species and road crossings, including Atlantic Salmon ➢ Wende Mahaney, Wende_Mahaney@fws.gov ➢ Anna Harris Anna_Harris@fws.gov • Partners for Fish & Wildlife Program - provides technical assistance and cost-share incentives to private landowners to restore fish and wildlife habitat. ➢ Fred Seavey, Fred_Seavey@fws.gov, USFWS PFW State Coordinator

Funding Opportunities for Stream-Smart Road Crossings


S. Moore

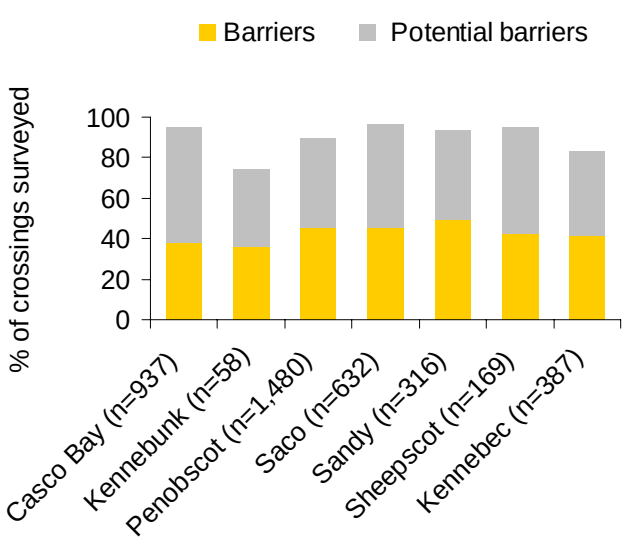




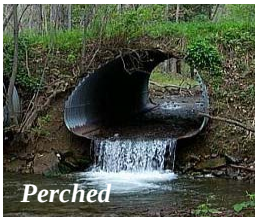

S. Moore

Background on Stream Barriers

Undersized, perched, and blocked road culverts block the movements of fish and wildlife and also prevent stream processes that are critical to maintaining quality habitat for those species. Undersized culverts can also be less likely to pass heavy storm flows that are more common today. Culverts with these problems are often referred to as barriers, because in many ways they act like dams. ***Replacing road crossings with structures that recreate natural stream conditions benefits fish and wildlife but also helps lower maintenance and safety liabilities shouldered by road owners.***




Blocked


Perched


Undersized


Shallow

The Challenge: Removing Thousands of Barriers

Recent surveys show that several common problems at road crossings lead to a high incidence of stream barriers in Maine. ***Up to 90% of culvert crossings have some characteristics that hinder or block passage for aquatic organisms during part of the year.*** About 40% of all culvert crossings are likely to be year-round barriers. These barriers threaten and undermine the recovery and conservation of highly prized and economically important species like as Eastern brook trout, Atlantic salmon, and alewife. Progress in removing thousands of barriers across Maine can only be achieved incrementally over decades, but many opportunities exist to start making progress today.

Stream-Smart Road Crossing Design

Stream-smart road crossings are designed to make the crossing "invisible" to the stream so natural water flows, sediment, large woody debris and passage of fish and wildlife are once again supported. In general, designs for stream-friendly road crossings seek to at least meet, but preferably exceed the stream's width and match the elevation and alignment of the streambed. This allows crossings to match the depth and velocity of flows found outside of the immediate influence of the present crossing – in other words, natural conditions to which fish and wildlife are adapted.


S. Moore


J. Gilbert


USFWS

Funding And Technical Assistance

Where the priorities of road owners and stream restoration grant programs overlap on the same section of stream, some options are available for reducing the costs of using stream-smart design principles. For projects that most closely meet the immediate goals of individual programs, grants and technical assistance may be available. Most funding is offered as a cost-share, with some requiring that up to 100% of the grant award be matched in value by other funding or services. Examples of some of these programs that can aid road owners in planning and installing stream-friendly crossings:

- NOAA Community-Based Habitat Restoration Programs
  www.habitat.noaa.gov/funding/northeast.html
- Natural Resources Conservation Service (private road owners)
  www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial
- US Fish and Wildlife Service
  www.easternbrooktrout.org/formsubmit.aspx
- Trout Unlimited Embrace-A-Stream Program
- Maine Natural Resources Conservation Program (streams associated with wetlands)
  www.maine.gov/dep/land/nrpa/ILF_and_NRCP/MNRCP/
- Maine Corporate Wetlands Restoration Partnership
  www.cwrp.org/maine.html

Grant programs potentially offering cost-share or technical assistance for road crossing replacement projects that meet specific program goals.

Program	Eligible applicants	Average or max award amount	Match[1]	Application deadline	Web link	Program focus and comments
NOAA						
The Nature Conservancy	most all	25,000-85,000	100	April	www.habitat.noaa.gov/funding/northeast.html	Fish, shellfish, and other species
FishAmerica Foundation	non-profit	10,000-75,000	75	May	www.habitat.noaa.gov/funding/northeast.html	Marine, anadromous, estuarine game fish and T&E species
American Rivers	most all	150,000 max	100	December	www.habitat.noaa.gov/funding/northeast.html	Diadromous fish
Estuary Restoration Act	most all	100,000-1,000,000	50	TBD	www.habitat.noaa.gov/funding/northeast.html	Estuaries
Gulf of Maine Council	most all	40,000-125,000	100	February	www.habitat.noaa.gov/funding/northeast.html	Diadromous fish; stream, estuarine, marine habitats
Trout Unlimited	most all	25,000-50,000	100	January	www.habitat.noaa.gov/funding/crp.html	Diadromous fish
NRCS						
Wetland Habitat Incentive Program	private	50,000/yr	≥10	September	www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial	Pays up to 90% of project costs
Environmental Quality Incentives Program	private	300,000/6 yrs	25	rolling	www.nrcs.usda.gov/programs/eqip	Agriculture or forestry landowners
USFWS						
Eastern Brook Trout Joint Venture	most all	50000	100[2]	August	www.easternbrooktrout.org/formsubmit.aspx	Priority Subwatersheds; requires USFWS sponsorship
Fish Passage Program	most all	25,000 max			www.fws.gov/fisheries/FWSMA/fishpassage/FPPrgs/R5/Region5.htm	
Gulf of Maine Coastal Program	most all	5,000-50,000		rolling	www.fws.gov/GOMCP/funding.html	
Other						
Casco Bay Estuary Partnership	most all	25,000 max	varies	rolling	www.cascobayestuary.org	Tidal restrictions & high priority barriers Casco Bay Watershed
Maine Corporate Wetland Restoration Partnership	most all	5,000-35,000		March	www.cwrp.org/maine.html	Offers services and funds
Maine Coastal Program	municipalities & commissions	5,000-50000	25[2]	December	www.maine.gov/spo/landuse/docs/FY12_competitive_grant_program.pdf	
Maine Natural Resources Conservation Program	most all			July	www.maine.gov/dep/land/nrpa/ILF_and_NRCP/MNRCP/	Streams with assoc. wetlands
Bring Back the Natives	most all	25,000-100,000	200	January	www.nfwf.org/AM/Template.cfm?Section=Charter_Programs_List&CONTENTID=22394&TEMPLATE=/CM/ContentDisplay.cfm	Priority species, including river herring

[1] The percentage of the award amount in non-federal match (e.g. cash, materials, or services) that must be applied to the project, unless otherwise noted (see [2] below).

[2] Match of any origin is acceptable