Stream Smart And Stream Crossing Funding Opportunities

Stream Smart Crossings…

Maintain fish & wildlife habitat

while protecting roads & public safety

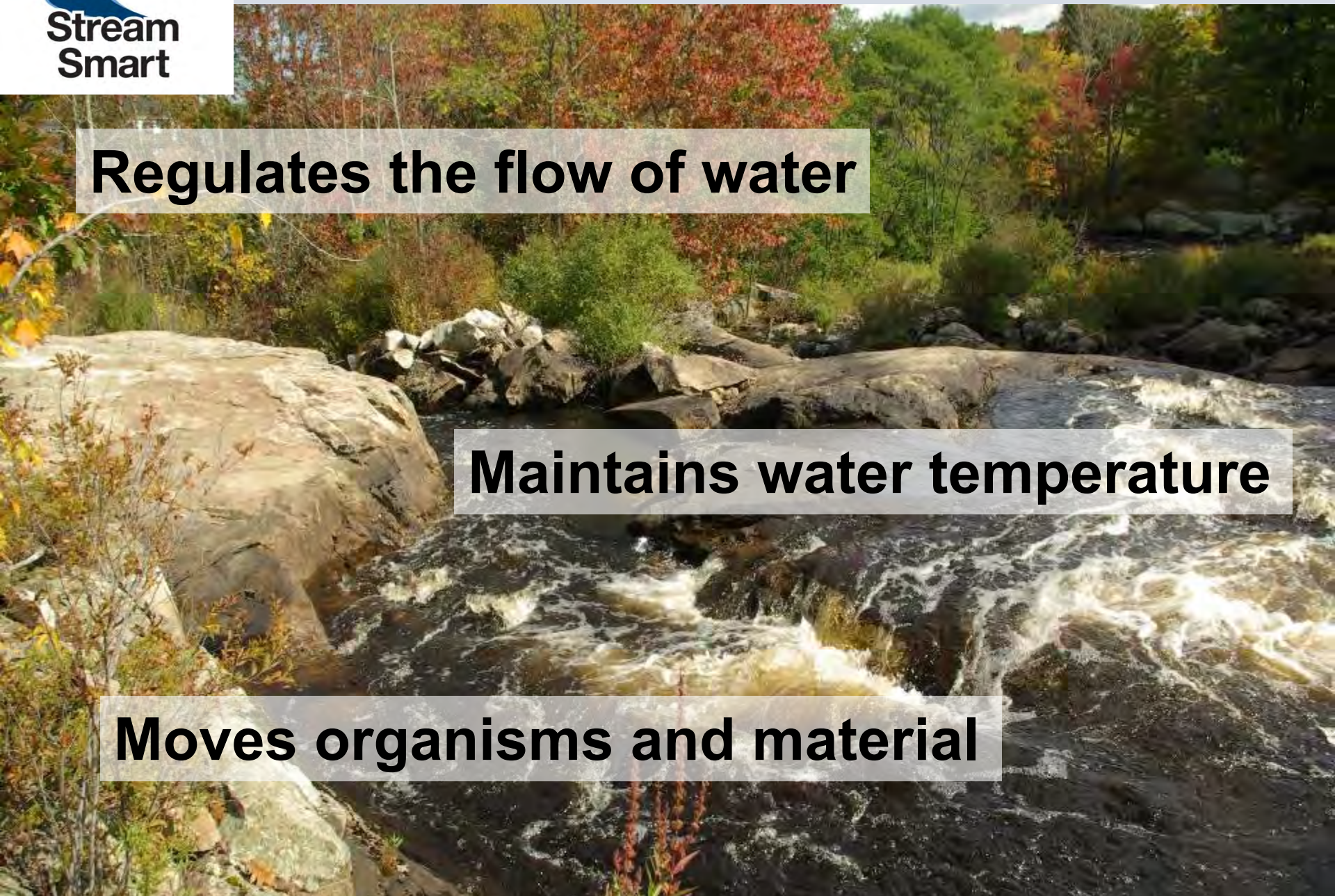
This is what we're trying to avoid

Catastrophic failures are…

- Bad for fish & wildlife
- Bad for budgets
- Bad for public safety

Failures…also bad for habitat

It's what the stream does

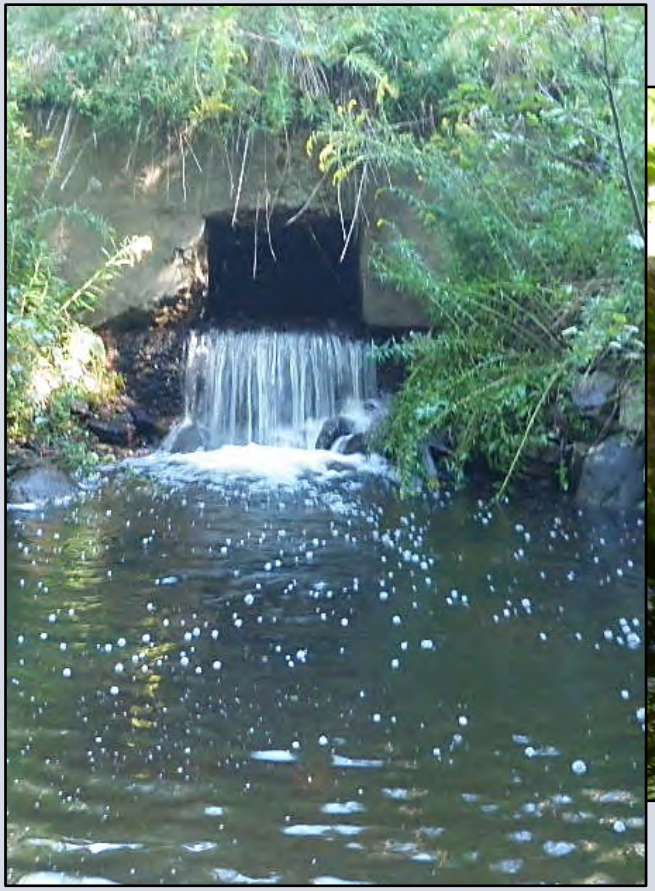


Regulates the flow of water

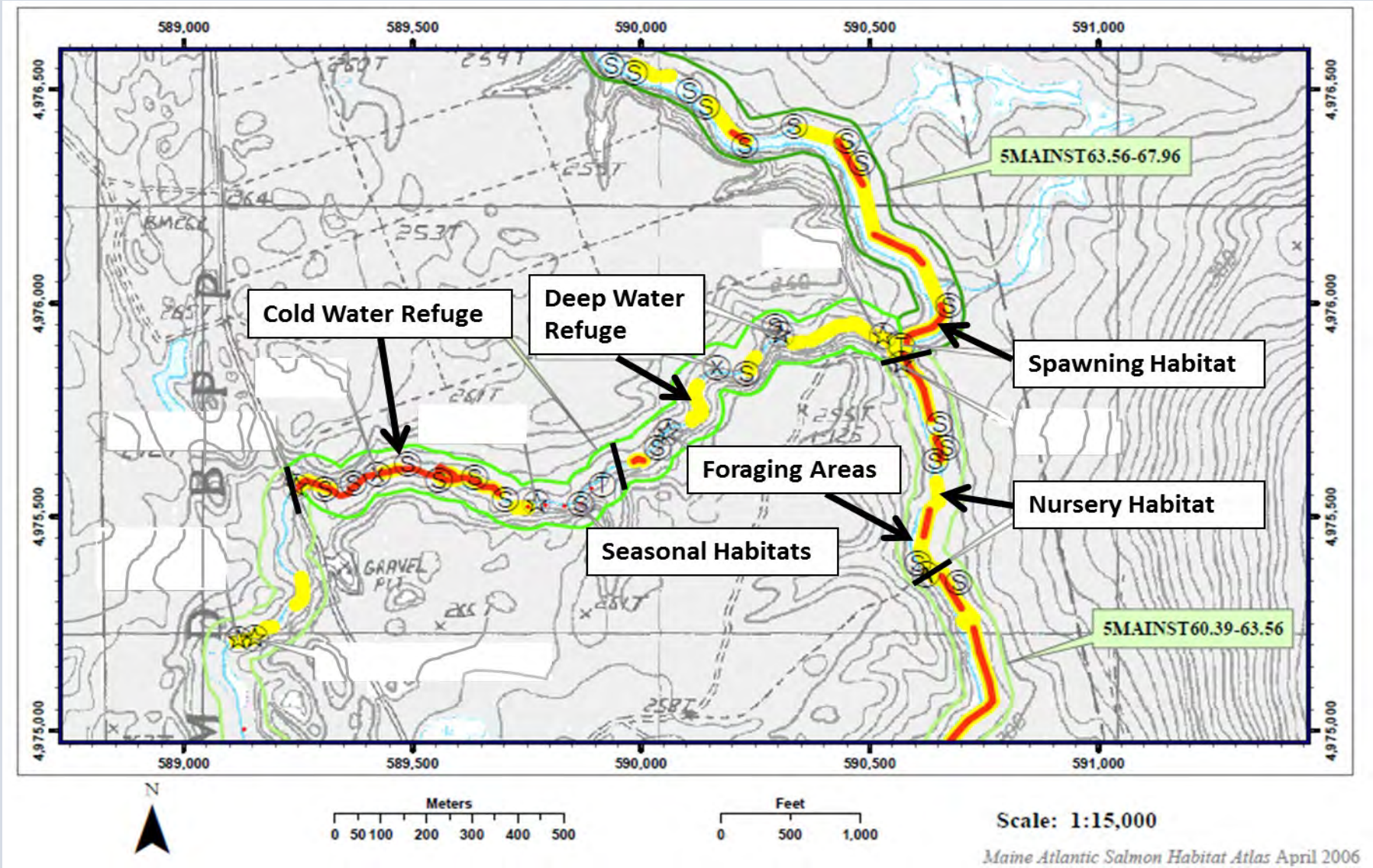
Maintains water temperature

Moves organisms and material

The Problem: most stream crossings are Barriers!



Fish need to move…



Stream Smart

How do culverts block fish passage?

(1) Flow too fast
(2) Water depth too shallow
(3) Perched
(4) A combination of the above.

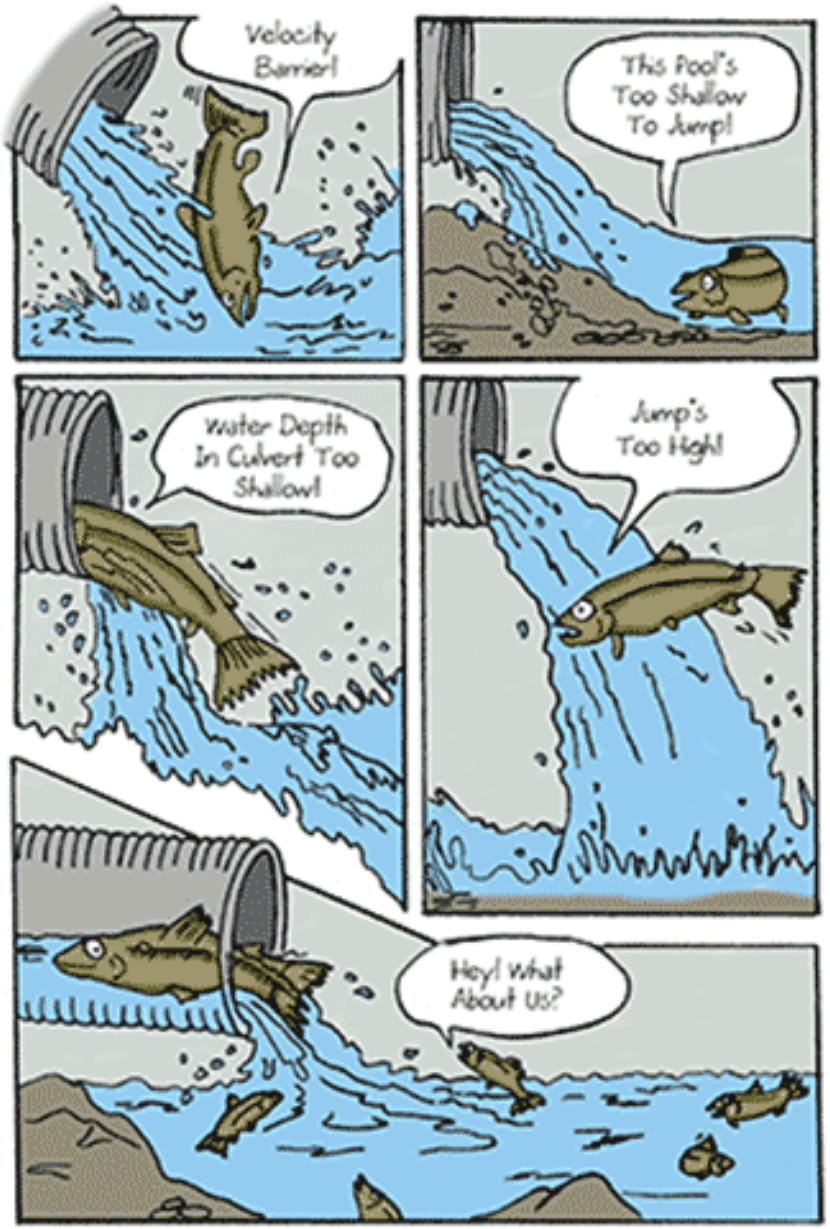
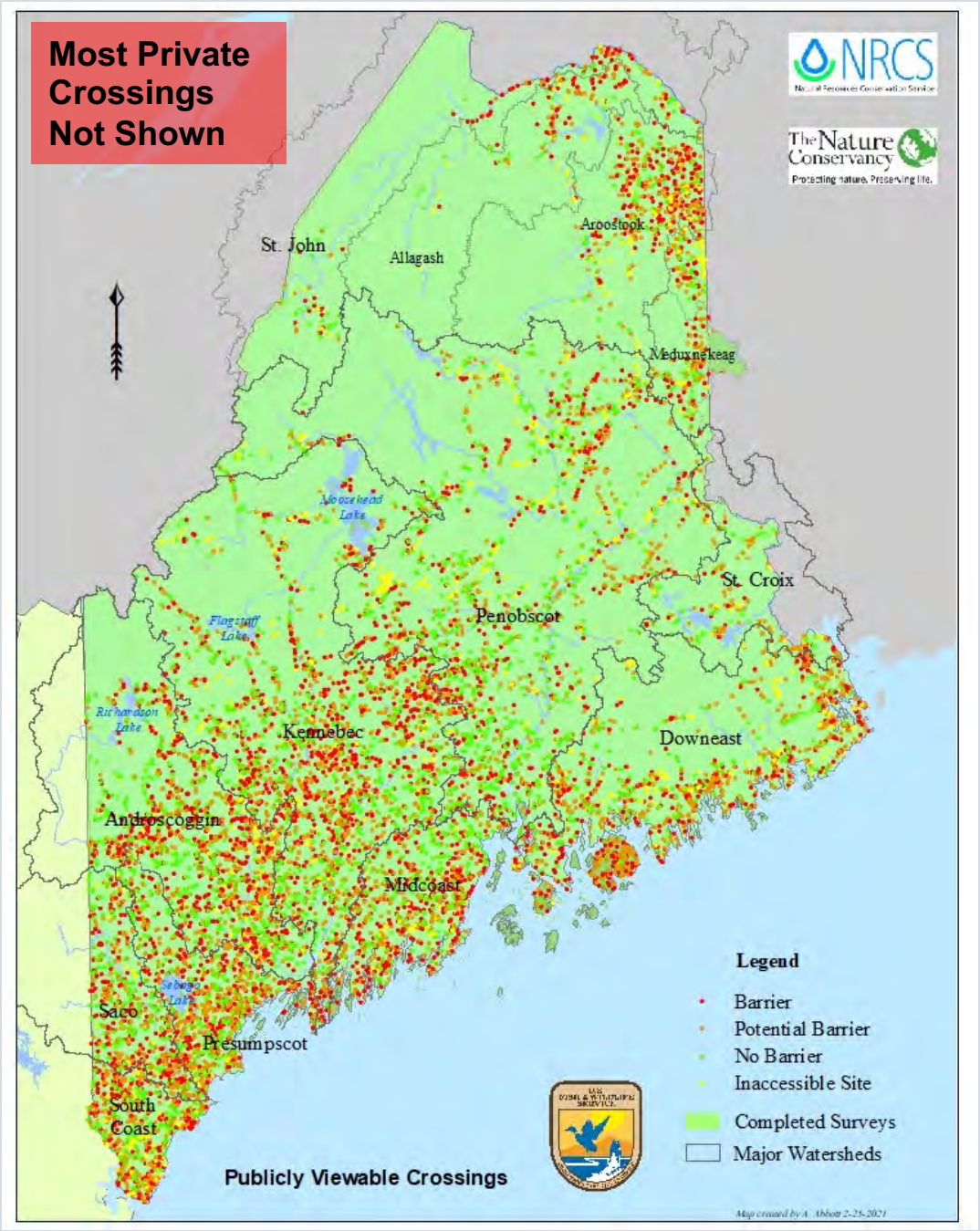


Photo: Washington State Department of Transportation. Photo redrawn by John Runyon

Stream Smart

The problem is widespread…

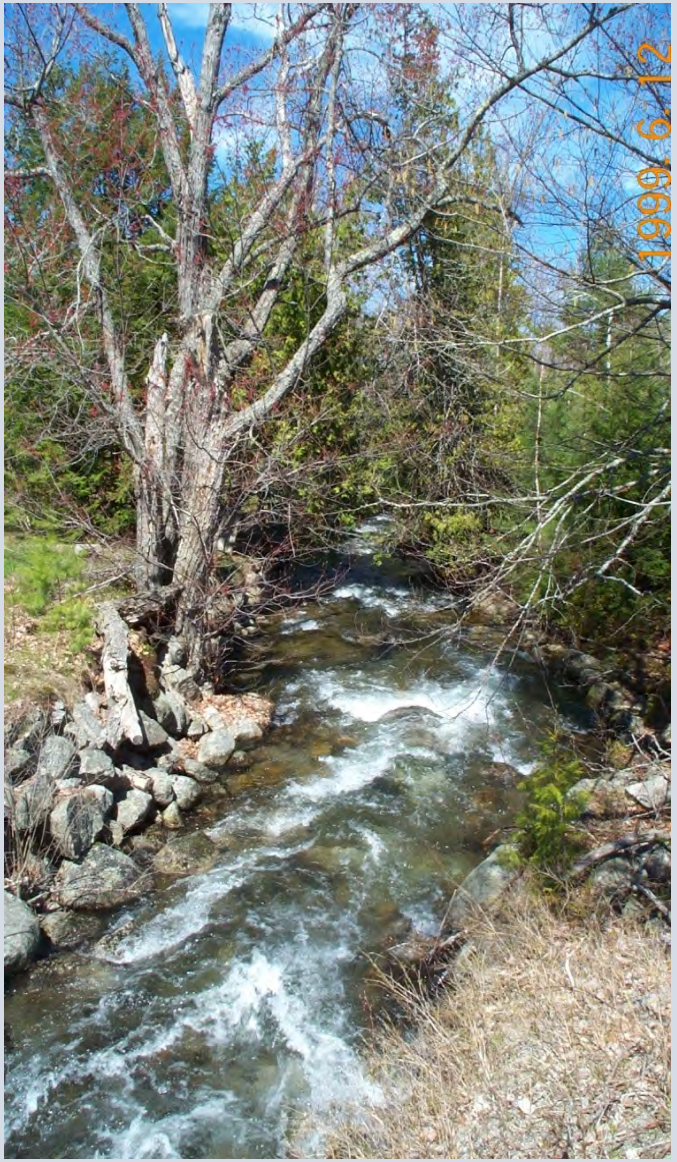
- > 7,000 **severe** barriers on state, town & private roads
- + 8,000 potential or partial barriers
- On average each blocks 1 mile
- > 15,000 miles of blocked streams




Stream
Smart
Luckily, there are solutions:
Stream Smart crossings
maintain fish & wildlife habitat
while protecting roads & public safety

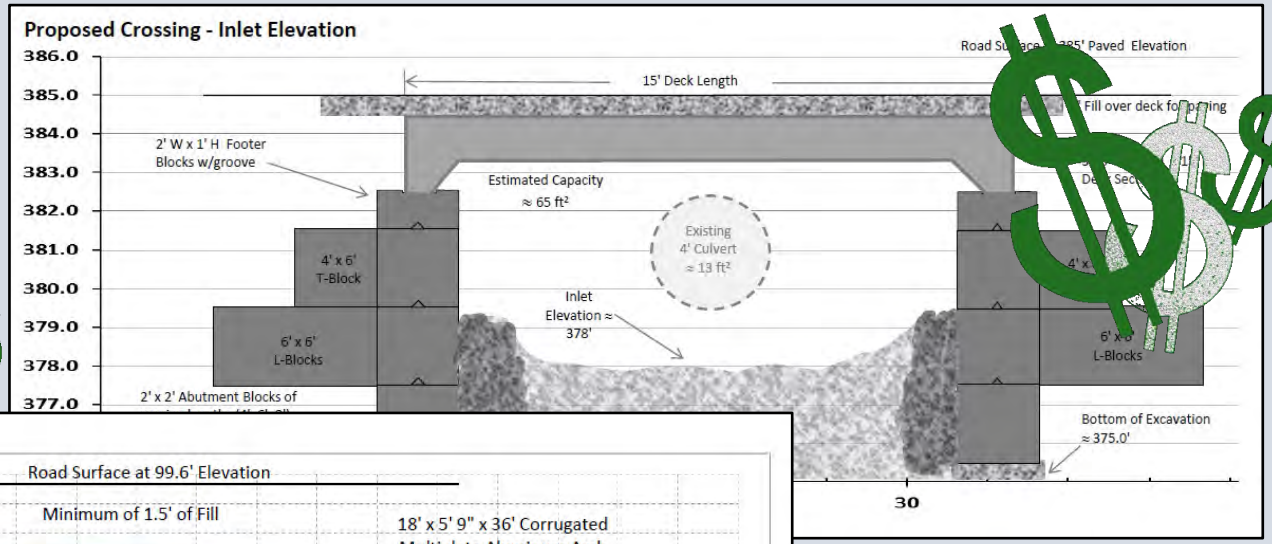
Rules of Thumb (5 S's)

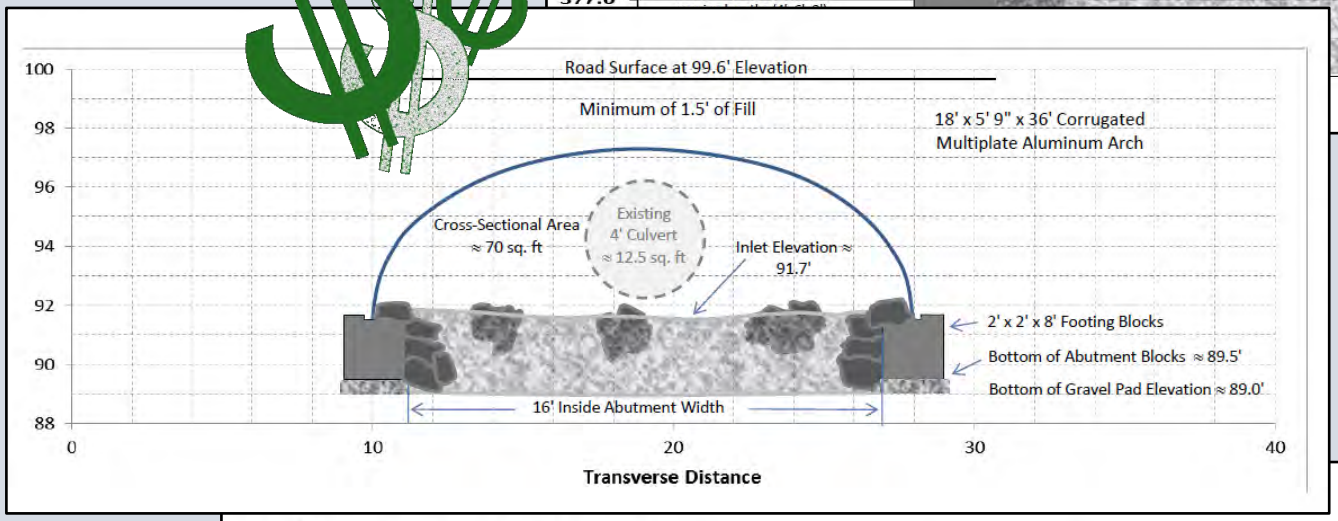
1. SPAN the stream
2. SET elevation right
3. SLOPE and SKEW match stream
4. SUBSTRATE in the crossing



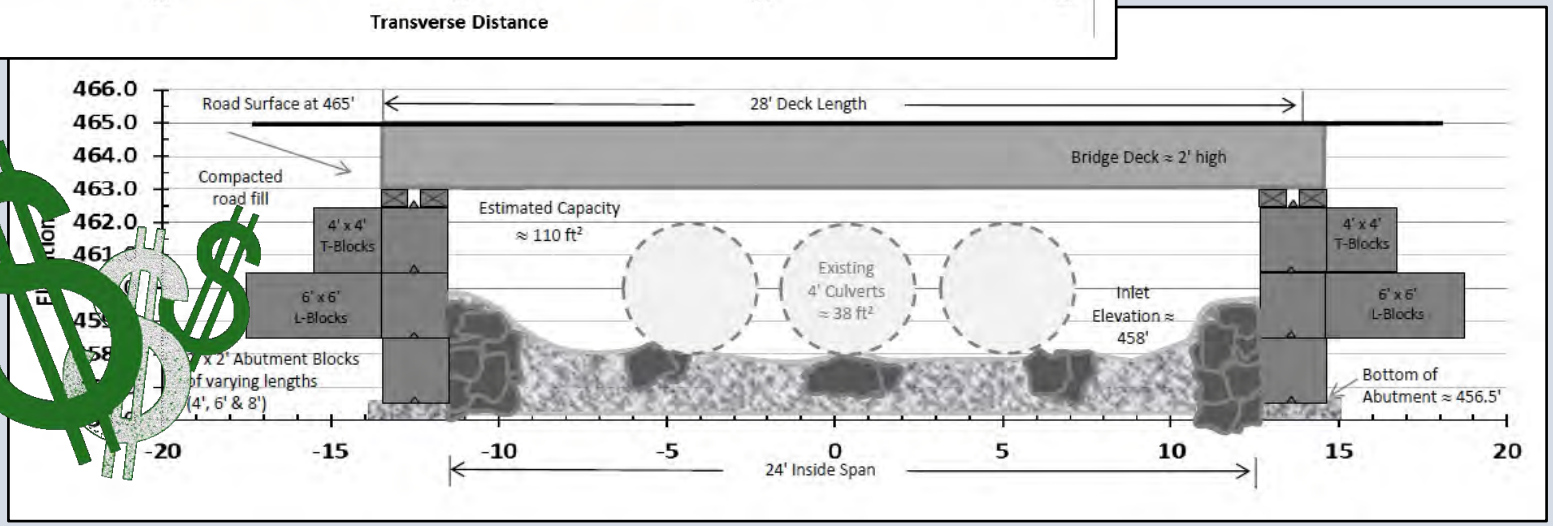
Stream Smart

Stream Smart

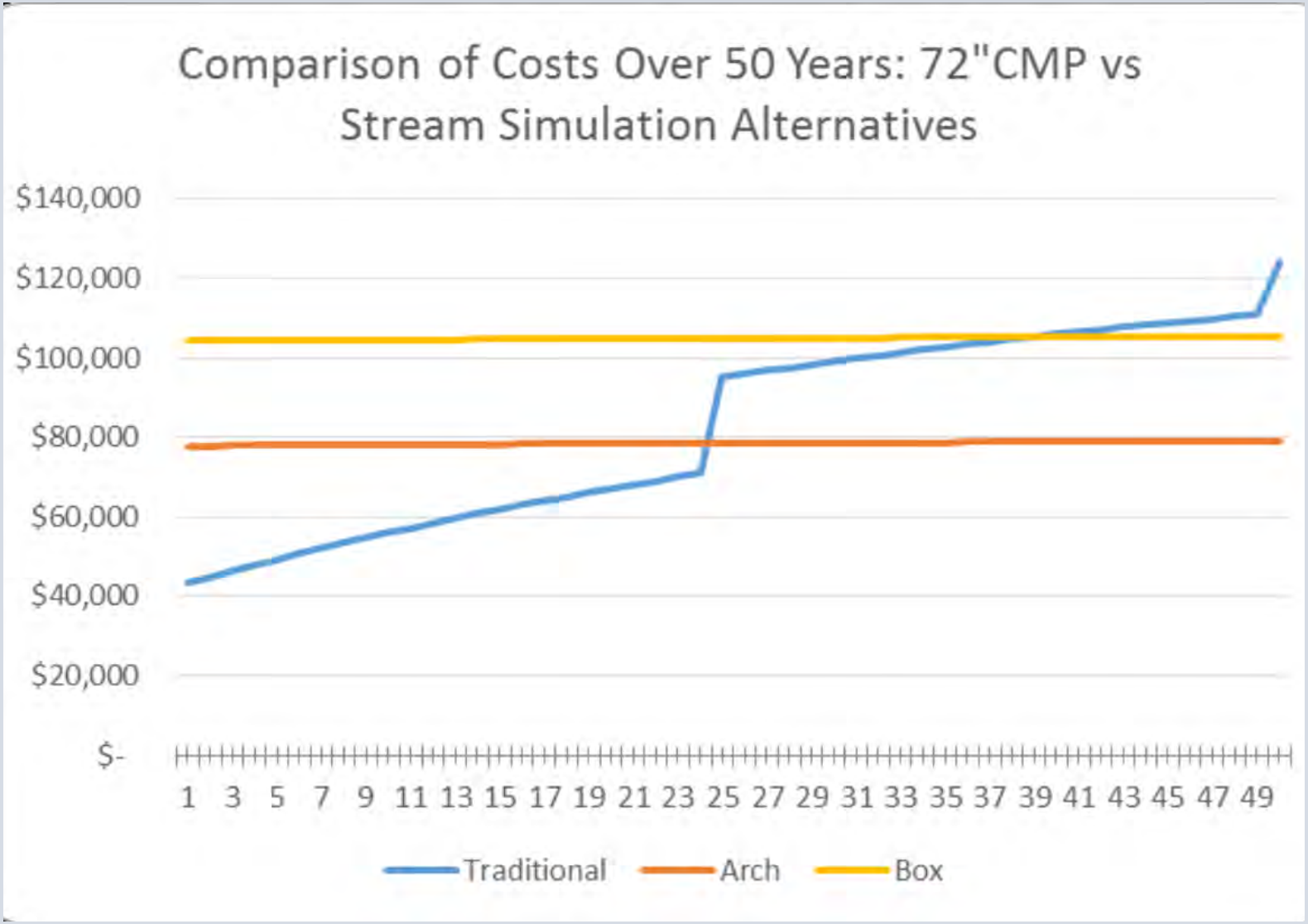




Stream Smart crossings are often larger than traditional pipe culverts



Upfront costs vs. long-term costs



Cost/Benefit of Stream Smart Design

How can we afford a Stream Smart design?

- Up-front costs of Stream Smart design higher
- Communities have limited, annual budgets

How can we afford *not* to use Stream Smart design?

- Public safety risk
- Economic risk to community
- Climate Change
- Maintenance costs
- Financial assistance requires Stream Smart design

Public Safety, Community Costs

Public Safety

- Immediate threat of road collapse
- Emergency vehicle detour
- Individuals and communities could become isolated

Economic Impact on Community

- Frequent road failures costs money
- Loss of reliable access to goods & services, customers
- Affects of flooding on property values

Climate Change = More risk to road infrastructure

Bigger storms will become more frequent

Extreme storms

74% ↑ Frequency

23% ↑ Size

Financial Assistance Availability/Limits

- Project Proponent (town, private landowner, land trust, etc.)
- Location in the state
- Aquatic resources (Atlantic salmon, brook trout, alewife, etc.)
- Expected improvement (miles of habitat restored, access to ocean, access to ponds, etc.)
- Other available funds (rarely cover all costs, usually cost share)
- Depends on fund availability in a particular year
- **REQUIRE STREAM SMART DESIGN!**

Financial Assistance
Some Sources

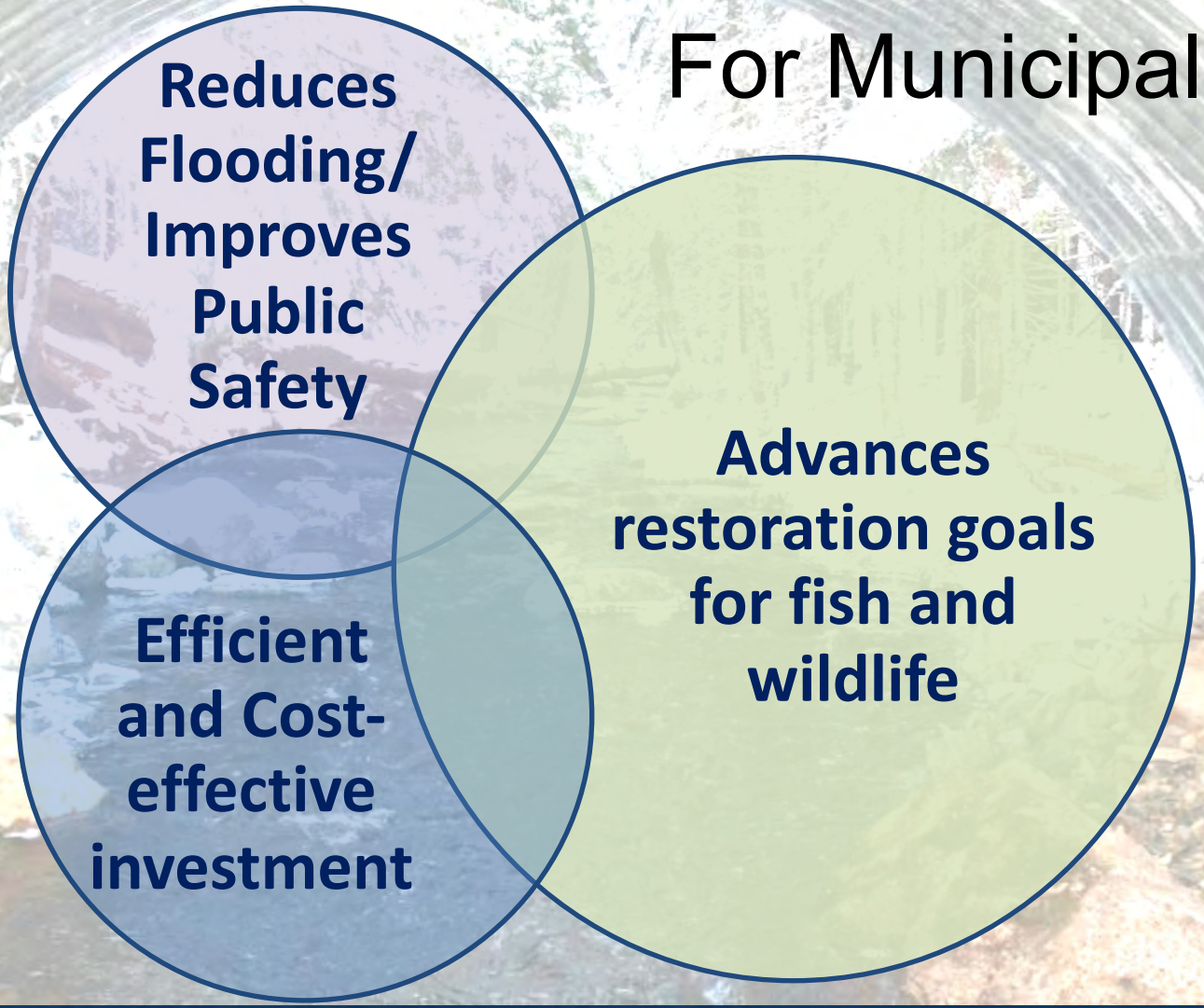
- NRCS Regional Conservation Partnership Program (RCPP)
- NOAA grant funds
- USFWS Partners for Fish and Wildlife
- Maine Natural Resource Conservation Program (MNRCP)
- Maine Municipal Culvert Upgrade Grant Program
- Others (Trout Unlimited, Atlantic Salmon Federation, NFWF, etc)

Town – Water Bond Project

Private – NRCS funded project

DEP Culvert Replacement Grant

For Municipalities



Proposal in the works for a larger RCPP (for private landowners)

NRCS Funding Opportunities

NRCS has multiple funding opportunities for Aquatic Organism Passage (AOP):

- "Watershed-scale Approach to Restoring Stream Systems" (WATRSS)
  - Focus area outlined in **RED**
  - Lead partner The Nature Conservancy
  - Total $4,900,000 in financial assistance for AOP projects
- State pool for AOP projects
  - Focus area is state wide
  - Annual allocation determined by budget
  - Utilizing the Environmental Quality Incentives Program (EQIP)

Infrastructure Investment & Jobs Act (aka Bipartisan Infrastructure Law)

Once in a generation funding

- Single largest investment in repairing and reconstructing U.S. bridges since the construction of the interstate highway system
- $350 Billion for highway programs over 5 yrs (FY 2022-2026)
- $$ flows through existing and new programs
  - Additional funds to Highway Trust Fund and Block Grants
  - Restoring Fish Passage thru Barrier Removal Grants
  - New Bridge Investment Program
  - Pilot Wildlife Crossings Program
  - America the Beautiful Initiative

More Information

Stream Smart

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

Municipal Stream Crossing Grants

Since 2015, Maine voters have approved a total of four bonds that fund the upgrade and replacement of stream crossings throughout Maine. These monies fund DEP's competitive grant program that matches local funding for the upgrade of municipal culverts at stream crossings to improve fish and wildlife habitats, reduce flooding, and increase community safety.

Project Stats

$10,700,000.00
in grant funding awarded to stream crossing upgrades

12,172
Sum of residences or businesses directly affected by crossing failure

2.8x
Average increase of original crossing widths

Stream Smart
StreamSmartMaine.org

Connecting fish and wildlife habitat while protecting roads and public safety.

FUNDING OPPORTUNITIES for ROAD CROSSINGS

Replacing Road Crossings

Undersized, perched, and blocked road culverts obstruct 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 which can damage roads. *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 in the long run.*

Stream-smart road c
sediment, large woo
structures may come

Funding a

Fortunately, there n
offered as a cost-sha
or services. They also
programs for guidan

Examples of progra

- NOAA Commu
Restoration Pro
www.fisheries.no
funding-opportu
- Natural Resour
(for private road
nrcs.usda.gov/wp
grams/financial
- US Fish and Wil
easternbrooktrou

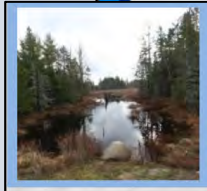
Frequently Asked Questions about the USFWS Partners for Fish and Wildlife Program

nd Wildlife (PFW) Program?
e (PFW) program is a voluntary program t
are incentives to private landowners to res

land is eligible for the PFW program. "Pr
not owned by State or Federal governme
be involved in the program as partners bu
include private landowners, but also national, regional,
communities, non-profit organizations, corporations,

Coordinator. In Maine, our Coordinator is Fred
and 207-902-1571.

are eligible to be restored?
wildlife habitat and has been altered or degraded is



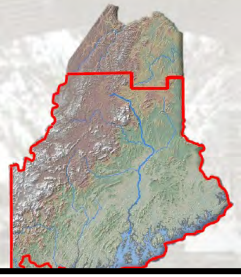
Problem Culvert Impacts to Fish and Habitat

Traditional undersized or hung round culverts are barriers to fish passage that fragment and degrade streams for native fishes that depend on timely access to different habitat types (i.e. spawning habitat, cold water refuge) and other resources (i.e. food and space). Marshy backwaters often kill trees along the stream, reduce shade, increase water temperature and reduce stream flow which promotes conditions for warm water and invasive fish species.

Species Focus

NRCS stream restoration benefits a variety of species. Over 50 Maine native fish species will experience increased stream access and positive changes to their stream habitat, particularly native brook trout and sea-run fish species. Non-fish wildlife benefiting from culvert replacement include:

- Freshwater mussels
- Salamanders and frogs
- Aquatic invertebrates
- Turtles



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NRCS Program Eligibility

NRCS programs assist private landowners. Eligibility requirements vary from program to program. Additional information co
NRCS programs can be found at
www.me.usda.gov

Contact Informatio

We are interested in discussing strea
concerning fish passage or determin
other aquatic life please contact you
.

Photo credit to Project SHARE and Scott Craig USFWS MeFWCO

Stream Smart
StreamSmartMaine.org

Connecting fish and wildlife habitat while protecting roads and public safety

TECHNICAL ASSISTANCE for ROAD CROSSINGS

Thanks to our partners, a number of resources are available to provide technical assistance for Stream Smart design and implementation. Some of these resources are limited geographically or by type of assistance, so please see notes within each section for additional information. Partners are listed alphabetically for ease of use.

Casco Bay Estuary Partnership

PO Box 9300, 34 Bedford Street, Portland, ME 04104
(207) 228-8359; cascobayestuary.org
Contact: Matt Craig, matthew.craig@maine.edu

Type of Assistance
- Project management, support, fundraising
- Culvert barrier inventory, prioritization, maps
- Tidal restrictions

Geographic Area
- Casco Bay Watershed

Maine Forest Service

22 State House Station, Augusta, ME 04333
(207) 287-1073; maine.gov/doc/mfs/
Contact: Tom Gilbert, Water Resources Specialist
Thomas.Gilbert@maine.gov

Maine Inland Fisheries & Wildlife

www.maine.gov/ifw/about/contact/department-directory

Type of Assistance
- Questions about fish and stream habitat

Geographic Area

Southwestern Maine
Contact: James Pellerin, Regional Fisheries Biologist
RR1, 358 Shaker Road, Gray, ME 04039
(207) 657-2345

Central Maine
Contact: Wes Ashe, Assist. Regional Fisheries Biologist
270 Lyons Road, Sidney, ME 04330-9711
(207) 547-5316

Downeast
Contact: Greg Burr, Regional Fisheries Biologist
PO Box 220, Jonesboro, ME 04648
(207) 434-5925

For more information, go to StreamSmartMaine.org

Stream Smart Workshops: Phase I – Introduction

- Stream Function and Values
- Regulatory Requirements
- Stream Table

- Half-Day
- Classroom

April 25 – Dover-Foxcroft
April 28 – Boothbay

Questions?

Sarah Haggerty
Maine Audubon
shaggerty@maineaudubon.org
(207) 781-2330 x225