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Fisheries data in clean water protection



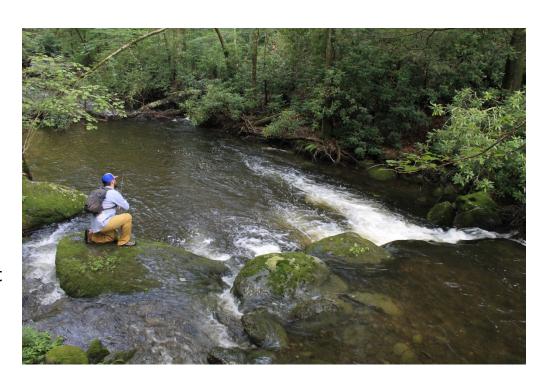
- Multiple pathways under the Clean Water Act to evaluate uses
- Trout populations are one method to achieve higher stream protections and antidegradation standards under the Clean Water Act
- Assessments of fisheries integrates aquatic life and recreational uses



Wild Trout Stream Designations - Pennsylvania



- Wild Trout = Cold Water Fishes (CWF); evidence of natural reproduction (young fish)
- Class A = High Quality Cold Water Fishes (HQ-CWF); species and biomass
- Wilderness Trout Streams = Exceptional Value (EV); species and landscape factors
- Wetlands contiguous to all wild trout waters = EV
- NY, MD, WV, VA have similar links to Clean Water Act protections using fisheries communities



Why are designations important?



HQ/EV designation





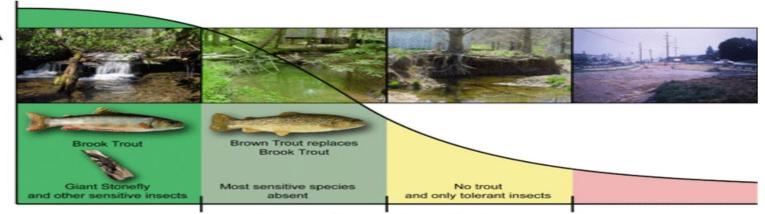
- More stringent discharge limits
 - Riparian buffer requirements (150 feet each side of stream)
 - Enhanced BMPs

Also priority in restoration/protection and funding opportunities

Trout are canaries in the coal mine - impervious surfaces example







Percent Impervious Surface

<5%

- · Water cool and clean
- · Stream banks and bottom
- typically stable · Trout can be found
- · Endangered species can be found
- · Many fish species
- · Many salamander species
- · Many freshwater mussels
- Many insect taxa

- 5-10%
- · Water may be warmer and slightly polluted
- · Erosion may be evident
- . No brook trout
- . Most rare and endangered species absent
- · Many pollution tolerant fish · Fewer salamander species
- · Only tolerant mussels
- · Fewer insect taxa

- Water warmer
- · Erosion usually obvious
- · Trout absent
- · Rare stream species absent
- · Fewer fish species
- · Only three tolerant salamander species

10-20%

- · No native mussels
- · Mostly tolerant insects

>20%

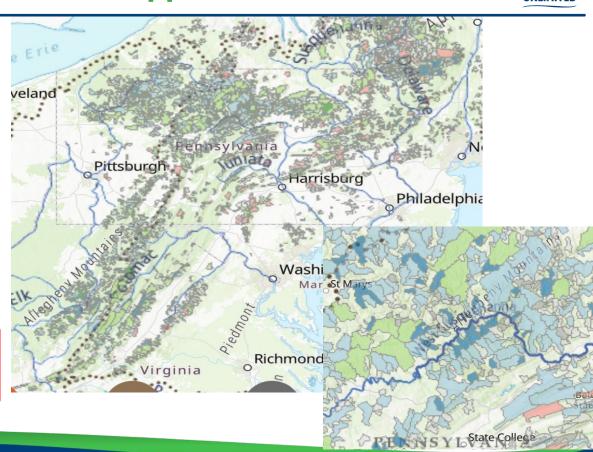
- · Water warm and pollution usually evident
- · Unstable habitat
- Trout absent
- Non-native species dominate
- some streams
- · Only tolerant fish species
- · One salamander species
- · No native mussels
- Only tolerant insects

Science/risk-based approach



- Eastern Brook Trout
 Portfolio
- Landscape tool that integrates spatial data to evaluate population metrics
- Temperature, habitat connectivity, fisheries communities
- Risk-based decisionmaking, including climate change

Conservation Portfolio - Trout Unlimited



How do you do that exactly????



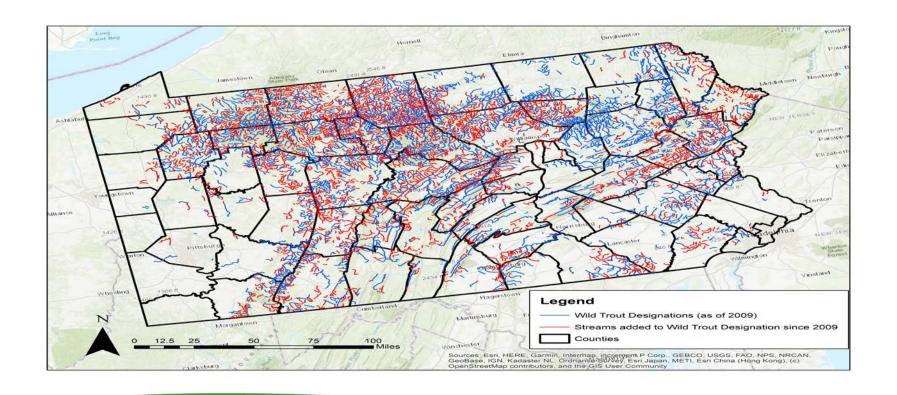




- TU has surveyed over 1500 streams since 2011; found wild trout populations average of 40% of the time, Class A 3-5% of the time
- Partner with PA Fish and Boat Commission's Unassessed Waters Initiative (TU entering 11th year)
- Cradle to grave process assessments to higher Clean Water Act designations

Protection of Wild Trout Waters — 2009-2018

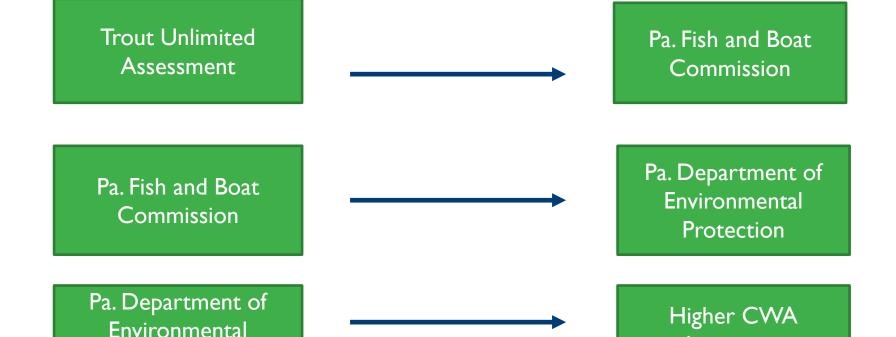




What is the use designation upgrade process?



designation



Protection

But challenges remain.....



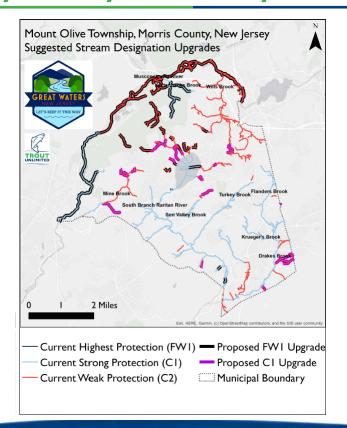
How it should work after Class A listing by PFBC

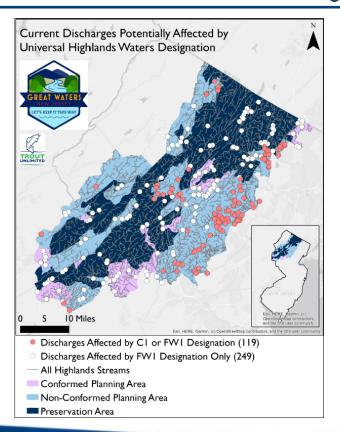
- PA Department of Environmental Protection (PADEP) lists streams as HQ on its **Existing Use** list; this ensures immediate protection until formal rulemaking
- Formal rulemaking to upgrade **Designated Use**

Policy Analysis/Policymaker Outreach



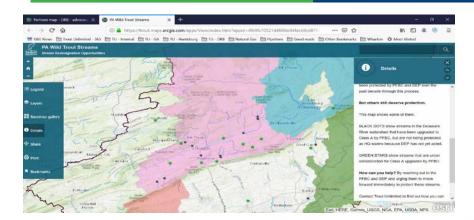


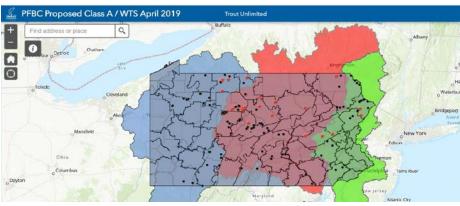


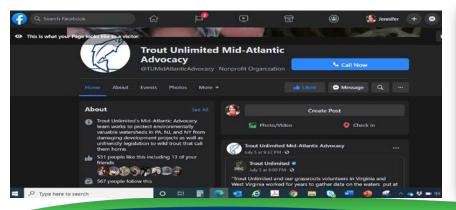


Public education and engagement











pfbc.pa.gov/regcomments/

Pros and cons



Pros

- Surveys are quick (1.5 hours/site)
- Assessment costs much less than restoration costs per mile (\$156.25)
- Enhanced protections also include riparian areas and wetlands (in Pa.) 341 stream miles = 12,400 acres buffers, 19,102 acres wetlands
- Approach can be used in most Bay watershed jurisdictions

Cons

- Regulatory process of changing uses is slow (assessment to CWA designation in PA is about 5-8 years)
- How do we protect existing uses between Pa. Fish and Boat Commission listing and Pa. DEP CWA use change?
- Recreational stakeholders do not always appreciate the importance of initial designation by Pa. Fish and Boat Commission in CWA protections