10-2010

Status of the Ohio River Basin Fish Habitat Partnership

Nate Caswell
US Fish and Wildlife Service

Nate Caswell is a Fish Biologist at the USFWS Carterville Fish and Wildlife Conservation Office. Nate oversees the station's efforts with the National Fish Passage Program, and handles project administration for the Ohio River Basin Fish Habitat Partnership.

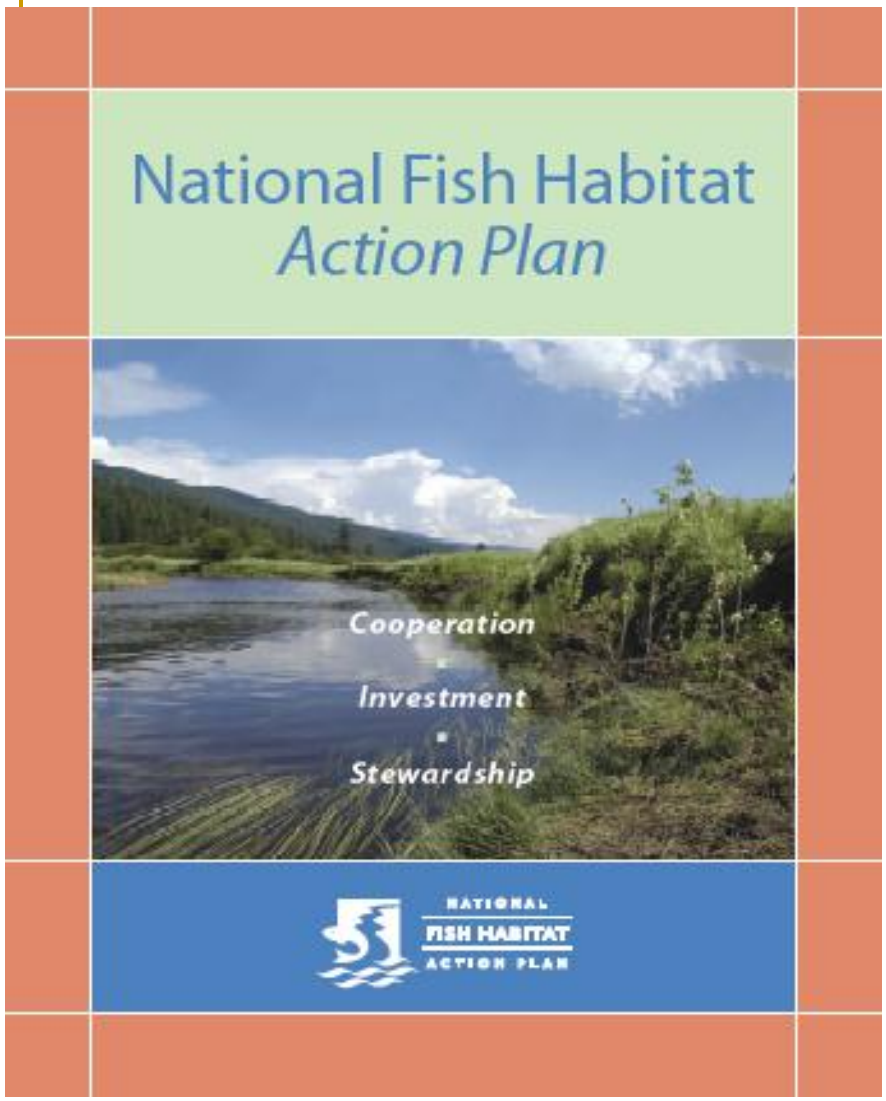
Ohio River Basin Fish Habitat Partnership

Rob Simmonds, Project Leader, USFWS, Carterville Fish and Wildlife Conservation Office

and

Coordinator for the Ohio River Basin FHP

Et al.



Forged to …

- Protect
- Restore
- Enhance

… fish habitat through partnerships

Fish Habitat Partnerships

March 2010

NATIONAL FISH HABITAT ACTION PLAN

Pacific Marine and Estuarine Partnership

North American Salmon Stronghold Partnership

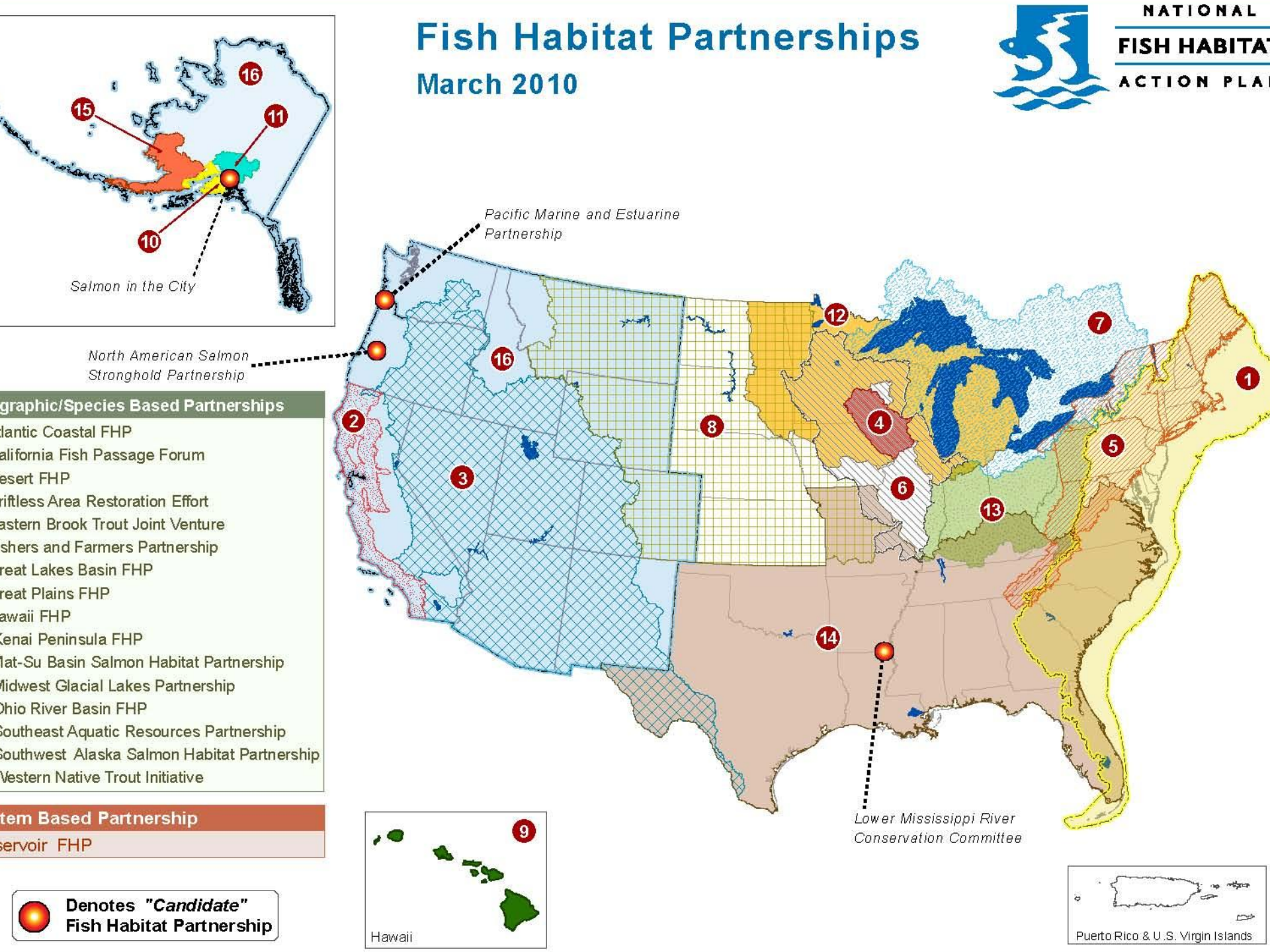
graphic/Species Based Partnerships

- lantic Coastal FHP
- alifornia Fish Passage Forum
- esert FHP
- iftless Area Restoration Effort
- astern Brook Trout Joint Venture
- shers and Farmers Partnership
- reat Lakes Basin FHP
- reat Plains FHP
- awaii FHP
- enai Peninsula FHP
- lat-Su Basin Salmon Habitat Partnership
- lidwest Glacial Lakes Partnership
- hio River Basin FHP
- outheast Aquatic Resources Partnership
- outhwest Alaska Salmon Habitat Partnership
- Western Native Trout Initiative

tem Based Partnership

- servoir FHP

Denotes *"Candidate"* Fish Habitat Partnership



The Funding Faces of NFHAP

NFHAP Legislation

- Includes Grant Program
- Driven by Partnerships

USFWS Funding

- FY06 ~ $1 million
- FY07 ~ $3 million
- FY08 ~ $5 million
- FY09 ~ $5 million
- FY10 ~ $7 million*

Reprogramming/Refocusing of Federal/State Funding

- USFWS, NOAA, USGS, EPA, OSM, USDA, DOT, USACE

Private Donors

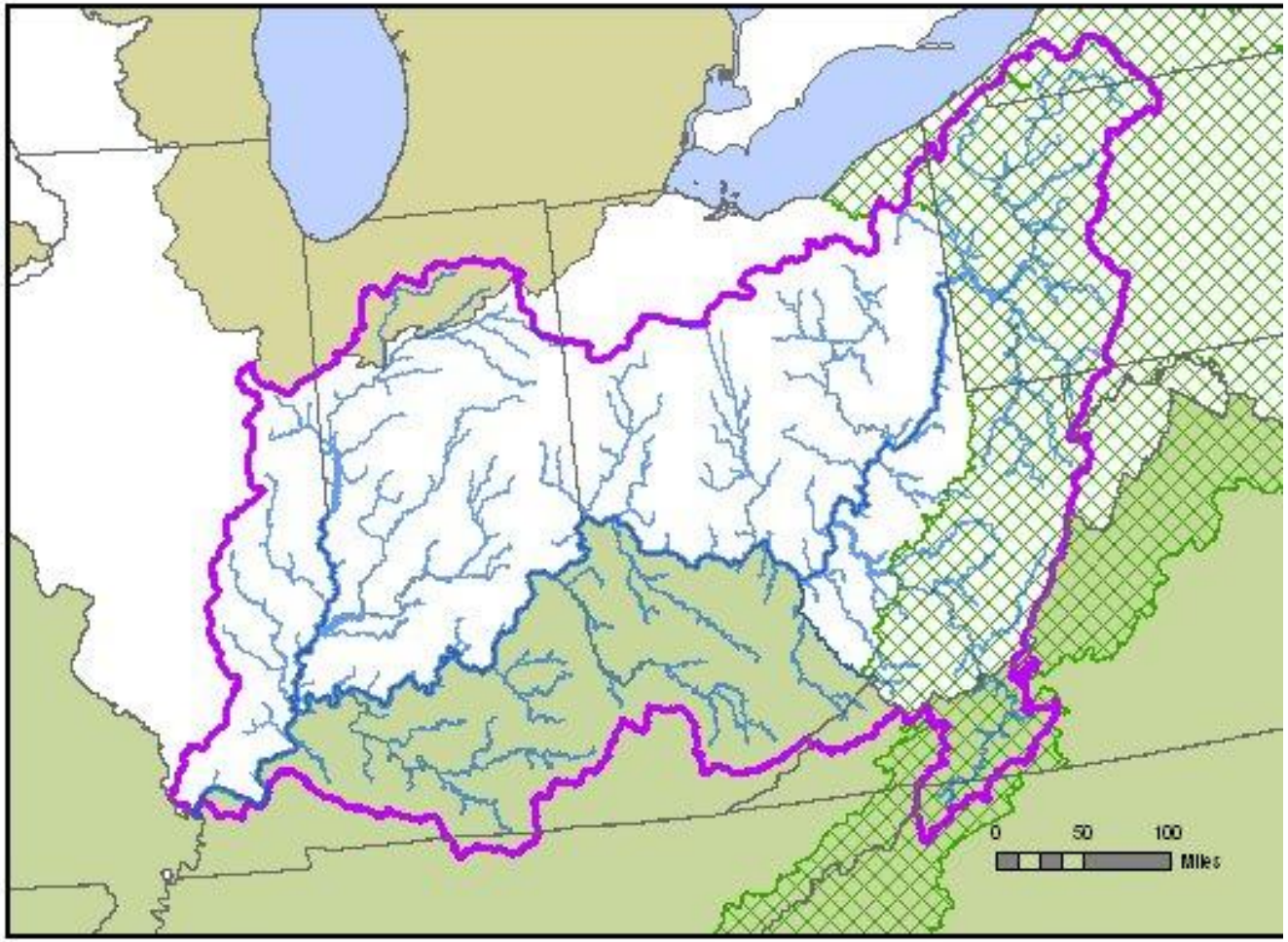
*Includes $2 million in one time climate change funding

Mission

The Ohio River Basin Fish Habitat Partnership focuses **protection**, **restoration**, and **enhancement** efforts on **priority habitat for fish and mussels** in the watersheds of the **Ohio River Basin** for the benefit of the **public**.

Ohio River Basin Fish Habitat Partnership

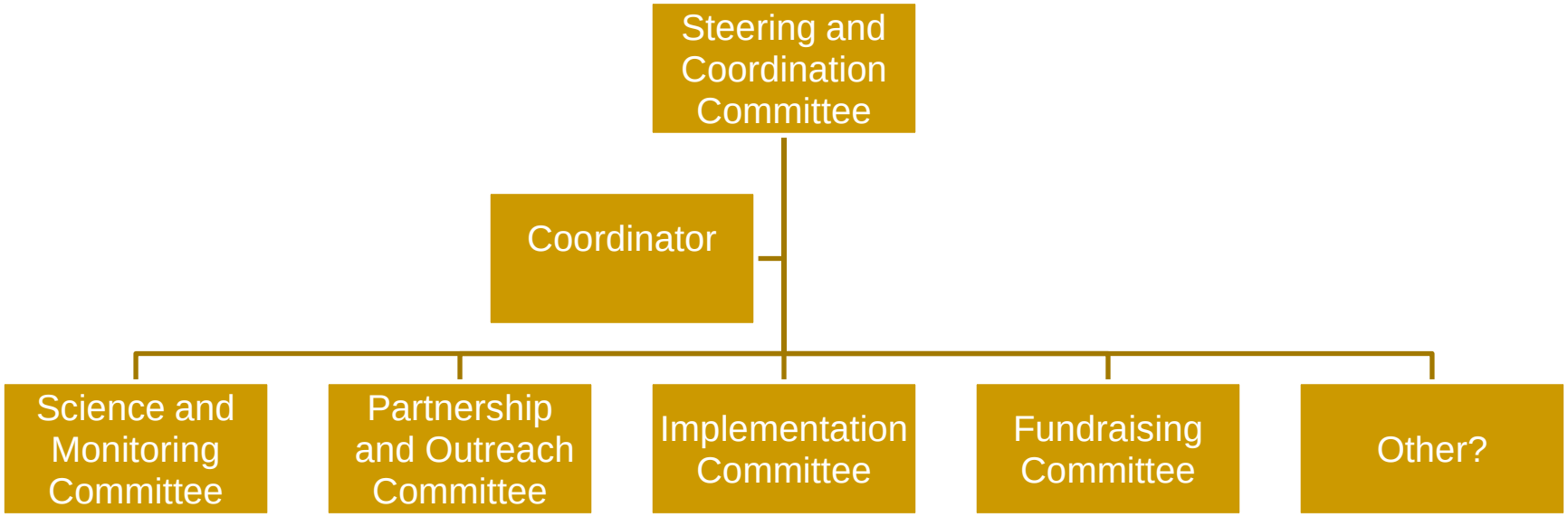
Existing Fish Habitat Partnerships
Regional



Legend

- Ohio River Basin FHP
- Eastern Brook Trout Joint Venture
- Midwest Glacial Lakes
- Southeast Aquatic Resources

Governance


Steering and Coordination Committee
Coordinator
Science and Monitoring Committee
Partnership and Outreach Committee
Implementation Committee
Fundraising Committee
Other?

Steering and Coordination Committee

- Illinois Division of Fisheries
- Indiana Division of Fish and Wildlife
- Kentucky Department of Fish and Wildlife Resources
- Ohio Division of Wildlife
- Pennsylvania Fish and Boat Commission
- West Virginia Division of Natural Resources
- Other states in the basin would have a seat available upon request
  - Maryland Fisheries Service
  - New York Department of Environmental Conservation; Division of Fish, Wildlife and Marine Resources
  - Virginia Department of Game and Inland Fisheries
- NRCS
- USACE
- USEPA
- USFS
- USFWS
- USGS
- ORSANCO
- TNC
- At large seats for the following groups **to rotate every 2 years.**
  - 1 seat for a large environmental NGO (e.g., Sierra Club, Audubon, AFS)
  - 2 seats for universities
  - 2 seats for environmental user businesses (e.g., Bass Pro, Dicks)
  - 2 seats for industries (e.g., utilities, barge companies)
  - 2 seats for environmental user groups (e.g., TU, bass clubs)
  - 2 seats for local/regional government
  - 1 seat for local watershed group or watershed coalition

Right Actions – Habitat Strategies

- Strategy 1 – Identify and protect intact and healthy waters.
- Strategy 2- Restore natural variability in river and stream flows and water surface elevations in natural lakes and reservoirs.
- Strategy 3 – Reconnect fragmented river, stream, reservoir, coastal, and lake habitats to allow access to historic spawning, nursery and rearing grounds.
- Strategy 4 – Reduce and maintain sedimentation, phosphorus and nitrogen runoff to river, stream, reservoir, coastal, and lake habitats to a level within 25% of the expected natural variance in these factors or above numeric State Water Quality Criteria.
- Strategy 5- Reduce other key pollutants or degrading environmental conditions (acid drainage, heavy metals, altered temperatures, or oxygen levels) in 500 miles of degraded priority stream habitat to a level within 25% of natural rates or above numeric Stream Water Quality criteria by 2020.
- Strategy 6- Reduce the potential for invasive species impact through prevention and control measures at the basin-level and within priority systems.

Right Places

NFHAP Funded Projects

- Strategic Plan - Work with TNC to develop a strategic plan. Recently completed version 4 of draft plan.
- Big Darby Creek (OH) - "ARRA Project" to work provide partial funding to relocate Columbia Gas pipeine as part of a larger stream restoration project that addressed several of our draft strategies.
- Eel River Fish Passage (IN) - Remove North Manchester and Liberty Mills dams, reopening ~190 miles of mainstem and tributary streams in the Eel River watershed in north-central Indiana.
- West Milton Dam Feasibility Study (OH) - Complete feasibility study for removal of West Milton Dam on the Stillwater River.
- Remote Sensing Survey of Aquatic Weeds - using high temporal resolution satellite imagery to detect submerged aquatic invasive plants in the Ohio River.

Midwest FHP Projects

- NFWF “More Fish” for Strategic Planning - Grant funded collaboration among 5 FHPs in the Midwest for partnership building and to develop conservation strategies.
- MSCG Assessment - Grant funded collaboration among 6 FHPs in the Midwest for creation of Science Advisory Network (SAN), completion of basinwide assessments (similar to EBTJV) for each FHP, and development of an interactive project and priority website
- MSCG Assessment Outreach - Applied for grant funded collaboration among 6 Midwest FHPs to develop outreach materials related to our assessment.

Priority Areas

Midwest FHP Habitat Assessments

- FHPs have submitted inputs
- DS broke datasets into 2 major groups - Predictor Variables & Response Variables
  - Primarily using landscape scale attributes to predict the response of the biological datasets at the stream segment/catchment level.
    - Natural (elevation, drainage area, geology, etc)
    - Anthropogenic (land use, NPDES, etc)
  - Will allow FHPs to determine habitat condition of individual catchments, which can be aggregated however they choose, such as to the HUC 12, or HUC 8 levels.

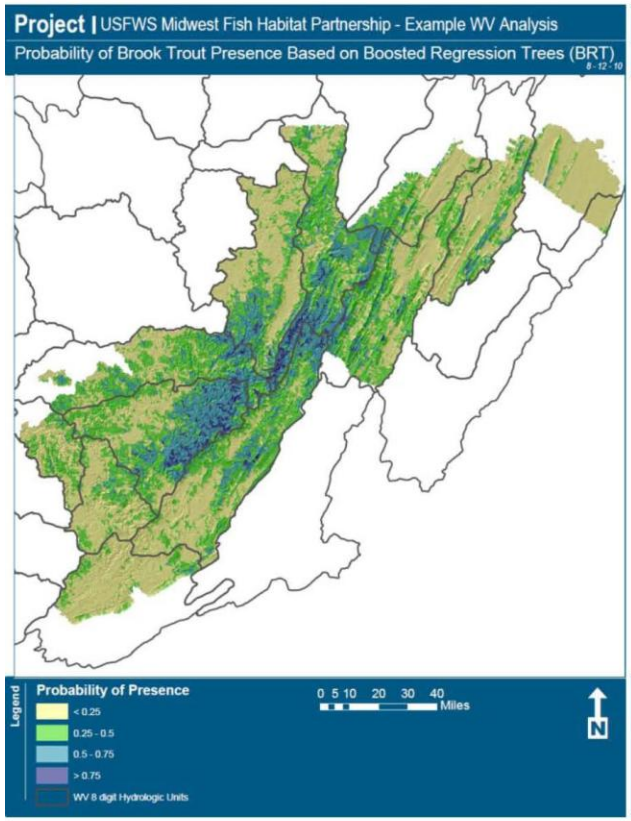
Priority Areas

Midwest FHP Habitat Assessments - continued

- Proposed modeling endpoints of the whole process are going to be 3 separate tools that FHPs can use to visualize condition at whatever scale we choose.
- The overall product will allow us to determine where our response variable(s) of interest performs best any given scale.
- At that same scale, we will be able to separate the effects of the natural habitat conditions from the anthropogenic stressors felt by the given response variable.

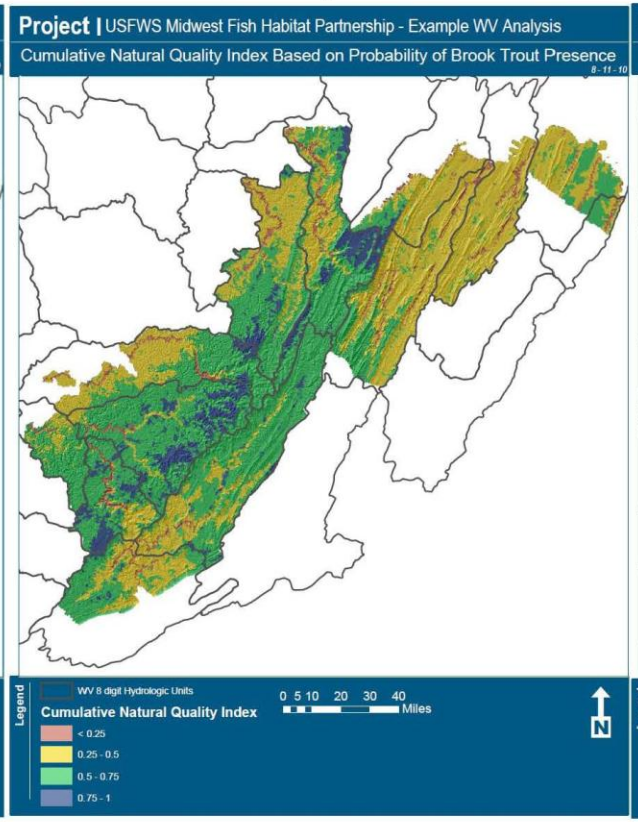
Visualizing Conditions

Probability of Brook Trout Presence



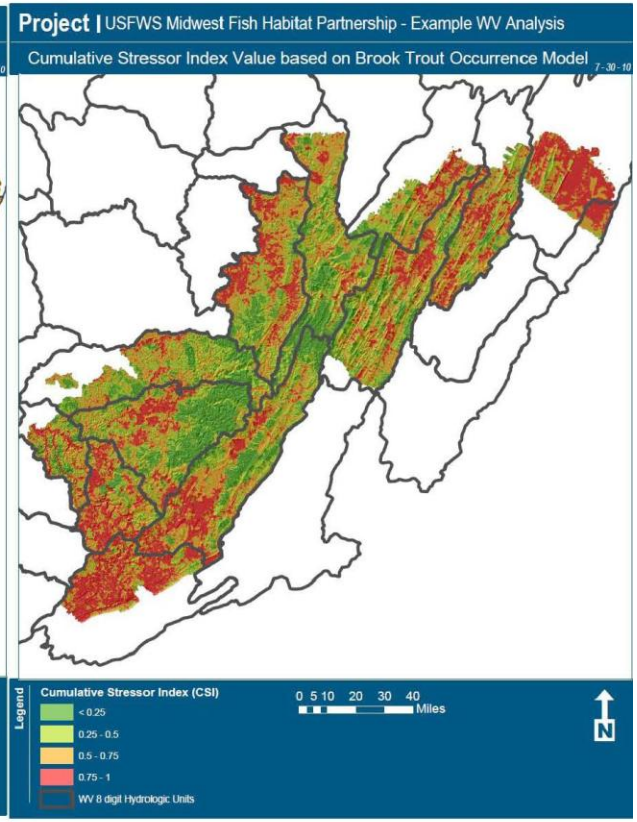
Current fishery condition as a result of both natural habitat quality and anthropogenic stressors

Cumulative Habitat Quality Index



Relative quality of the segment as brook trout habitat in the <u>absence of stress</u>

Cumulative Anthropogenic Stressor Index



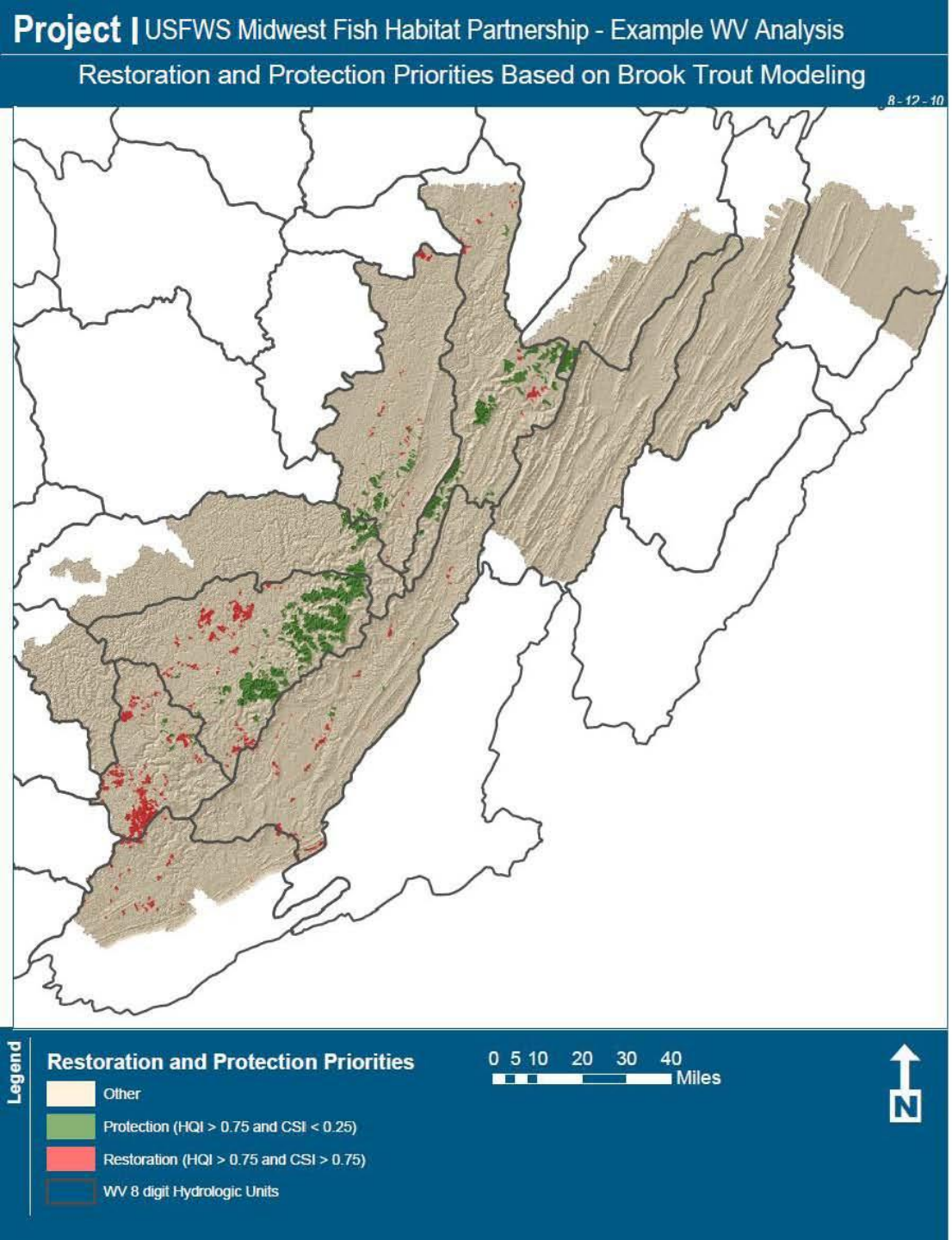
Relative anthropogenic stress of a site <u>independent of it's natural ability to support brook trout</u>

Priority Areas

Midwest FHP Habitat Assessments – Response Variables

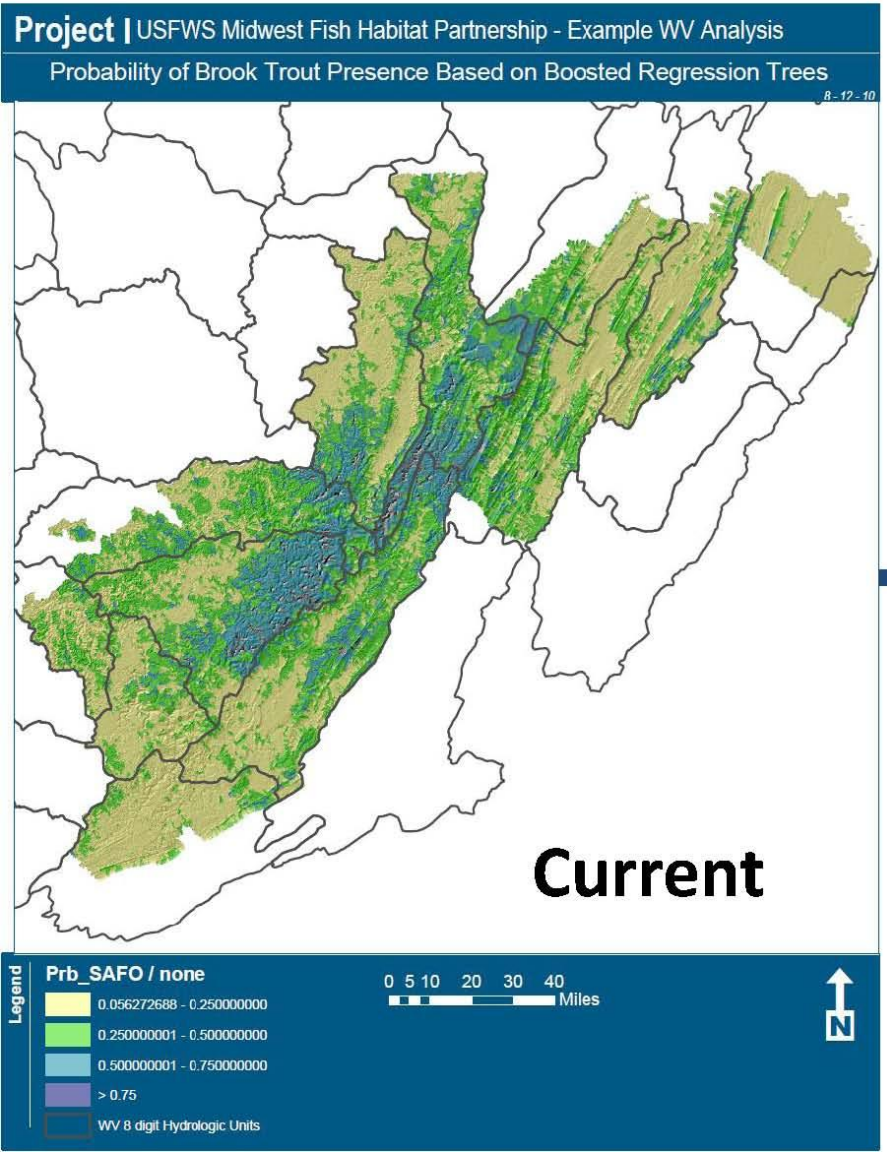
- Dynamic process, model can be run on any number of variables
- Each FHP should have the capability of re-running the model using new response variables that weren't available at this time.
- Currently proposed response variables for ORBFHP*
  - Presence/Absence of Signature Fish Species by conservation target
  - Presence/Absence of Mussels
  - Relative Abundances of Signature Fish Species
  - Fish Metric/IBI Scores
  - Macroinvertebrate IBI Scores
  - Physical Habitat Quality Index Scores (QHEI) & Raw Attributes
  - Water Chemistry Attributes
  - Fish Contaminant Raw Data & Consumption Advisories

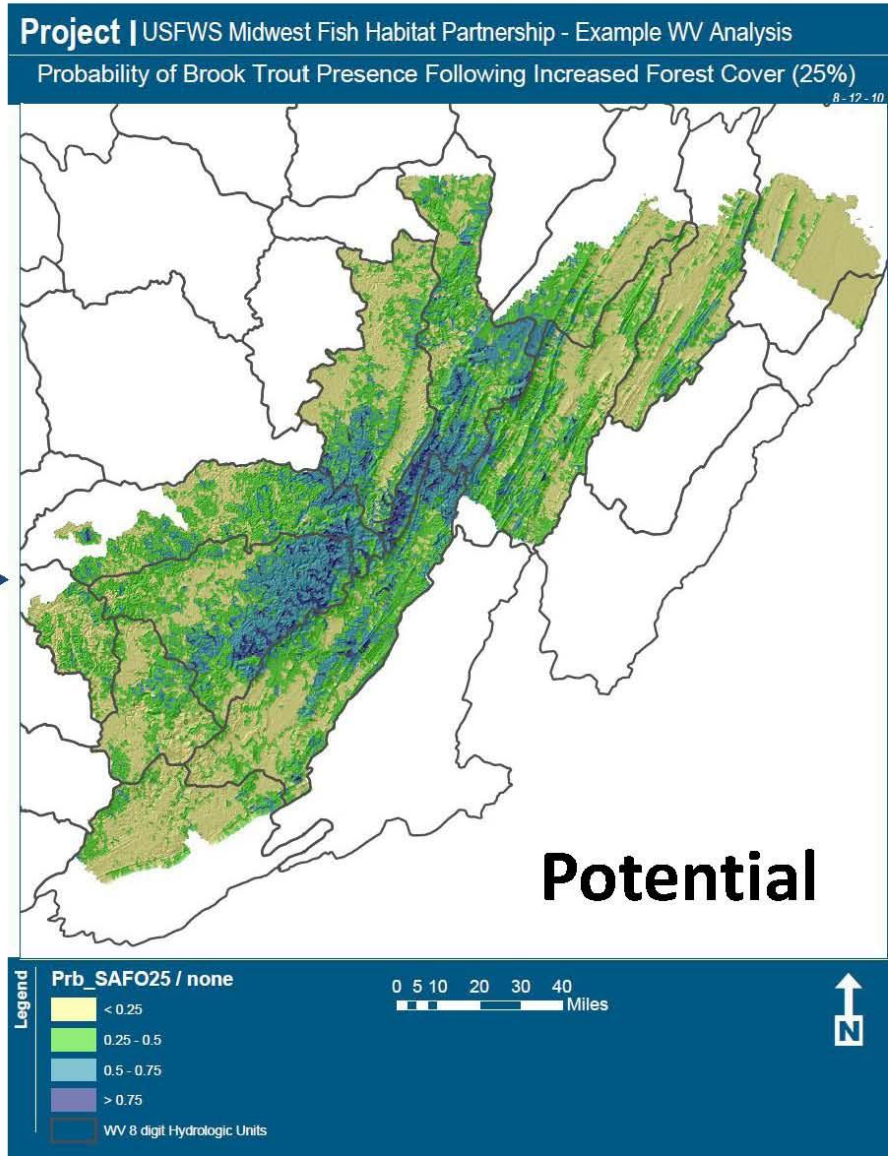
* Pending compilation of required datasets



Visualizing Brook Trout Restoration and Protection Priorities

What If? Future Brook Trout Distribution Given 25% Increase in Forest Cover





How does this apply to the Cache River?

- Cache River watershed is already an Early Action Site.
- Basin-wide habitat assessment will guide us toward “Priority Areas” and setting priorities within those areas.
- The best way to make sure your voice is heard is to participate and fully engage in the partnership.

Questions?

Contact:

Rob Simmonds, ORBFHP Coordinator
USFWS Carterville FWCO
(618) 997-6869 x14
rob_simmonds@fws.gov

www.fishhabitat.org