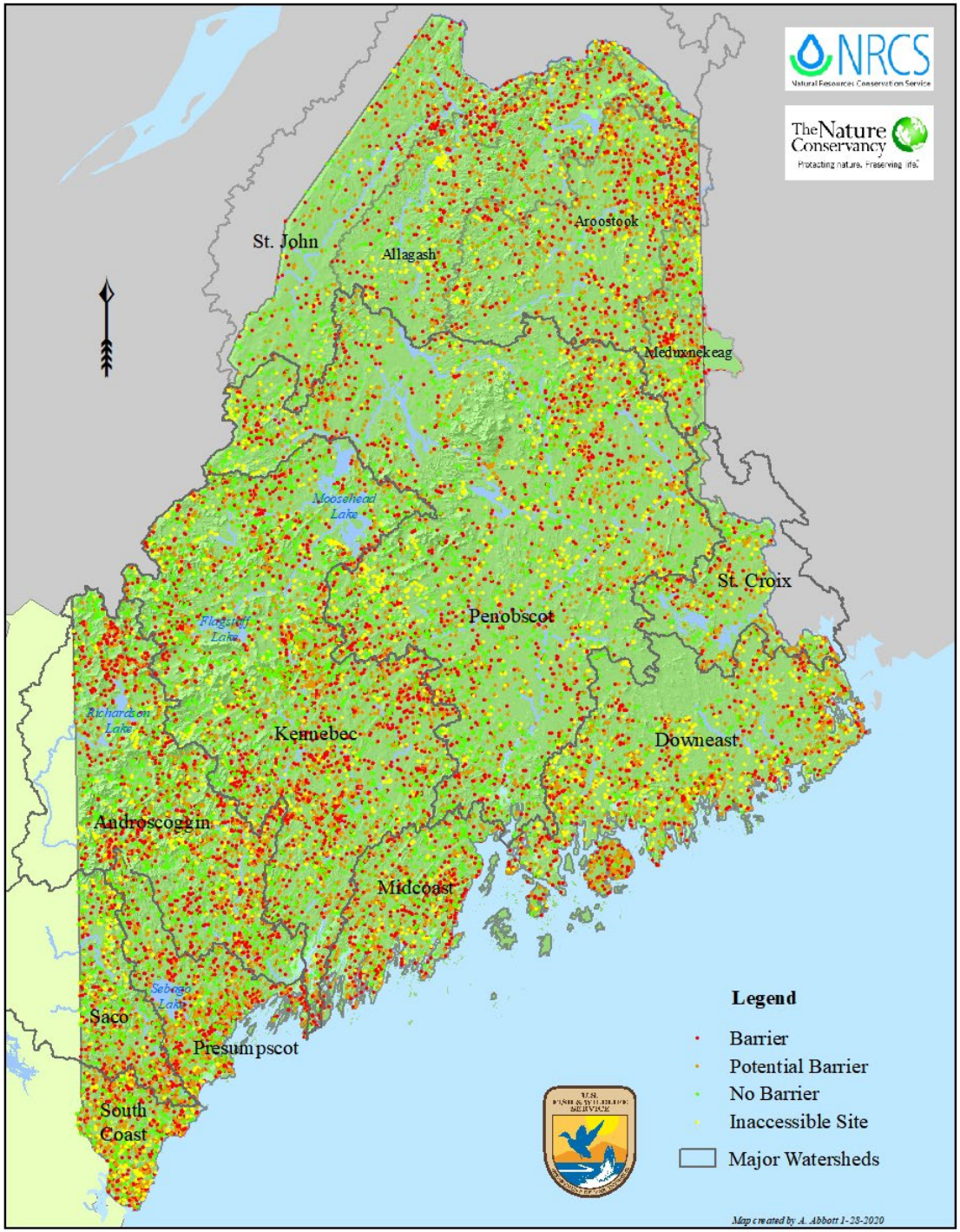
Stream Crossing Data & Prioritization

Alex Abbott - **Stream Restoration Specialist**


NRCS
Natural Resources Conservation Service
The Nature Conservancy
Protecting nature. Preserving life.
St. John
Allagash
Aroostook
Meduxnekeag
Moosehead Lake
Penobscot
St. Croix
Flagstaff Lake
Richardson Lake
Kennebec
Downeast
Androscoggin
Midcoast
Sebago Lake
Saco
Presumpscot
South Coast
Legend
Barrier
Potential Barrier
No Barrier
Inaccessible Site
Major Watersheds
Map created by A. Abbott 1-28-2020

Species Impacted by Barriers

What is the goal?

Fish Passage h

Aquatic Organism Passage h

Terrestrial Animal Passage h

Stream Crossing Classification

Barrier = Free Fall (Perched) Outlet (≈85%)
or Other Severe Physical Barriers

No Barrier = Span OK *, Inlet & Outlet at Grade, no significant Physical Barriers, Substrate throughout, Adequate water depth

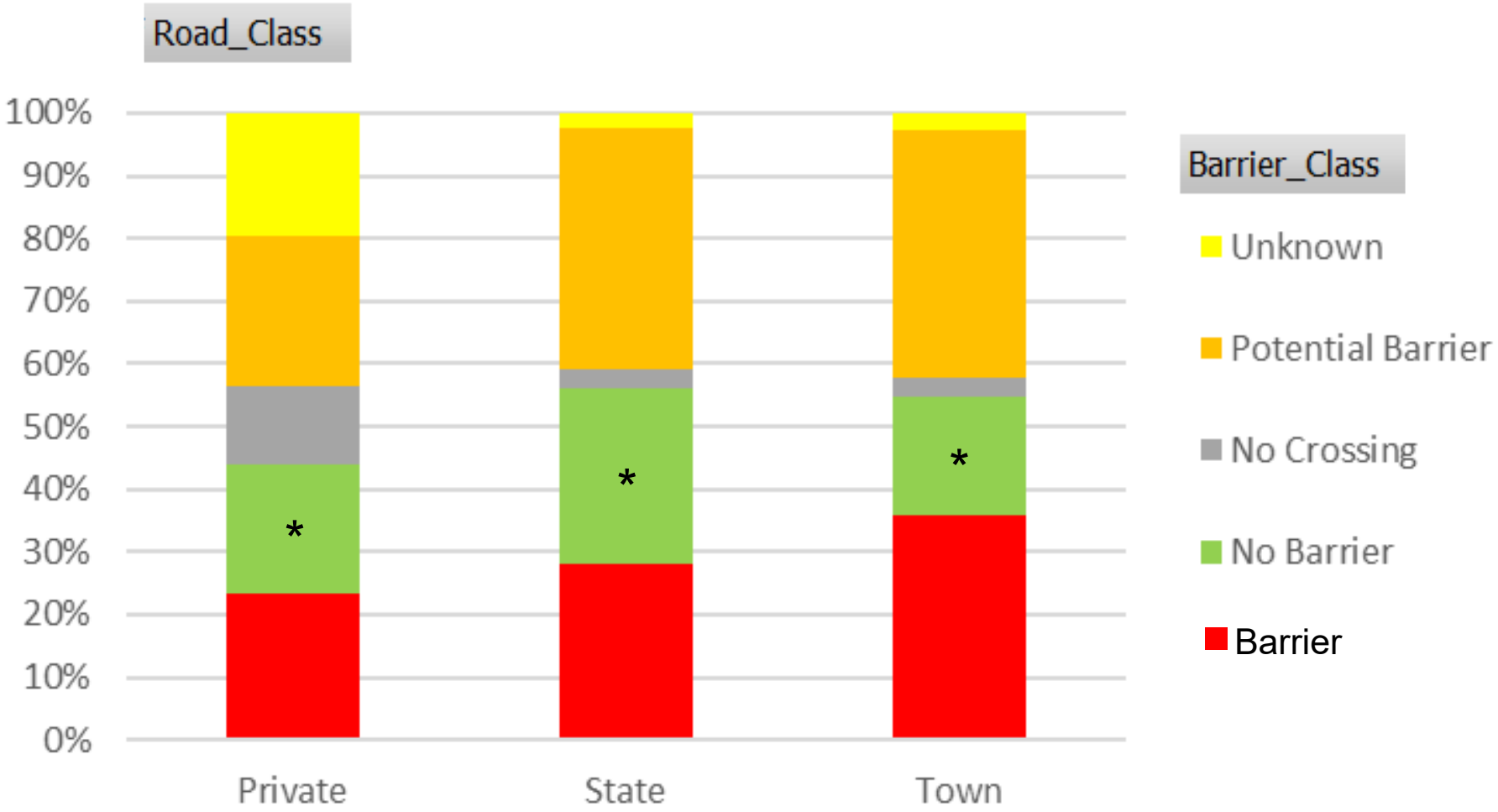
Potential Barrier = All conditions other than above, including minor or moderate physical barriers, shallow water depth, lack of substrate

Unknown = Inaccessible

* At least for fish & other aquatics

Crossing Data

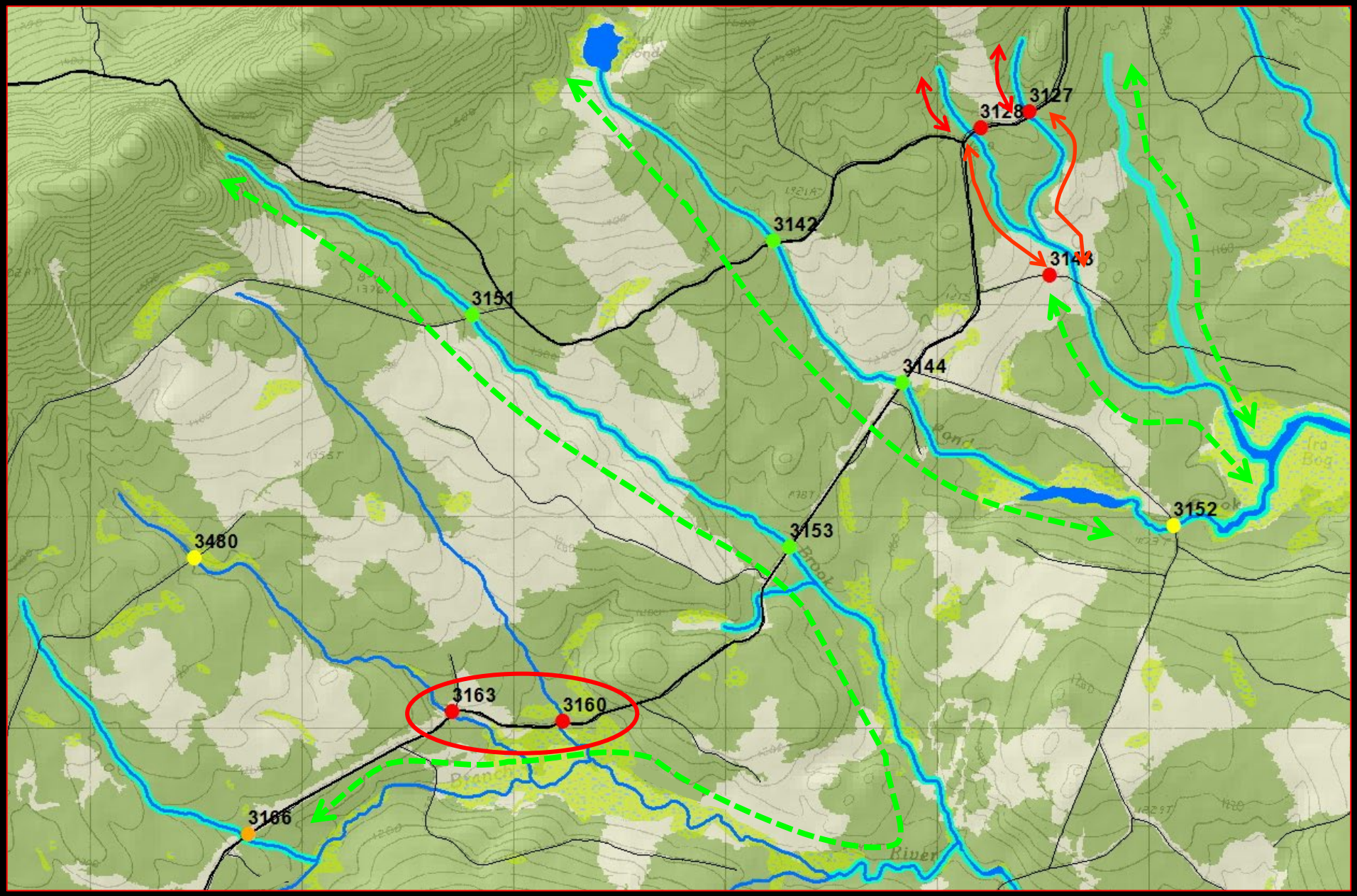
Barrier Class by Road Class



n = 25,338

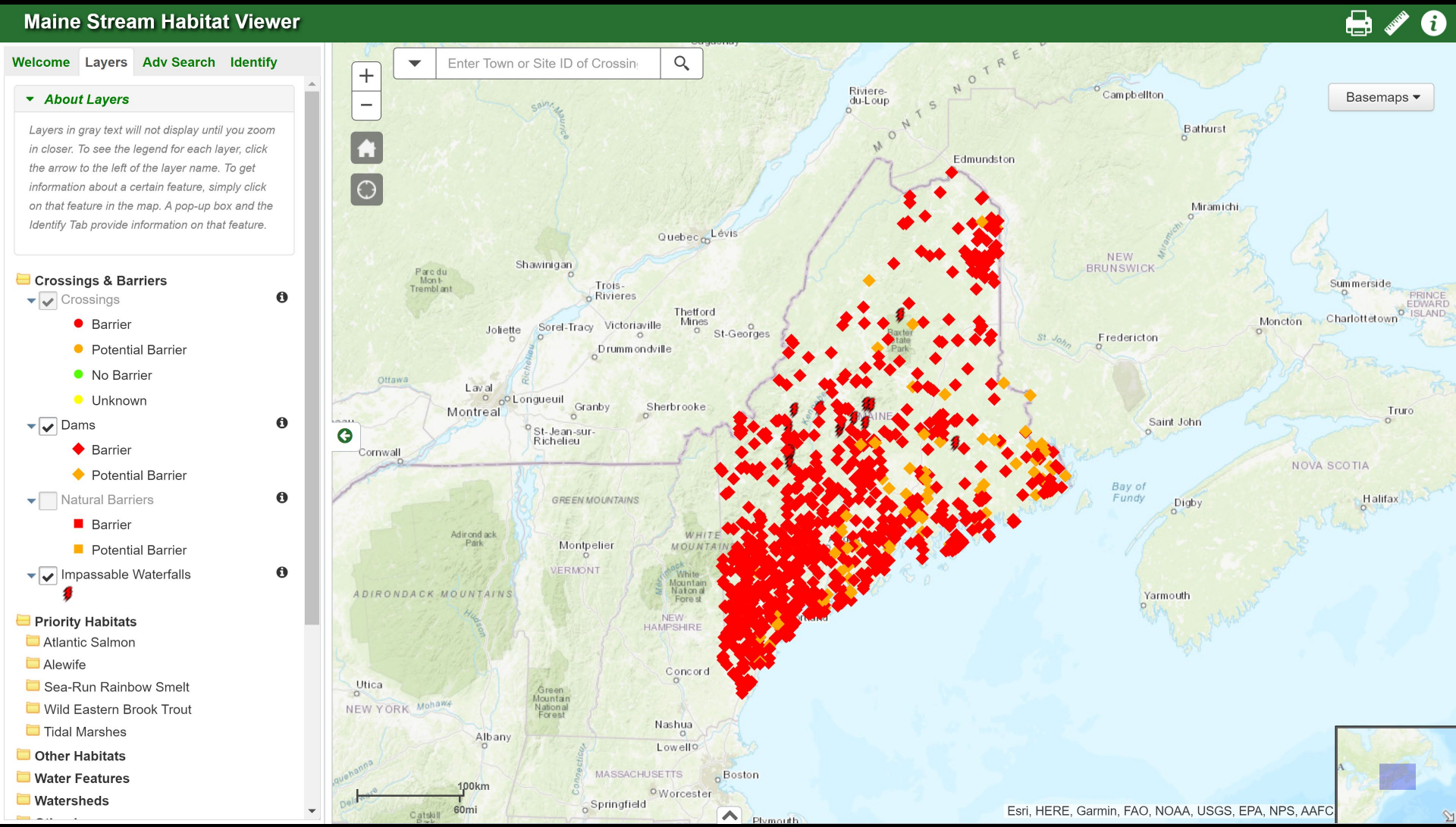
* Mostly Bridges

Crossing Data – BAT Metrics



Online Tools

Maine Stream Habitat Viewer



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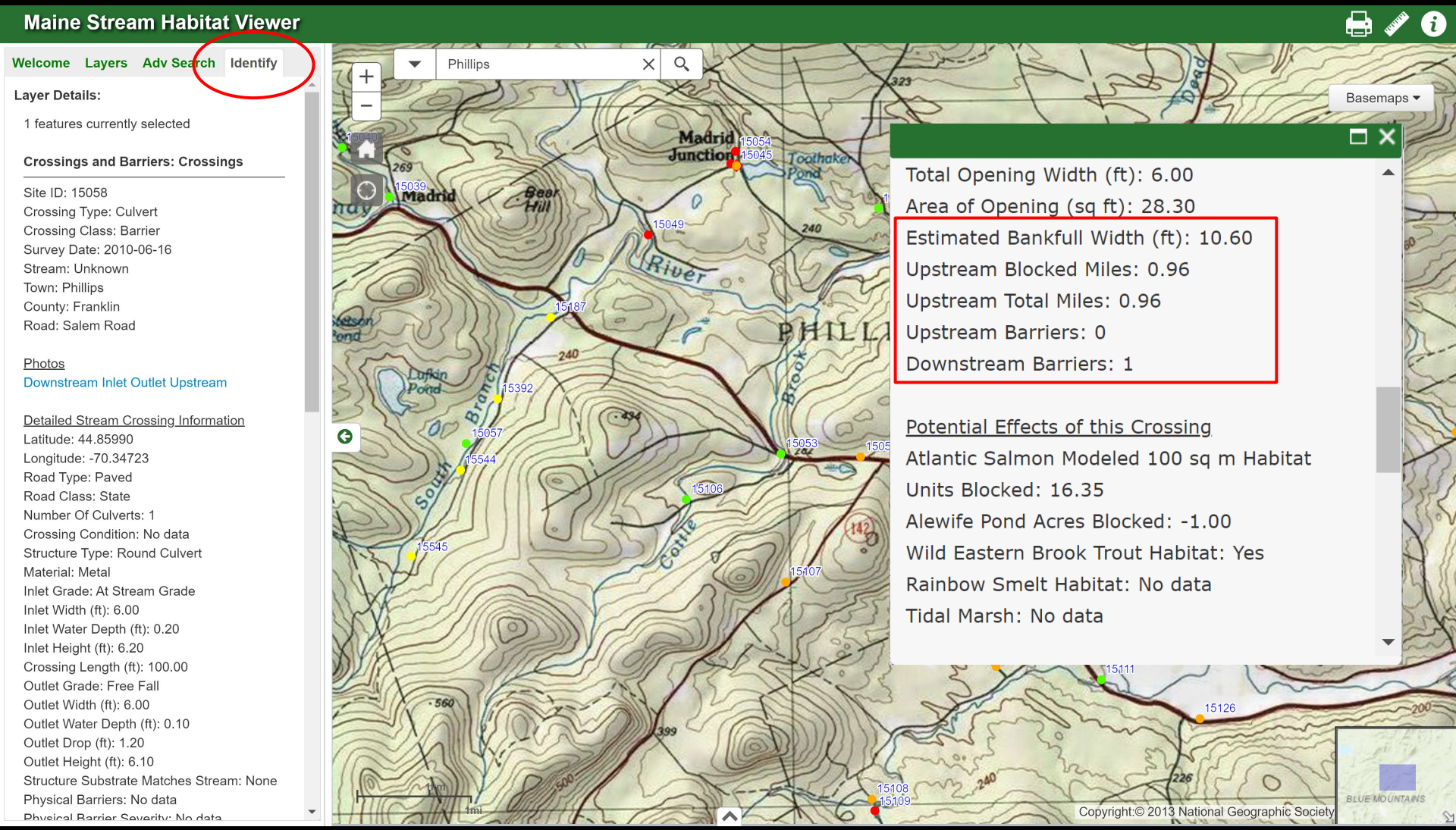

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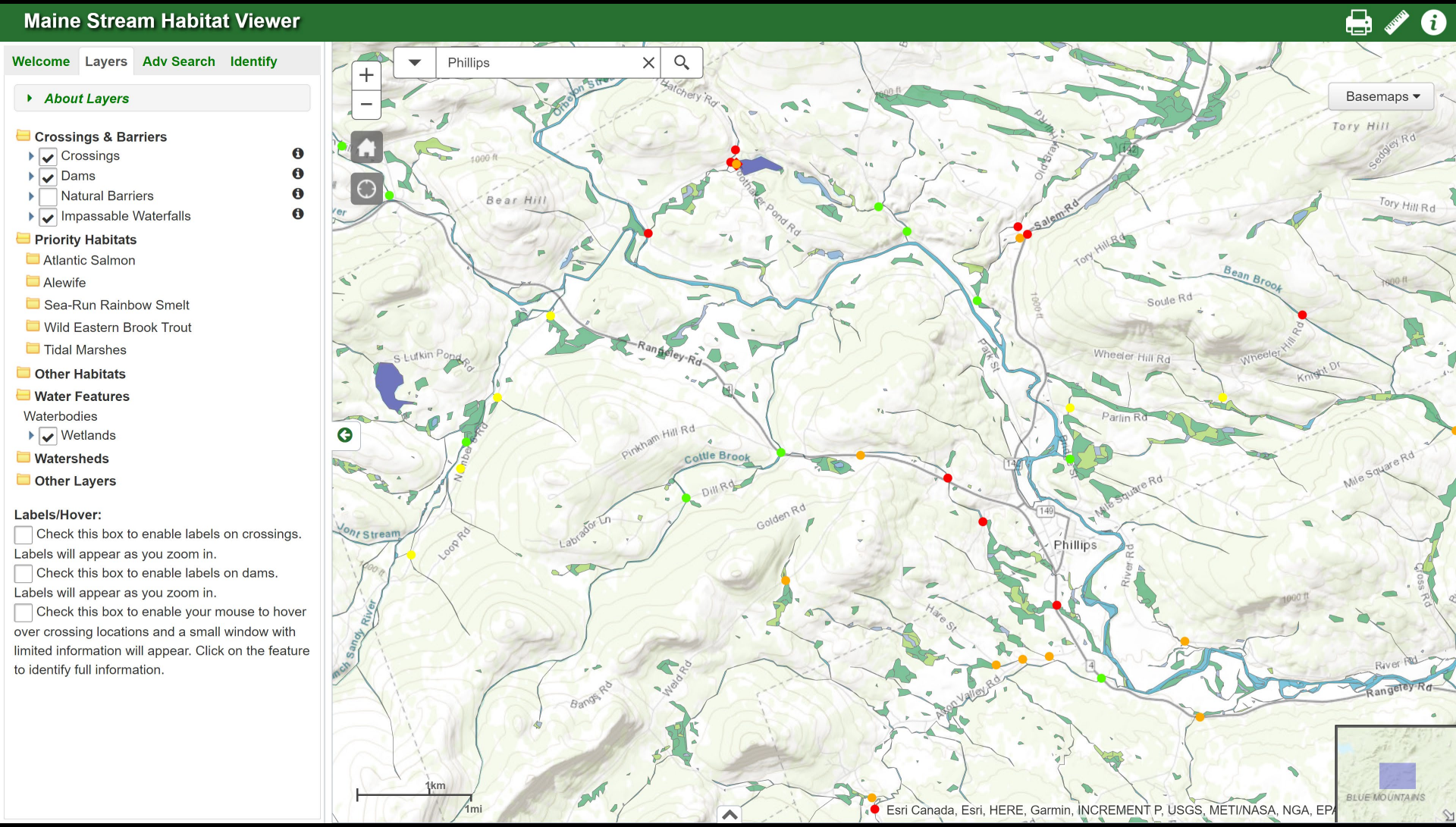
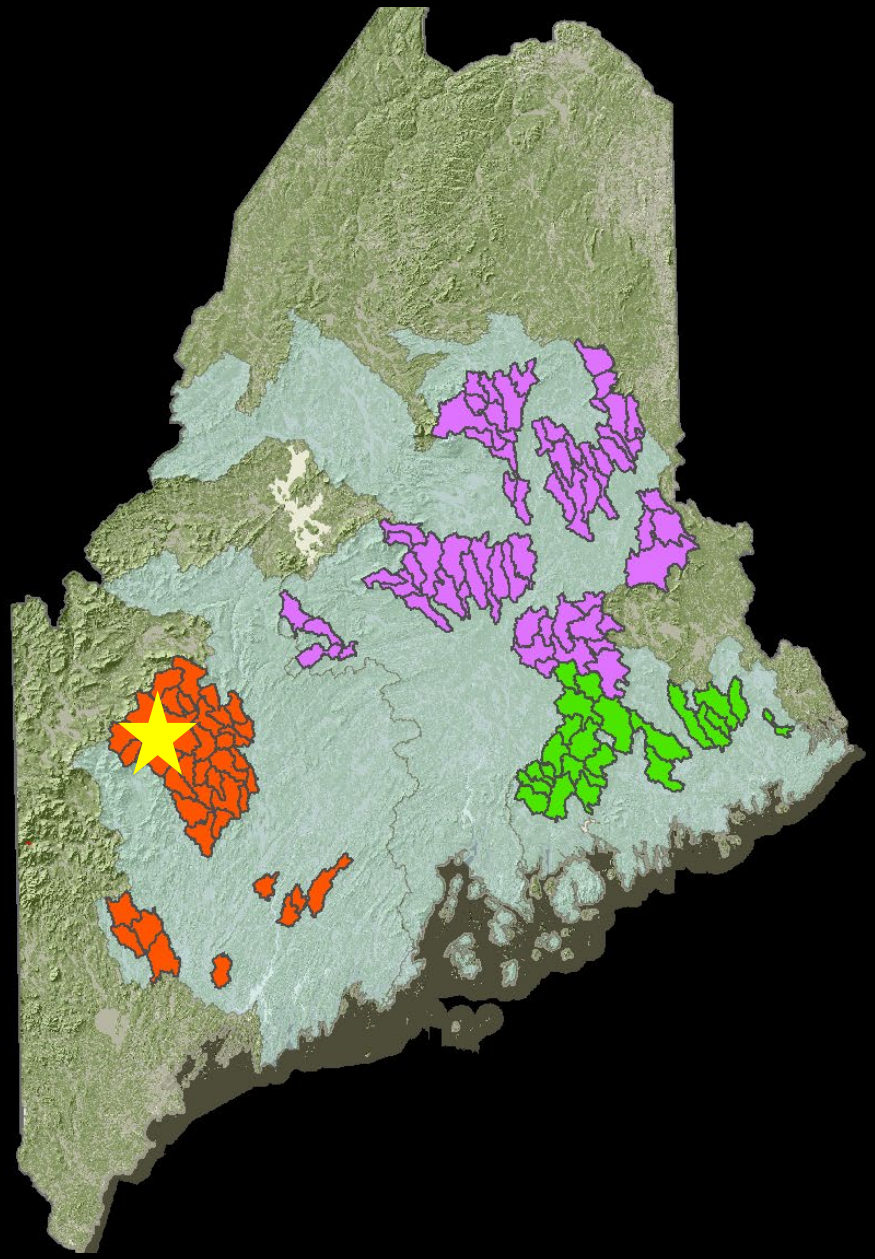
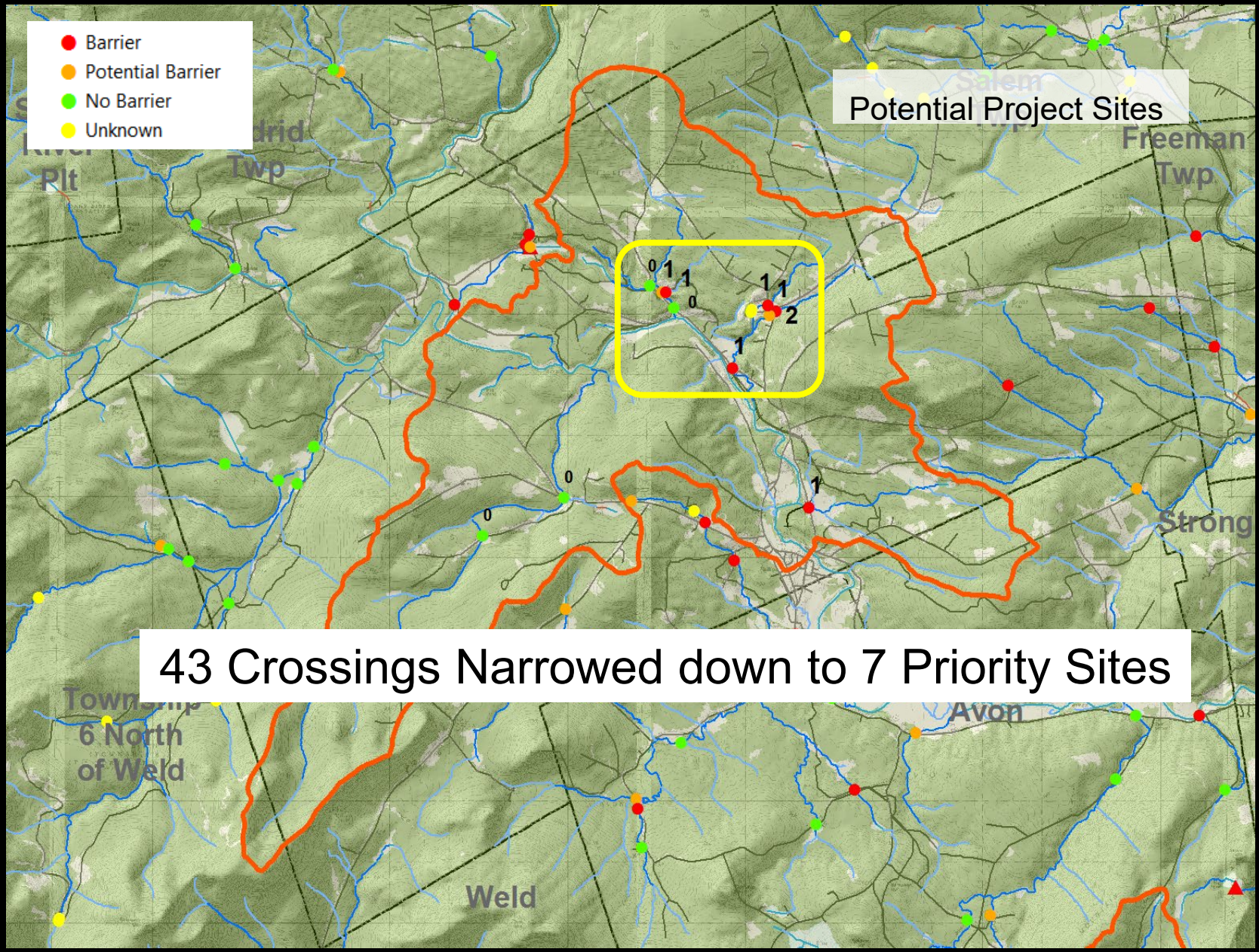
Maine Stream Habitat Viewer



Prioritization – Salmon Focus Areas

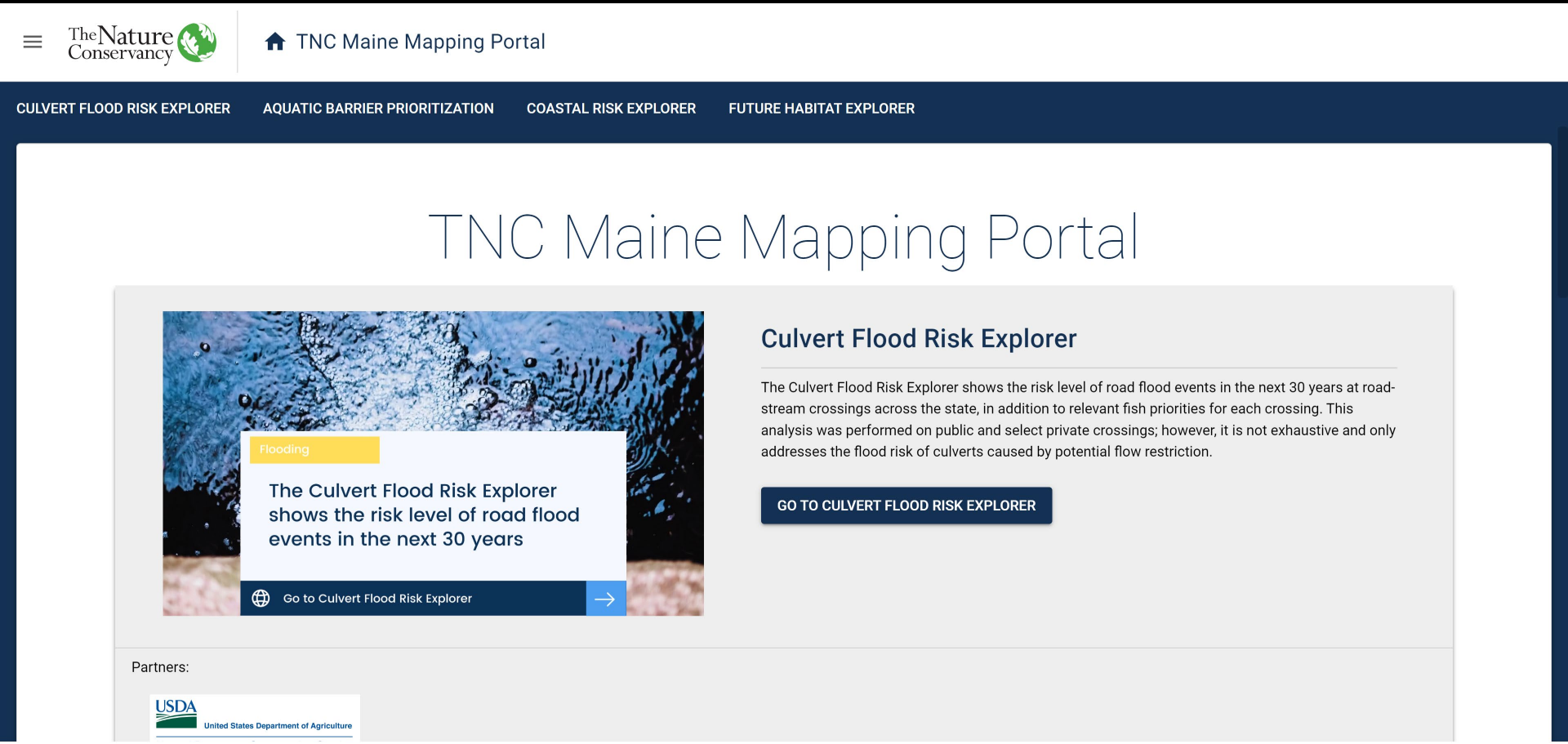


Prioritization – Phillips Focus Area



Online Tools

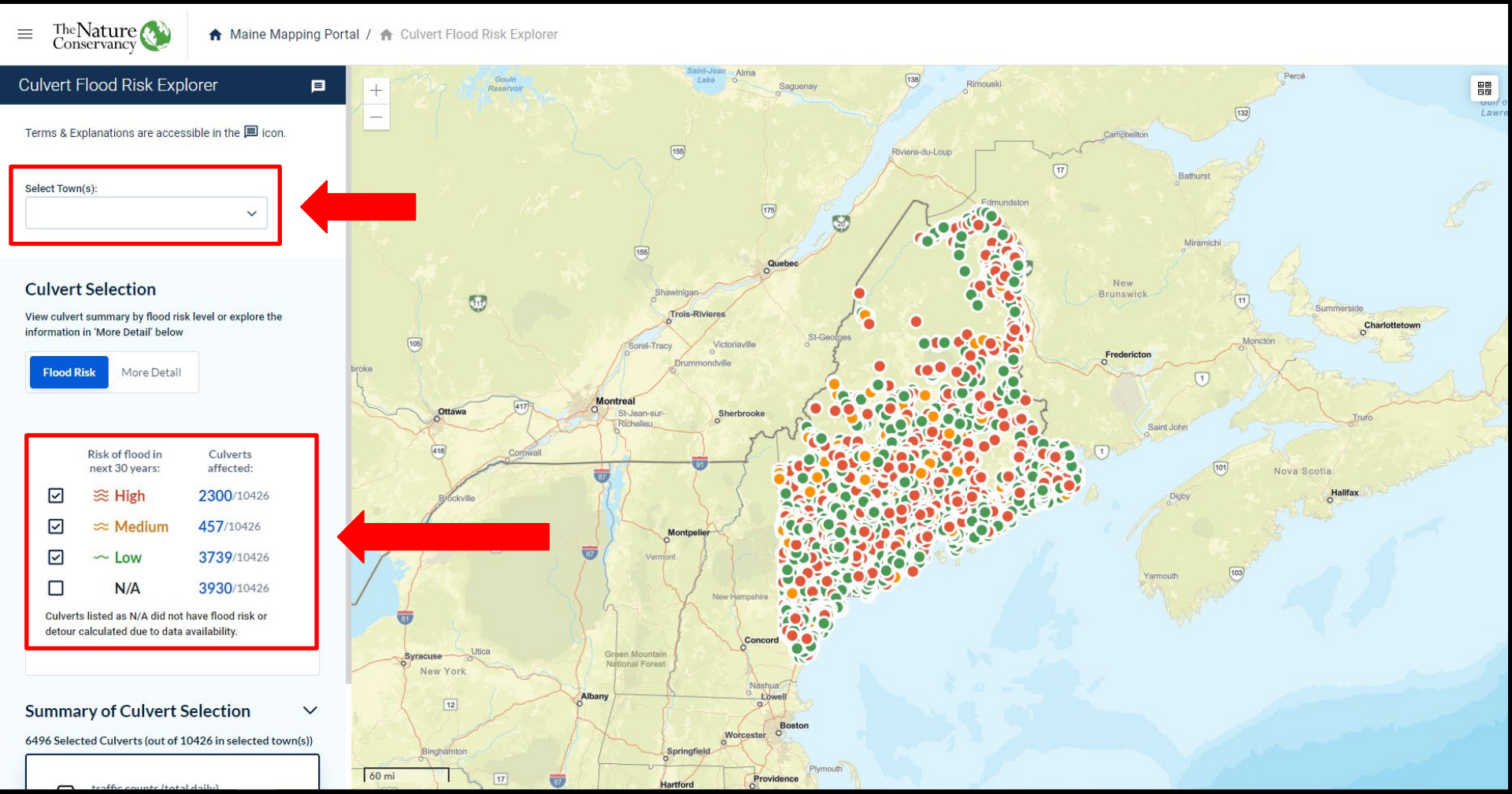
TNC Flood Risk Explorer



https://maps.tnc.org/maine/

Online Tools

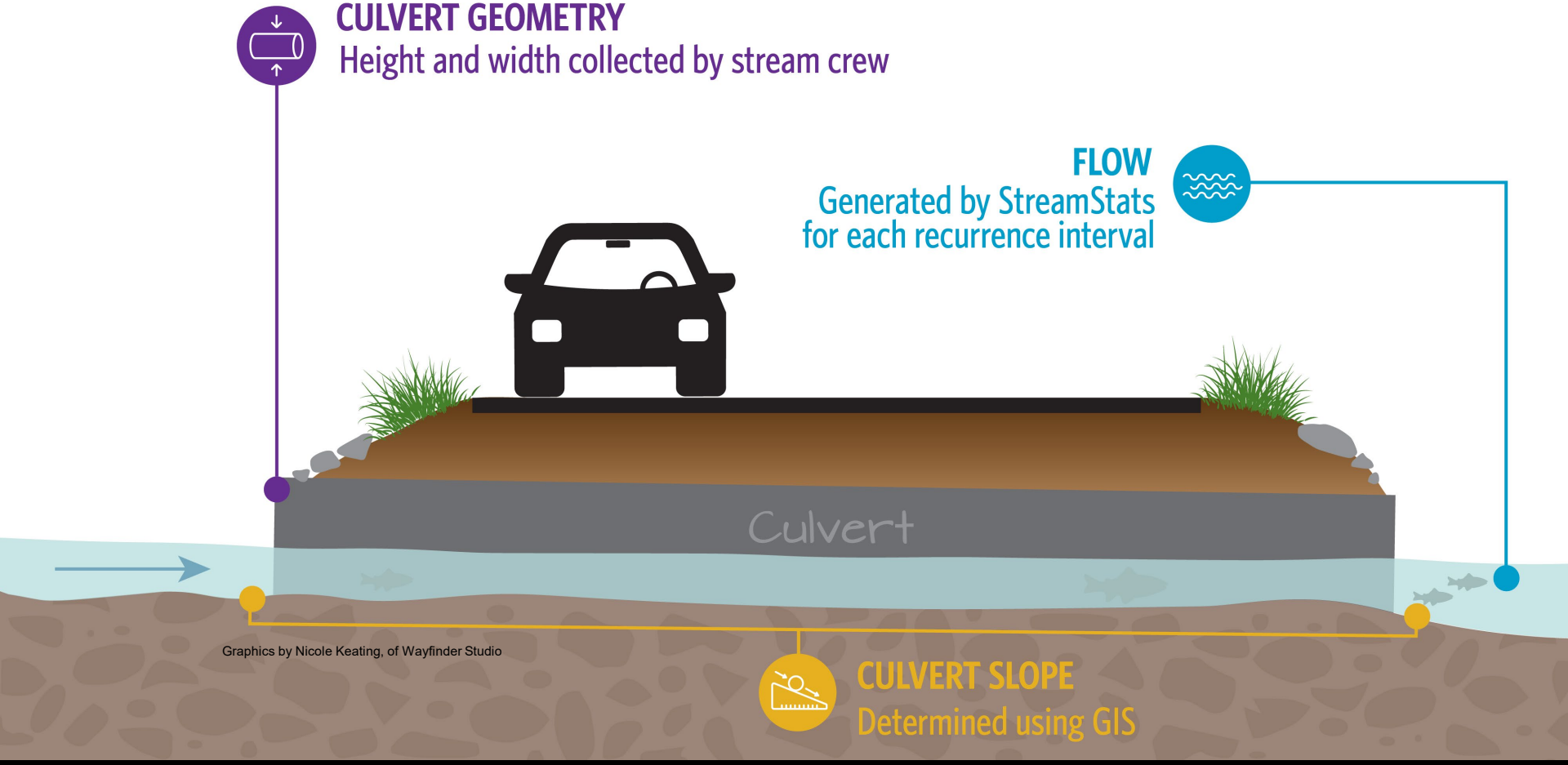
TNC Flood Risk Explorer



Online Tools

TNC Flood Risk Explorer

To answer the question, we need to know...



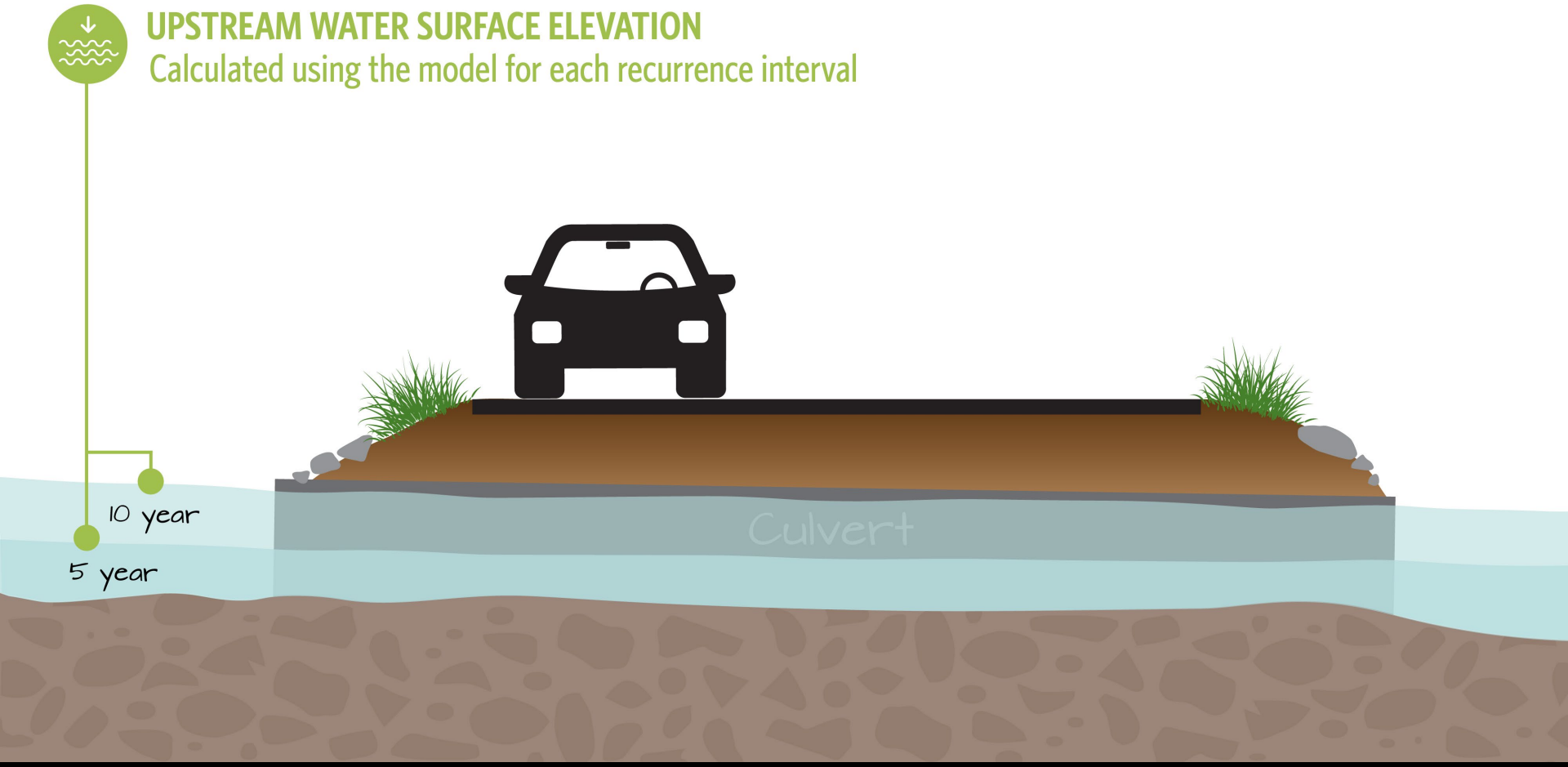
Online Tools

TNC Flood Risk Explorer

which allows us to calculate...

UPSTREAM WATER SURFACE ELEVATION

Calculated using the model for each recurrence interval



Online Tools

TNC Flood Risk Explorer

For example, the 25 year event...

UPSTREAM WATER SURFACE ELEVATION

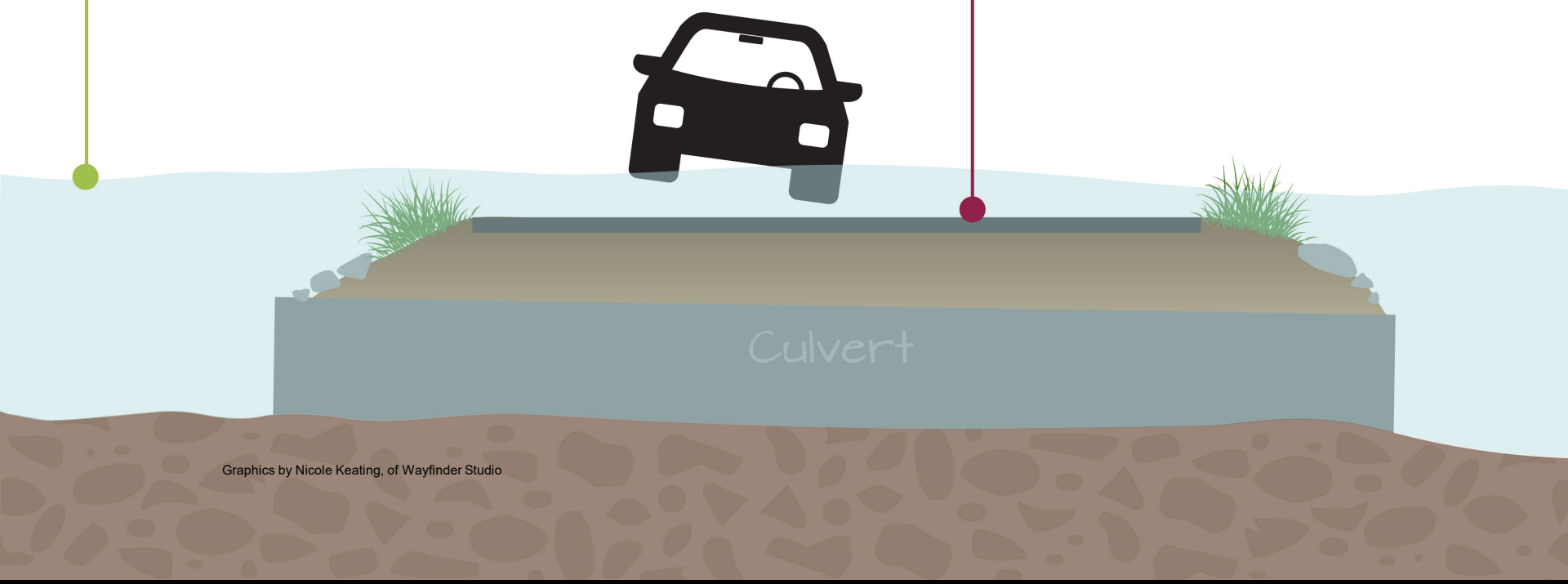
Calculated using the model for each recurrence interval

Elevation of upstream water surface elevation = 10 feet

ROAD SURFACE ELEVATION

Determined using GIS

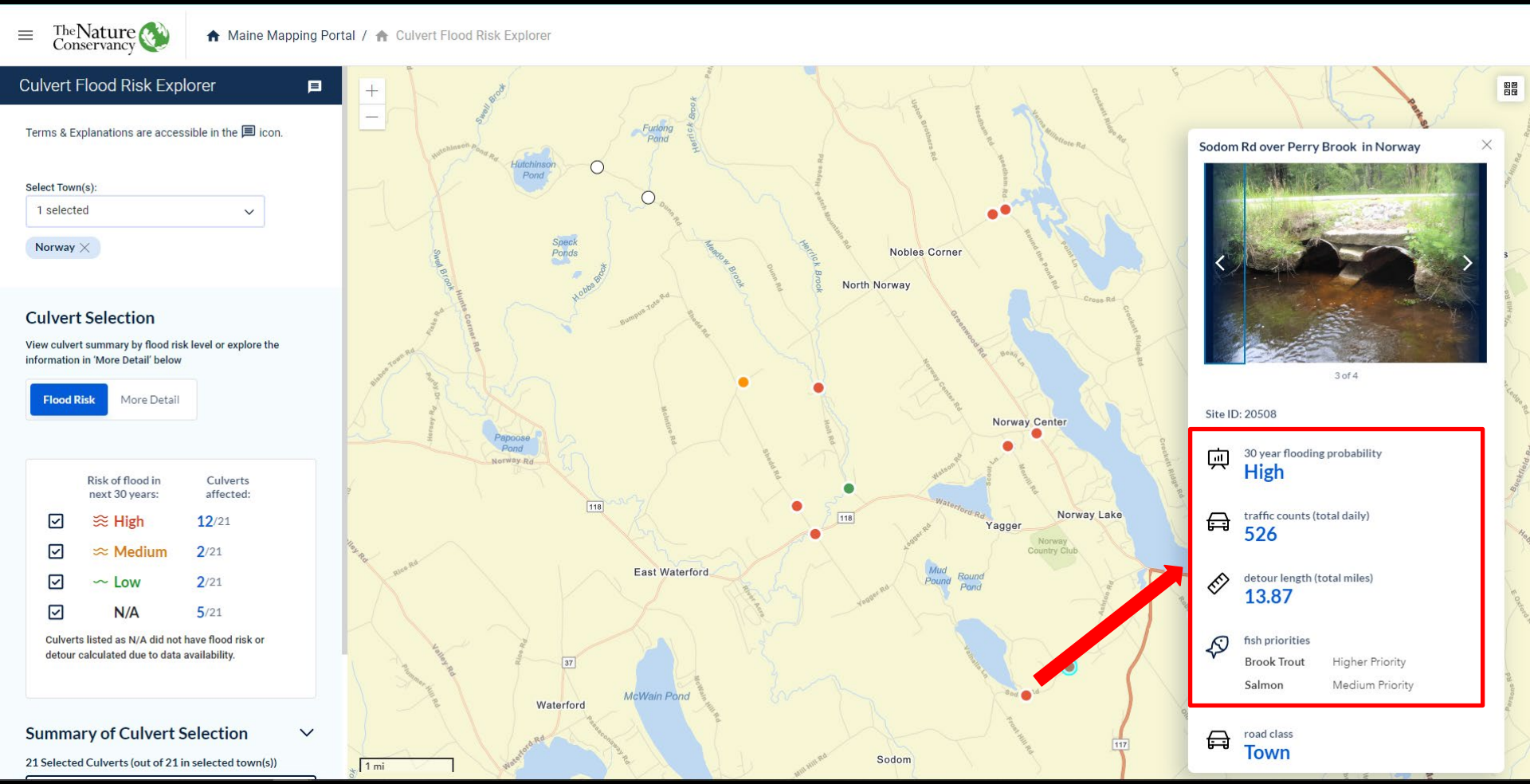
Elevation of road surface = 8 feet



Graphics by Nicole Keating, of Wayfinder Studio

Online Tools

TNC Flood Risk Explorer



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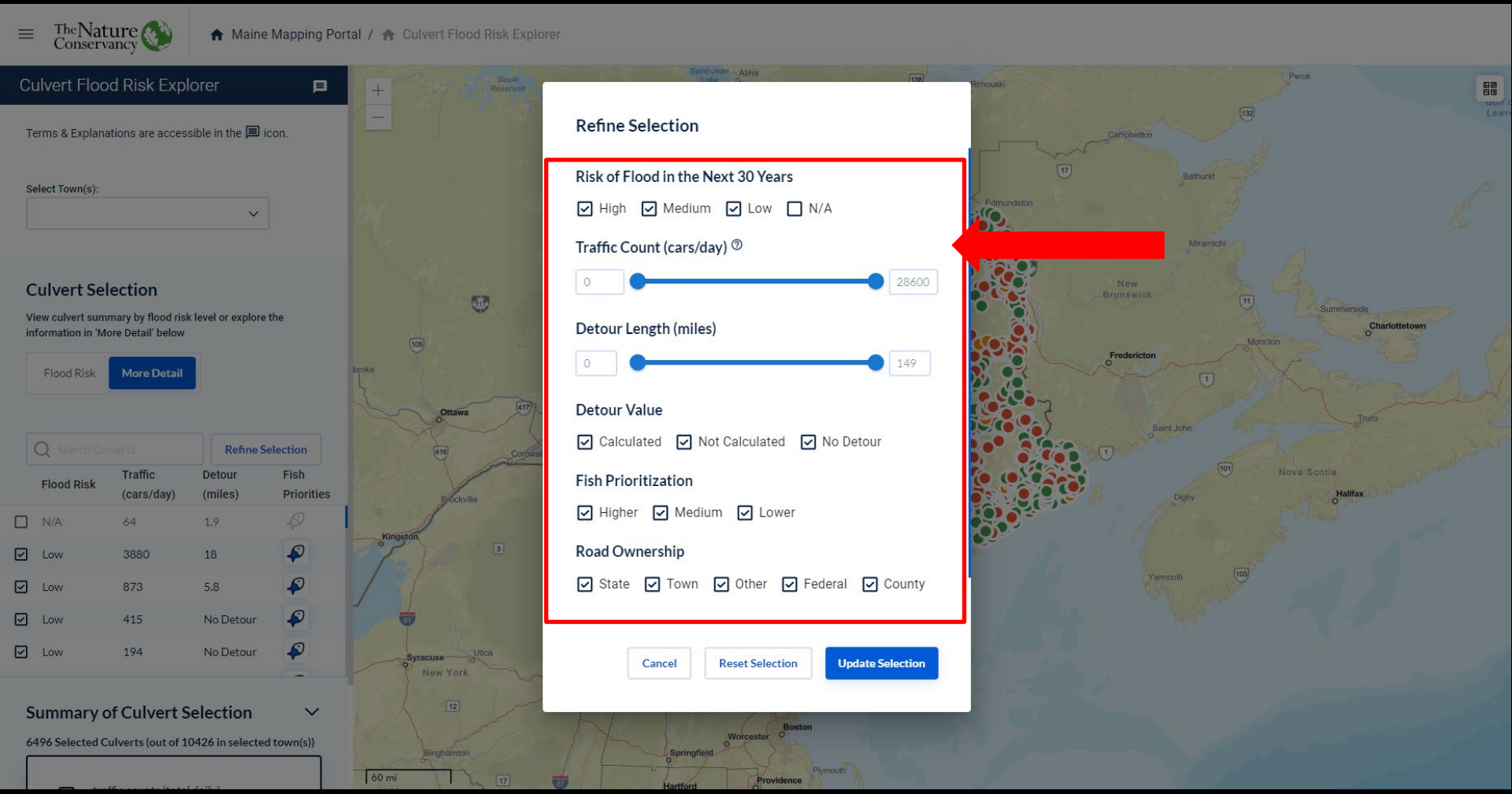

Data Update Form

STREAM CROSSING SURVEY - DATA UPDATE *

Site ID _____ **Installation Date** _____

Recorder Name _____ **Telephone / Email** _____

Town _____ **Organization** _____

Road _____ **Type** ☐ Paved ☐ Unpaved ☐ Driveway

Stream _____ **Digital Photos Taken** ☐ Inlet ☐ Outlet ☐ Other

GPS Coordinates - Lat/Lon [WGS84] ☐☐.☐☐☐☐☐ ° (N) - ☐☐.☐☐☐☐☐ ° (W)

If the crossing already has a SiteID, GPS coordinates are optional and used only to confirm correct site location.

Basic Structure Type ☐ Bridge ☐ Culvert ☐ Multiple Culverts # ____ ☐ Ford ☐ Removed Structure

Material ☐ Metal ☐ Concrete ☐ Plastic ☐ Wood ☐ Stone ☐ Other _____

Specific Structure Type: ☐ Round ☐ Pipe Arch/Ellipse ☐ Bottomless Arch ☐ Box Culvert (with bottom)

☐ Box/Bridge w/Vertical Abutments ☐ Bridge w/Sloped Sides ☐ Bridge w/Sloped Sides & Abutments

Inlet Water Depth _____ft

Outlet Condition Pick One ☐ At Stream Grade ☐ Free Fall ☐ Cascade

Outlet Span _____ ft **B) Outlet Clearance** _____ ft

Outlet Water Depth _____ ft **Outlet Drop** _____ ft (if any; vertical drop to water surface)

Crossing Structure Length _____ ft (along stream)

Crossing Substrate ☐ None ☐ Comparable to Stream Bottom AND Throughout Structure? ☐ Yes ☐ No

Sliplined Culvert ☐ Yes ☐ No (Usually plastic pipe inserted into failing pipe with space between filled with grout.)

Comments:

* Data from this form will update the Maine Barrier Database, particularly when replacing (or removing) stream crossings. Call Alex Abbott with questions about this form at 207-415-1472, or send email to AlexOAbbott@hotmail.com, and also send digital photos to this address.

Please include any addtional relevant information not appearing to fit fillable form elements in the Comments section.

The crossing data is only good if it is kept up-to-date!


Remember! Restoration doesn't happen overnight
Crossing upgrades will be done over time.