



Update to BKTWG May 2024

Eastern Brook Trout Joint Venture



Eastern Brook Trout

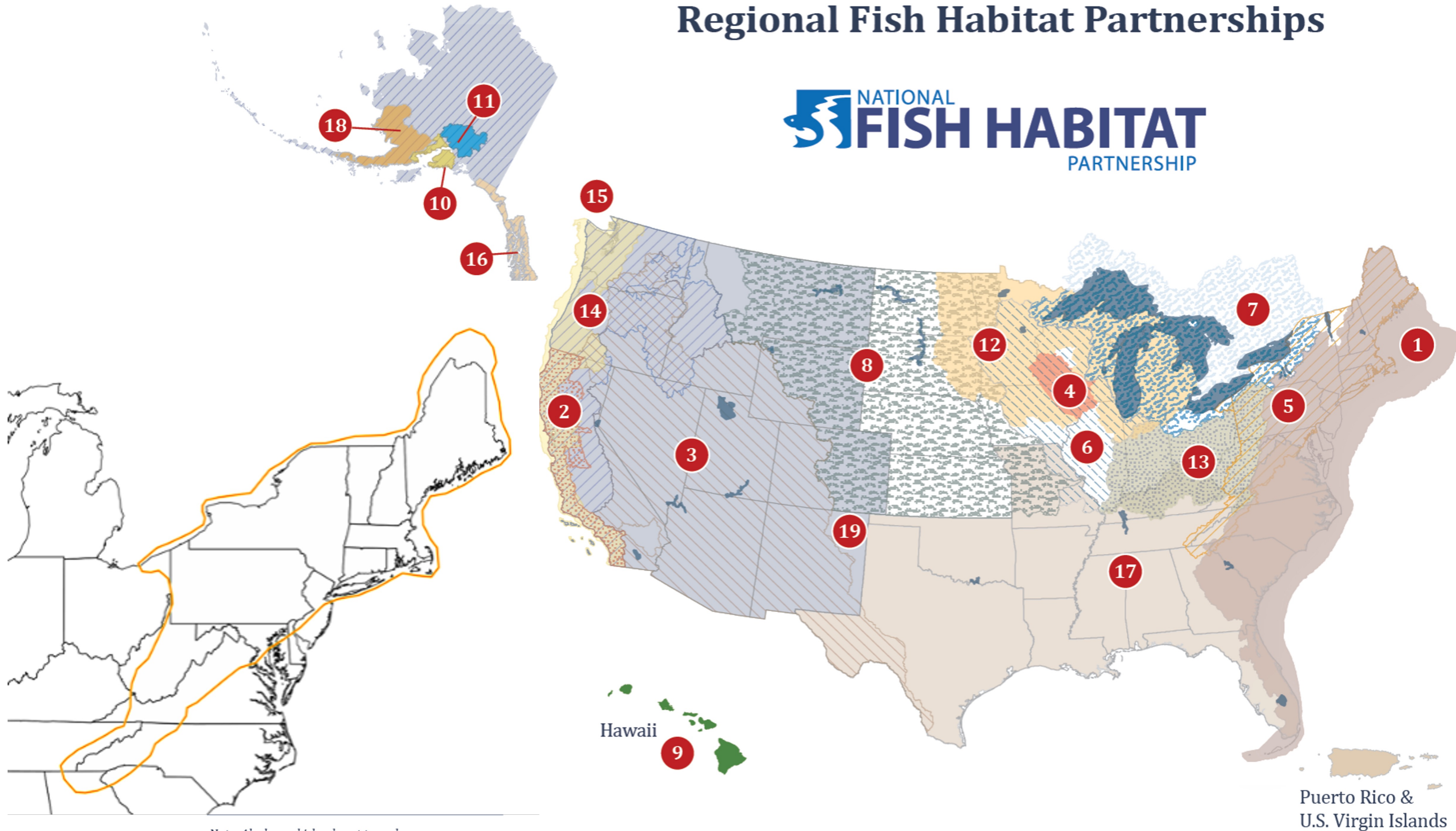
JOINT VENTURE

A Fish Habitat Partnership

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Regional Fish Habitat Partnerships



Note: Alaska and islands not to scale

Includes current fish habitat partnerships, approved by the NFHP Board, June 2016.

GIT Funded Project

Tracking the Brook Trout Outcome

Project Goals:

- 1) Identify opportunities for cross-GIT collaborations with other Ches. Bay Program teams
- 2) Strengthen communication and coordination with other stakeholders
- 3) Collect and compile existing data from stakeholders and analyze monitoring and implementation data necessary to adequately track progress
- 4) Work with Ches. Bay Program EPA Data Center Team to develop a tracking/reporting application. (Habitat Tracker – Habitat Workgroup)



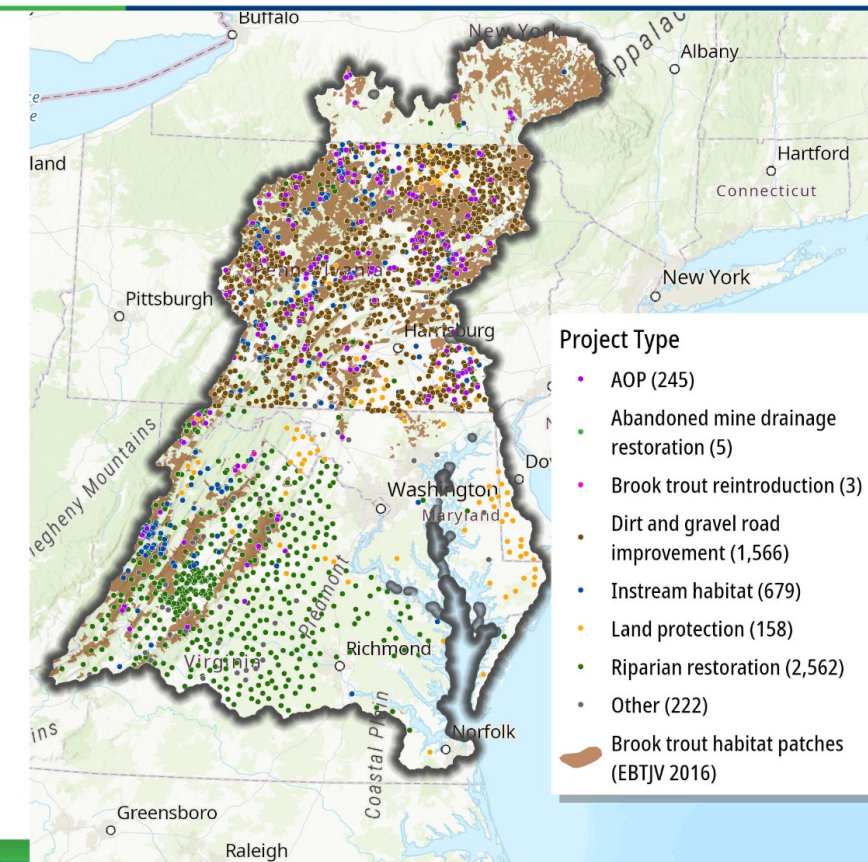
GIT Funded Project: Status/next steps

- Awaiting final data; will run analyses in June.
- Data updates for brook trout occupancy to EBTJV portal were more time consuming than expected
- May need to use provisional data from some drainages
- Will be important to understand caveats to the EBTJV data, including the baseline from 2016
- Create process for future updates



Chesapeake Bay Project Map

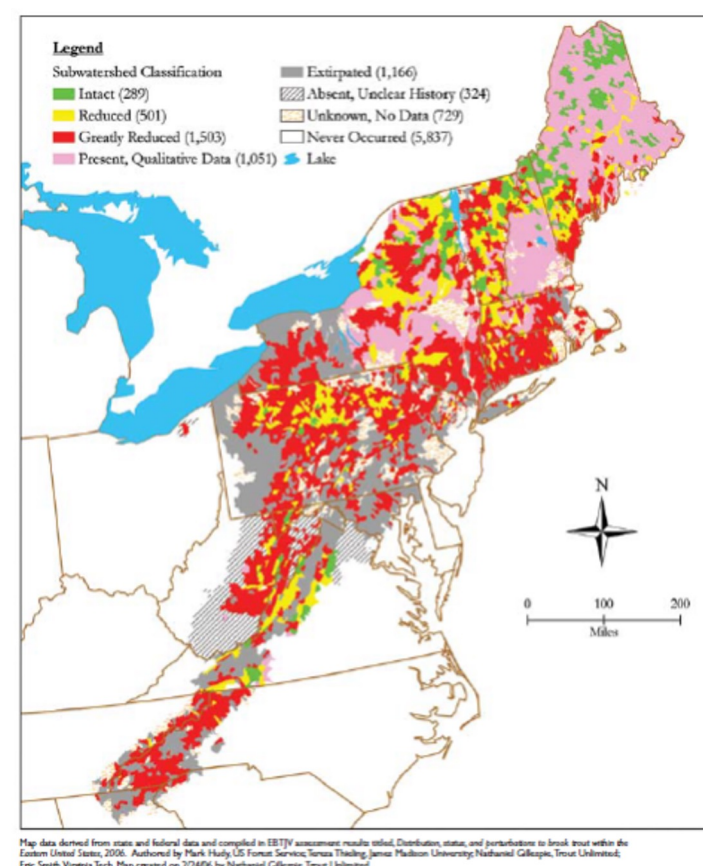
- Outreach to 102 stakeholders within Chesapeake Bay
 - Federal, State, Local, NGOs
- Specific on-the-ground project type and location and other relevant metrics based on project type
- Projects completed between 2016 and 2022



Total # of Projects Reported: **5,440**



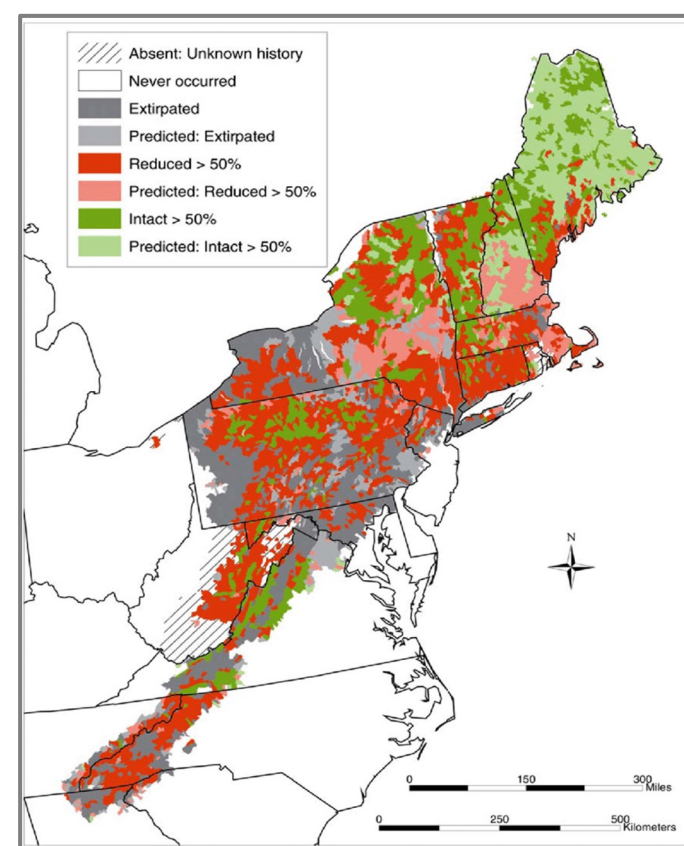
EBTJV's Brook Trout Assessment



2006

**Eastern Rangewide
Status Assessment**

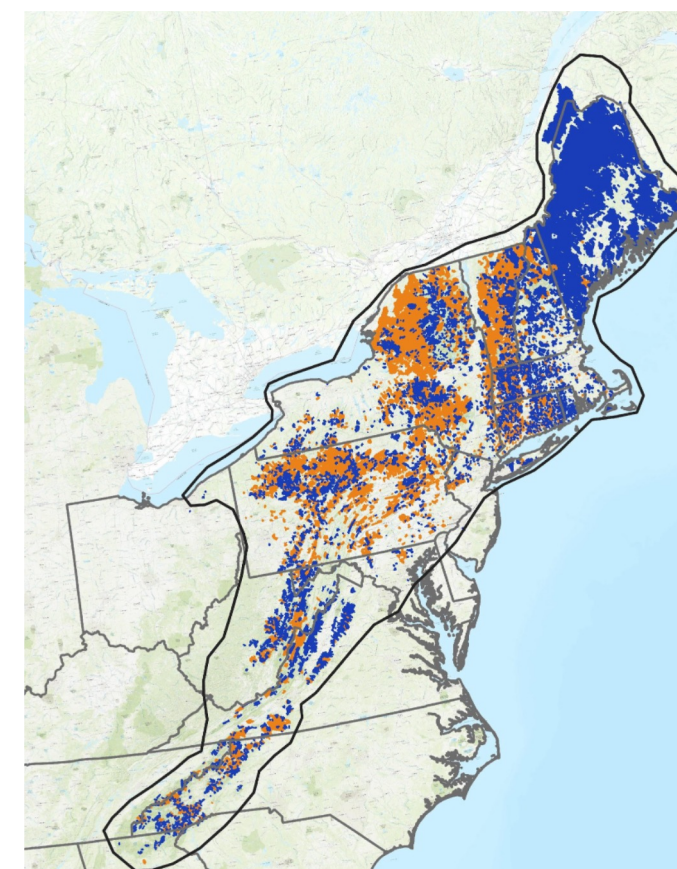
Subwatershed (12-digit HUC)



2008

**Predicted Rangewide
Status Assessment**

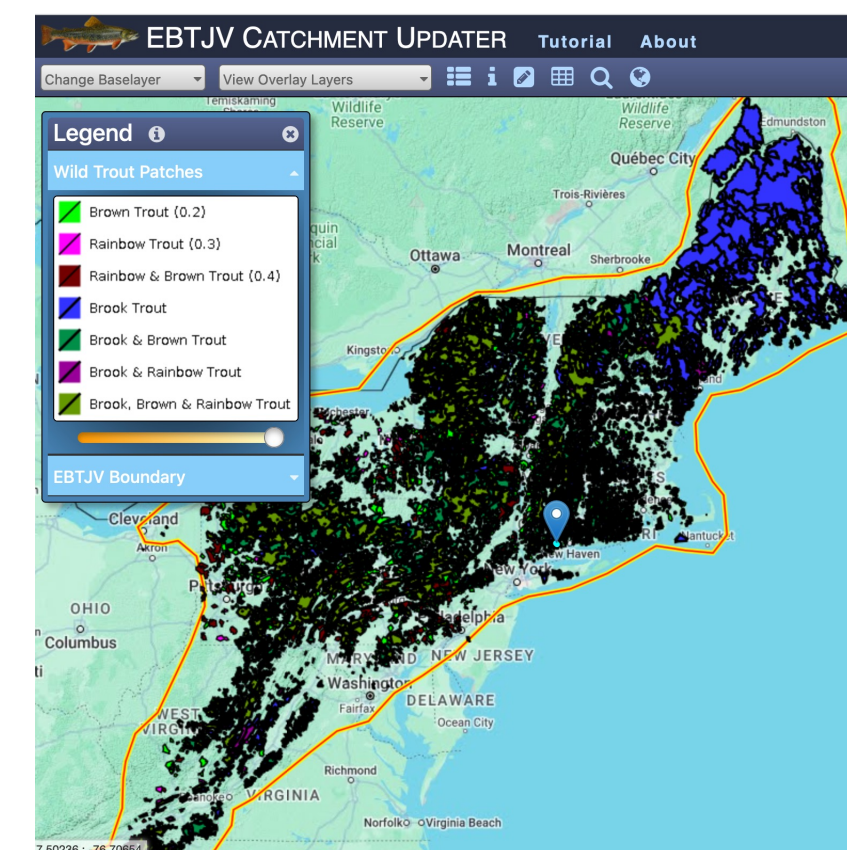
CART classifications trees



2015

**Rangewide
Status Assessment**

Catchment and patch scale



2024

**Rangewide
Status Assessment**

Catchment and patch scale,
Web-based application

Catchment Scale Assessment of Wild Brook Trout

2016 data and rule set

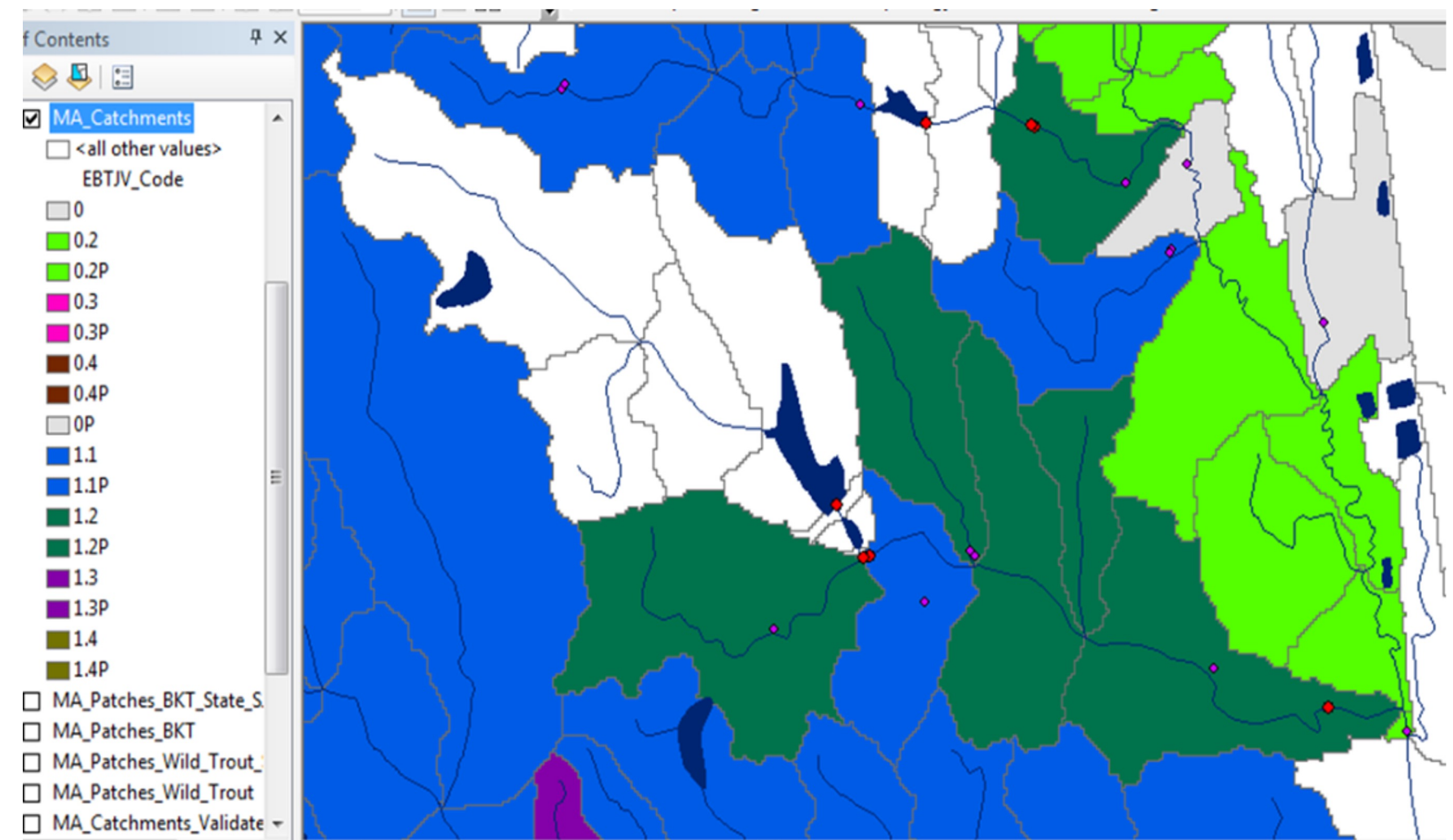
Allopatric Brook Trout (1.1)

Sympatric w/Brown Trout (1.2)

Sympatric w/Rainbow Trout (1.3)

Sympatric w/Brown Trout & Rainbow Trout (1.4)

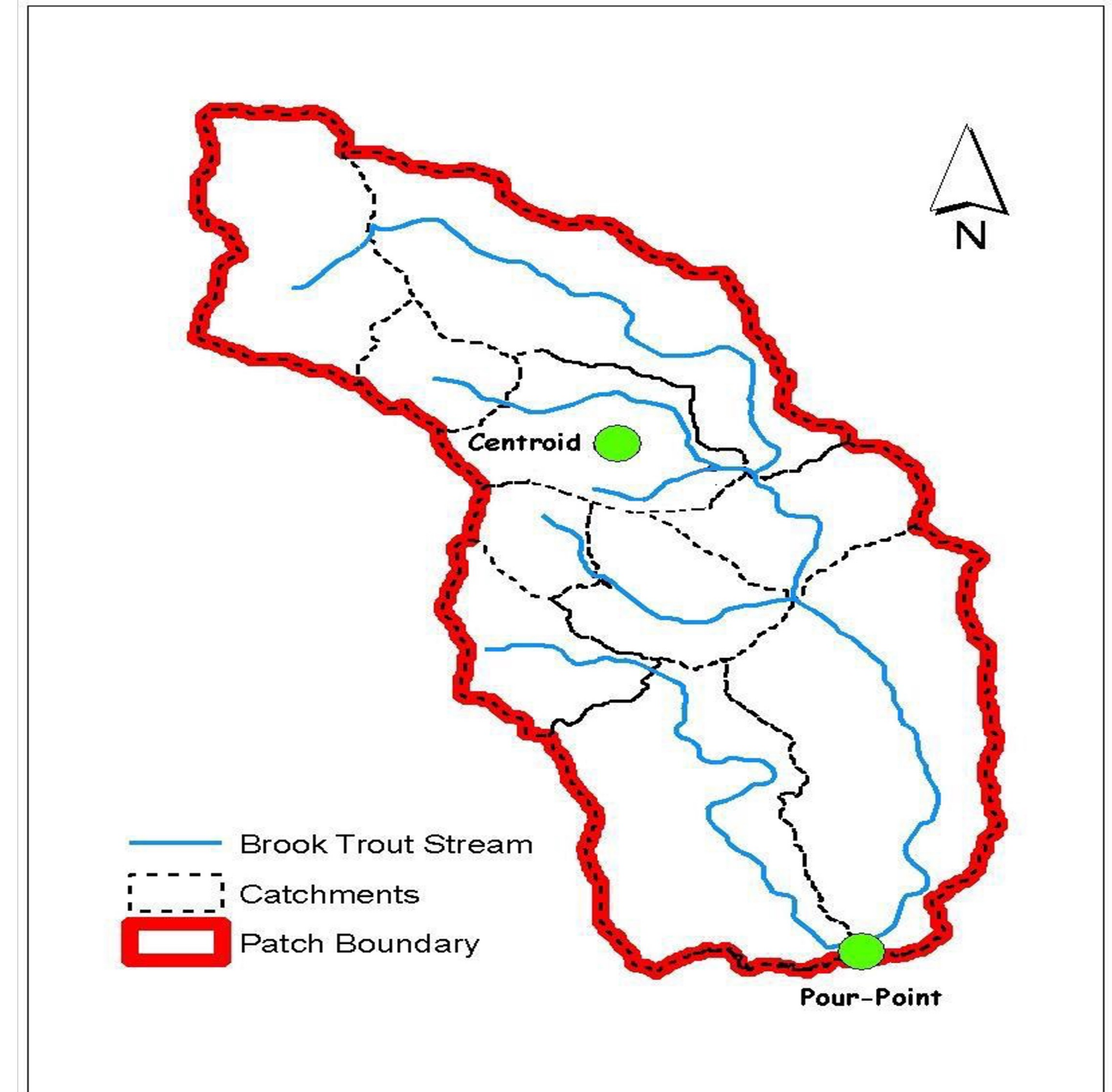
No wild Brook Trout Present (0, 0.2, 0.3, 0.4)



(Hudy et. al. 2013; Coombs and Nislow 2015)

Catchment Scale Assessment of Wild Brook Trout




- “Patch”= a group of contiguous catchments occupied by wild brook trout.
- Patches are not connected physically because of the presence of dams, warm water habitat, and/or invasive species.
- Patches are assumed to be genetically isolated populations.

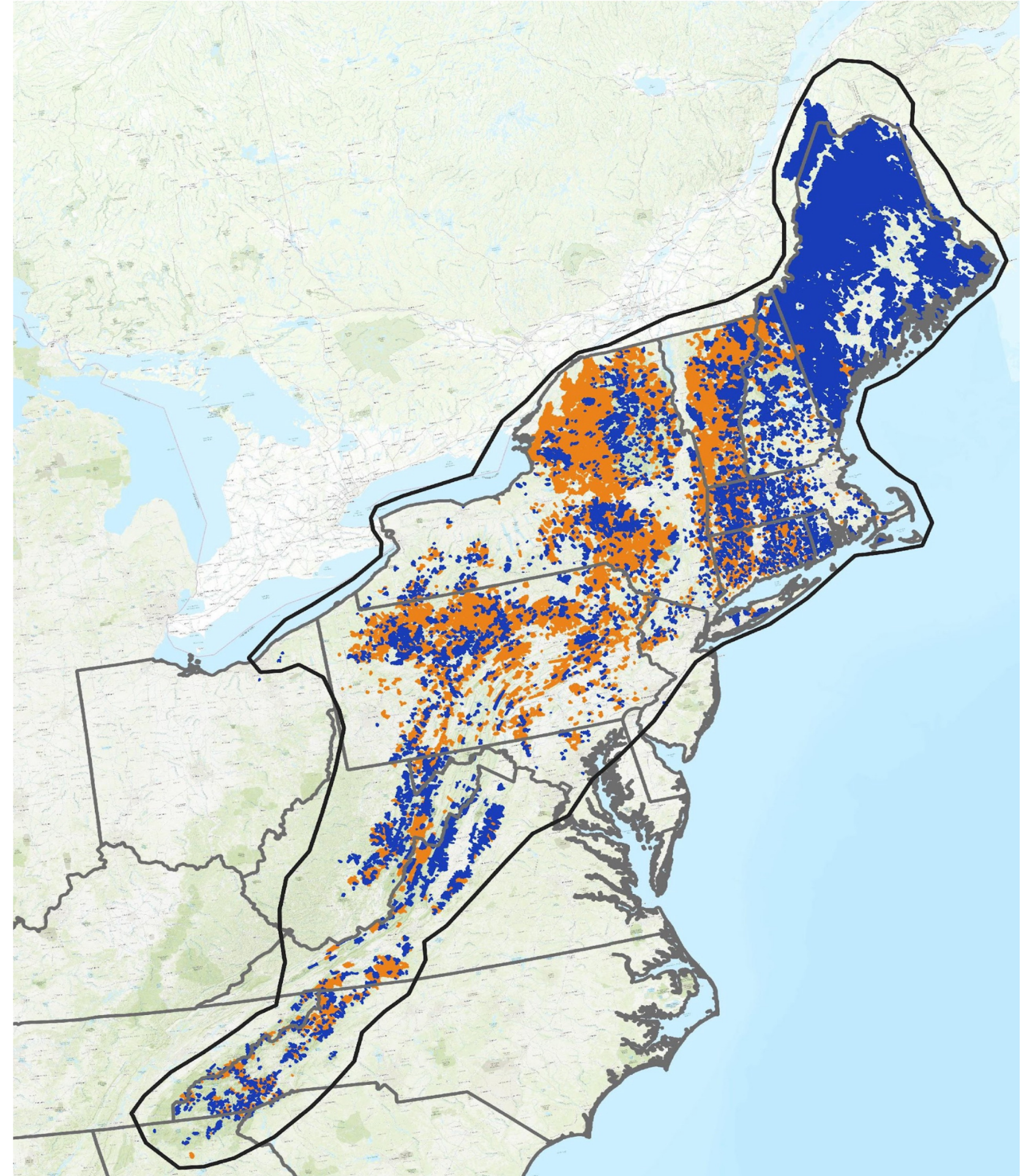


Catchment and Patch Level Analyses 2015

~10,000 patches

mean patch size 19 sq km

-  Patches with brook trout only
-  Patches with brook trout alongside rainbow trout and/or brown trout
-  Historic brook trout eastern US range



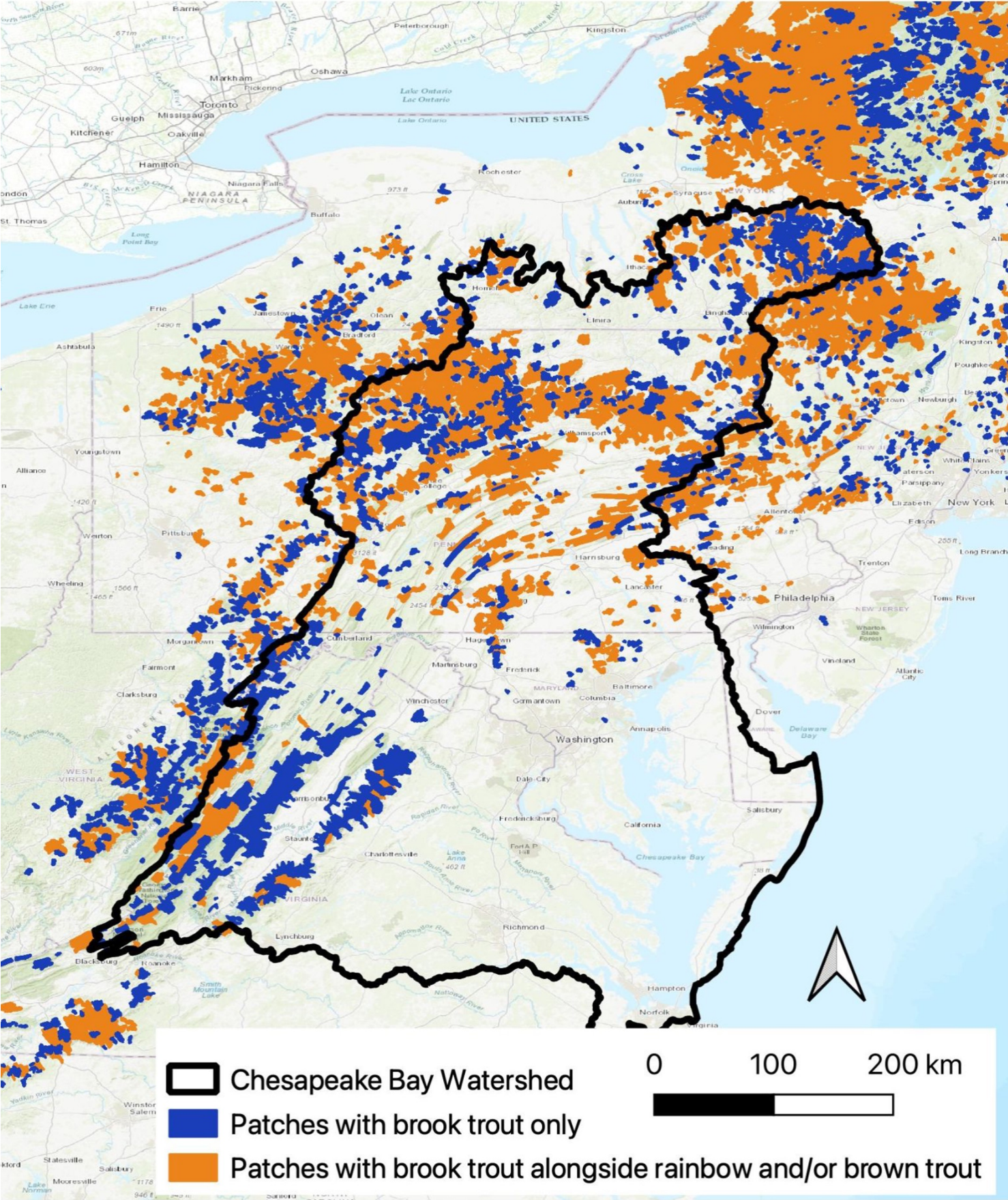
Catchment and Patch Level Analyses 2015



952 wild brook trout only patches
1552 wild brook trout patches

mean wild brook trout only patch size
14 sq km

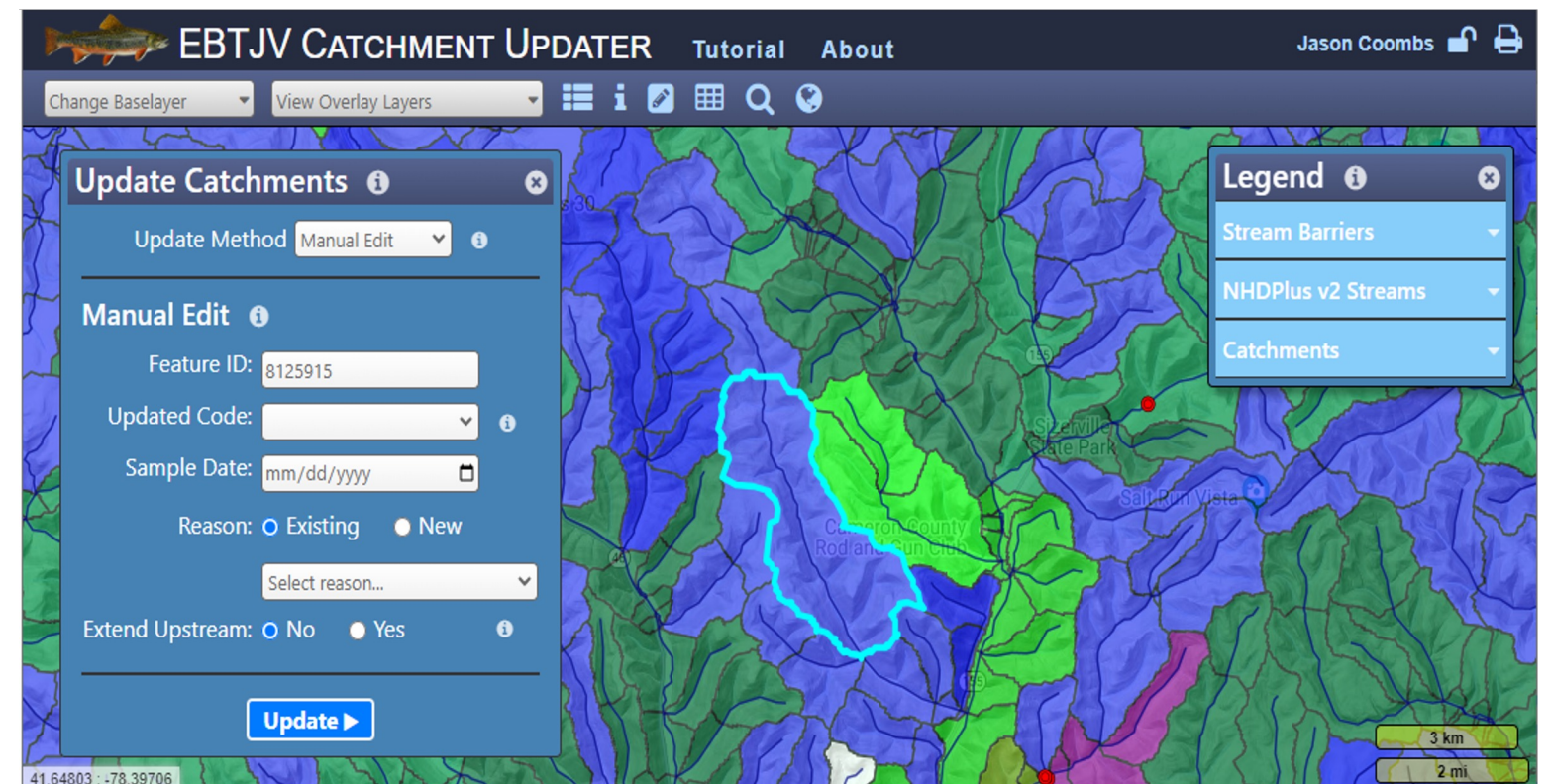
EBTJV wild brook trout patches, 2016 Chesapeake Bay Watershed



Updating the EBTJV Catchment Data

Working on an update right now, using an online portal.

- Eliminate ‘outsourcing’
- Give resource managers more control and ownership
- No specialized software required
- Flexibility in update timing
- (Annual timestamp going forward)



Updating the EBTJV Catchment Data

Methods

- Cloud resources
- Open Source Software
- Credential users
- Biologist expertise/ edits



Architect: Jason Coombs, Geneticist, US Fish and Wildlife Service, Lamar, PA

Updating the EBTJV Catchment Data

The screenshot shows the EBTJV Catchment Updater web application. The interface includes a top navigation bar with a fish icon, the title "EBTJV CATCHMENT UPDATER", and links for "Tutorial" and "About". The user "Jason Coombs" is logged in. Below the navigation bar are two dropdown menus: "Change Baselayer" and "View Overlay Layers". The main map area displays a topographic map with a catchment boundary highlighted in cyan. Two red dots on the map indicate sample locations. Three panels are overlaid on the map:

- Catchment Info**: A table showing attributes and values for the selected catchment.
- Legend**: A list of map layers and their corresponding colors/patterns.
- Identify**: A panel showing the names of the layers at the current map location.

The map also includes a scale bar (1 km / 3000 ft) and coordinates (41.09992, -77.38358).

Attribute	Value
Feature ID	8139208
EBTJV Code	1.2P
Sample Year	2011
State	Pennsylvania
Stream Order	1
Catchment Count	1
Dam Present	Yes
Sample Location	Below
Sample Distance (m)	0
Area (km ²)	0.8856
Cumulative Length (km)	1.605
Sample OID	6881
Comments	2011 = 0P;

Legend

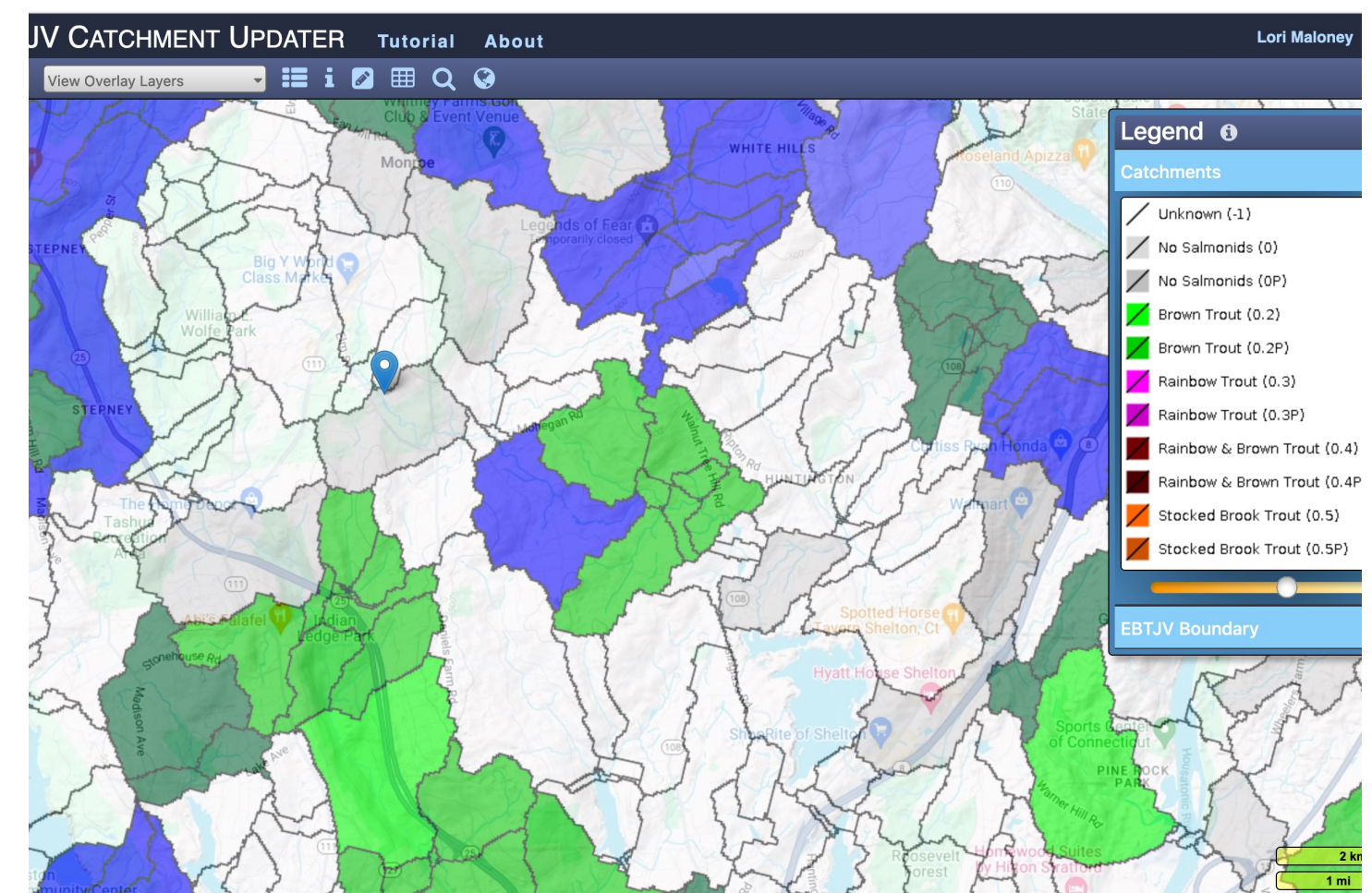
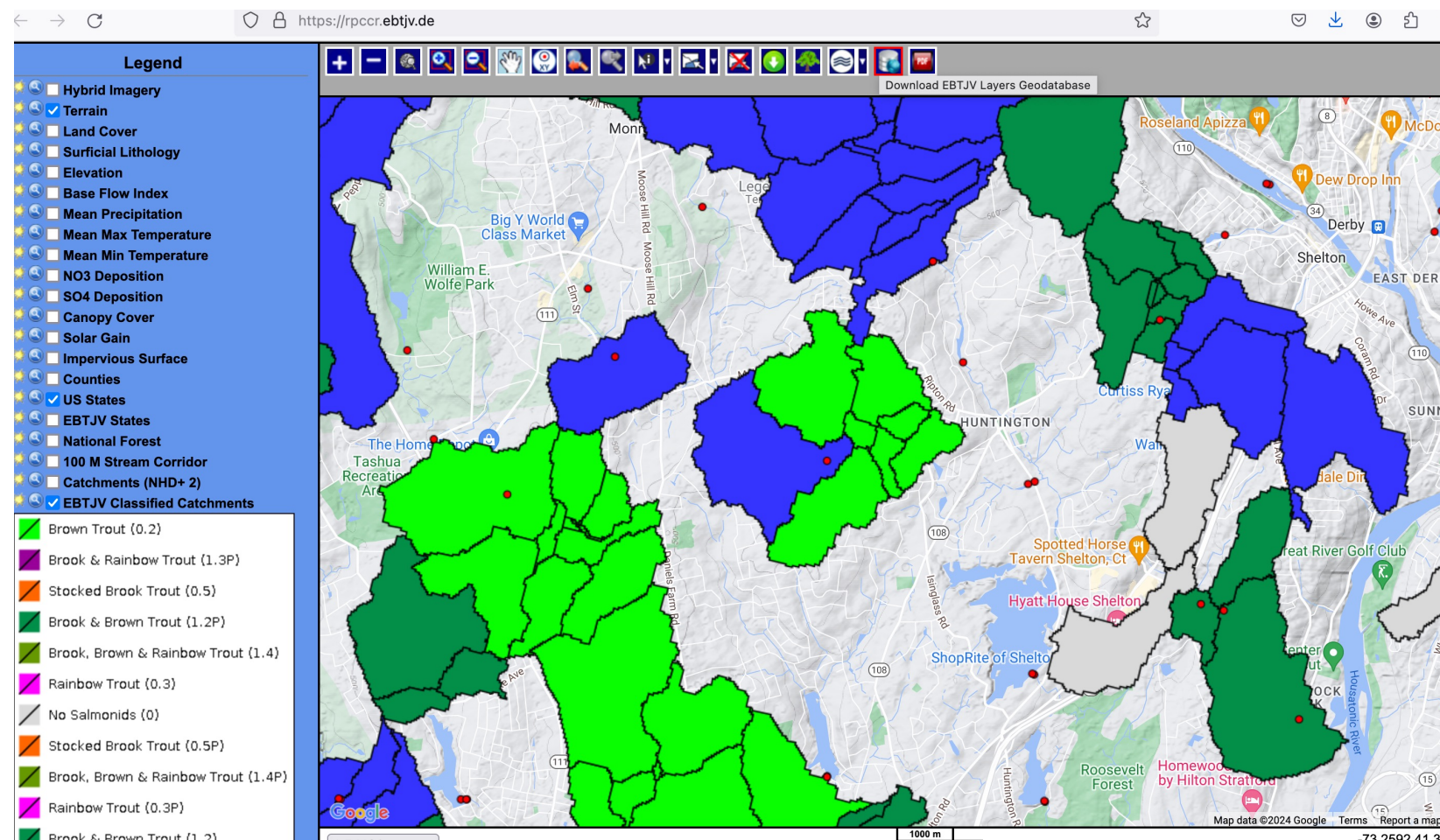
- Stream Barriers
- NHDPlus v2 Streams
- Catchments
 - Unknown (-1)
 - No Salmonids (0)
 - No Salmonids (0P)
 - Brown Trout (0.2)
 - Brown Trout (0.2P)
 - Rainbow Trout (0.3)
 - Rainbow Trout (0.3P)
 - Rainbow & Brown Trout (0.4)
 - Rainbow & Brown Trout (0.4P)
 - Stocked Brook Trout (0.5)
 - Stocked Brook Trout (0.5P)

Identify

Stream Barriers: HARVEYS
NHDPlus v2 Streams: West Kammerdiner Run
Catchments: 8139208

EBTJV Catchment Data - What analyses are possible?

- 2016 vs. 2023 catchment and patch metrics
- Progress towards numeric goals for occupancy
- Summaries by state or broader region



EBTJV Catchment Data - What analyses are possible?

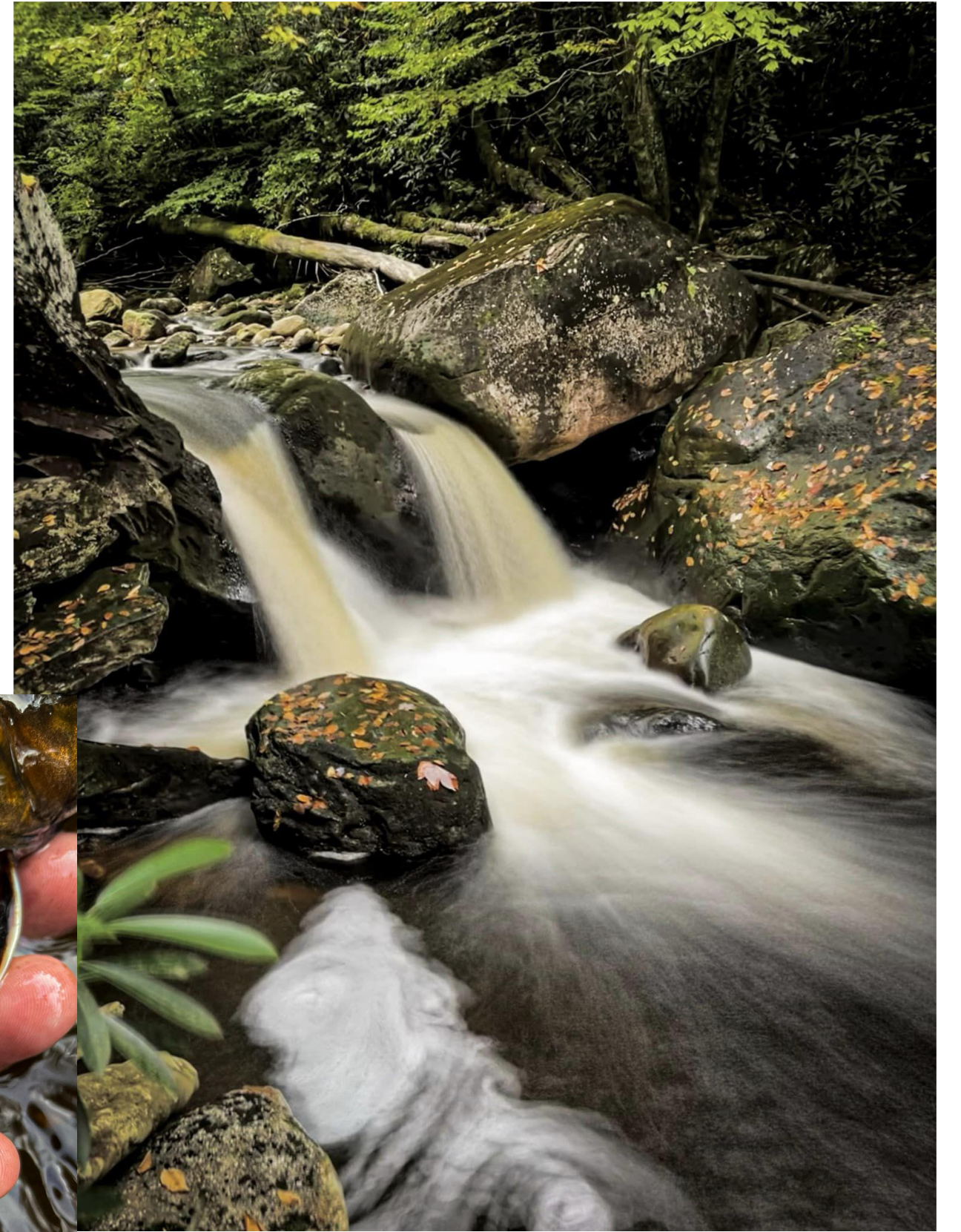
Future:

- Address the 'why' - explain the changes we see
- Layer other habitat data such as landuse or temperature
- Compare occupancy with abundance data
- Reflect on multi-state collaboration and conservation efforts. Can we assemble data on projects done 'for brook trout' at the catchment scale?



Blue Lick Run Tributary Avilton, MD. Trout Unlimited

Brook trout as a priority species

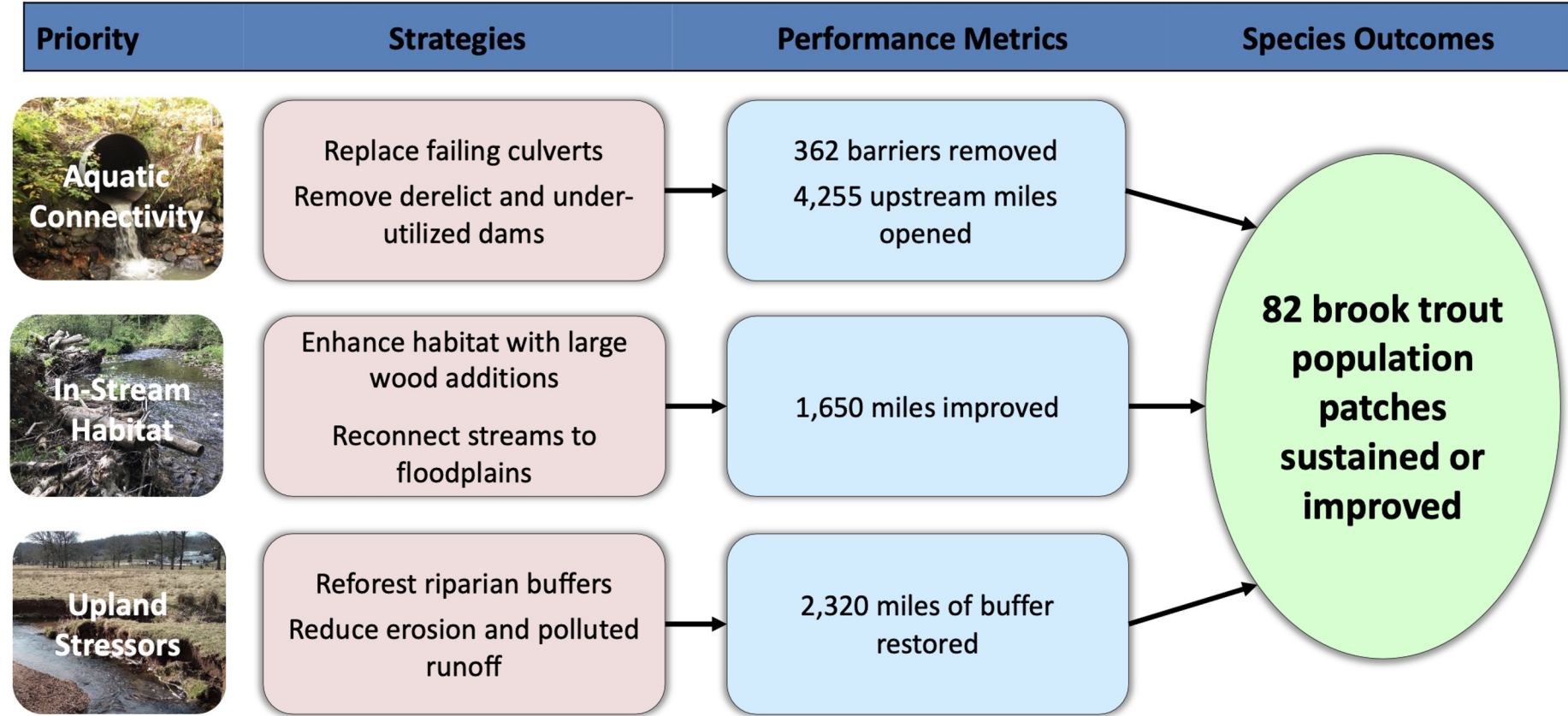


Brook trout as a priority species

A History of NFWF's Focus on Brook Trout



Combined Business Plan Strategies and Outcomes



Brook trout as a priority species



NFPP BIL FY2022 and FY2023

Funding for Brook Trout



NFPP BIL funded **9 projects** across **6 states** that either directly or indirectly benefitted Brook Trout.

Brook Trout was the target species for 5 of the 9 projects funded.

Total amount awarded was **\$8,417,650**, which leveraged **\$8,617,281** in partner funding.

When completed, these projects will reopen **568 stream miles**, restore **330 acres** of habitat by removing over **38 instream barriers**.



COLLABORATION

**Great Smoky Mountains
National Park**

US Forest Service

US Geological Survey

US Fish and Wildlife Service

Connecticut DEEP

**Eastern Band of Cherokee
Indians**

Georgia DNR

Massachusetts DFW

Maine IFW

Maryland DNR

New Jersey DEP DFW

New York DEC

New Hampshire F&G

North Carolina WRC

Ohio DNR

Pennsylvania FBC

Rhode Island DEM

South Carolina DNR

Tennessee WRA

Vermont FWD

Virginia DWR

West Virginia DNR

Trout Unlimited

Sea Run Brook Trout

Coalition

