# PFBC Classification of Waters

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Bureau of Fisheries

Mission: To protect, conserve, and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities

# Outline

- Wild Trout Streams
- Class A, B, C, D,  E
- Wilderness Trout Streams
- Approved Trout Streams
- Warmwater streams
- Unassessed Waters Initiative

# Discussion Topics

- PFBC classification of waters
- Interaction with regulations and policies of other agencies

# Wild Trout

- 58 Pa. Code § 57.11**. Listing of wild trout streams.**

  (a) *Maintenance of list*. It is the policy of the Commission to accurately identify and classify streams supporting naturally reproducing populations of trout as wild trout streams. The Fisheries Management Division will maintain the list of wild trout streams. The Executive Director, with the approval of the Commission, will from time-to-time publish the list of wild trout streams in the *Pennsylvania Bulletin* and on the World Wide Web. Persons with comments, objections or suggestions about the classification of streams listed may submit them to the Commission for review.

# Criteria:  Location and Habitat

# Criteria: Exclusion of stocked trout

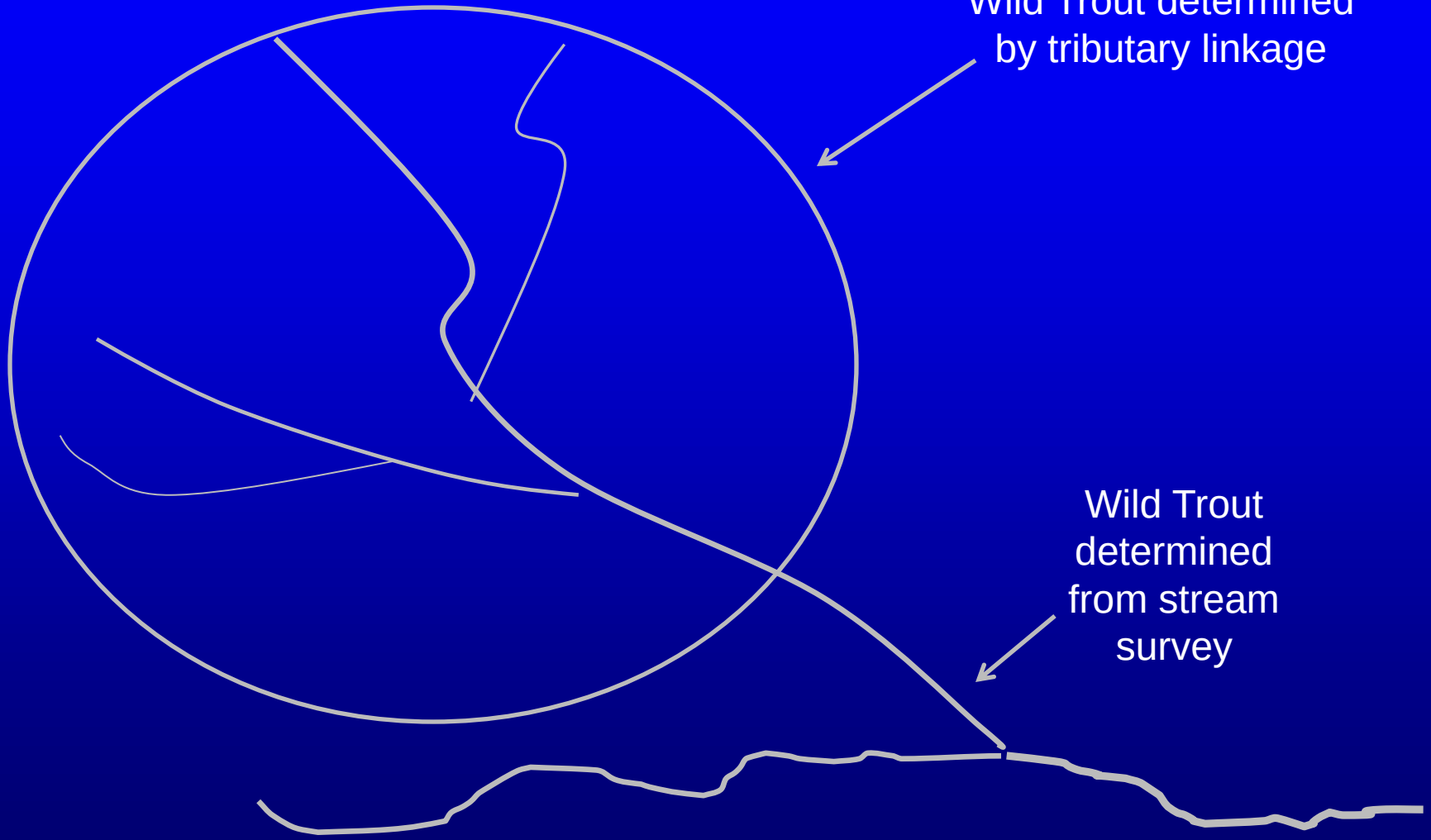
# Biological Criteria:

- Young of the year trout less than 150 mm occur at some time in the stream section.

- Two or more ages of wild trout occur at some time within the stream section.

# Criteria: Tributary Linkages

- Tributaries to wild trout streams are classified as wild trout streams for their function as habitat for segments of wild trout populations, including nurseries and refuges, and in sustaining water quality necessary for wild trout.


Wild Trout determined by tributary linkage
Wild Trout determined from stream survey

# Criteria:  Existing Use

- The streams identified as wild trout streams on or before January 1, 2002, and listed as such by the Fisheries Management Division will continue to be considered as wild trout streams by the Commission

# Wild Trout Streams and DEP

- 25 PA Code Chapter 105: Dam Safety and Waterway Management

  - *Wild trout streams*—A stream identified as supporting naturally reproducing trout populations by the Fish and Boat Commission under 58 Pa. Code § 57.11 (relating to listing of wild trout streams).

# Wild trout and DEP (cont.)

- § 105.17(1)(iii) – Exceptional Value Wetlands
  - Includes “Wetlands  that are located in or along the floodplain of a wild trout stream . . . and the floodplain of streams tributary thereto”
  - Results in higher level of protection

# PFBC Wild Trout Classification

- Based on Biomass (kg/ha)
  - Class A
  - Class B
  - Class C
  - Class D
  - Class E

# Class A Wild Trout Waters Program

## § 57.8a. Class A Wild Trout Streams

It is the policy of the Commission to manage self-sustaining Class A wild trout populations as a renewable natural resource to conserve that resource and the angling it provides. Class A wild trout populations represent the best of the Commonwealth's naturally reproducing trout fisheries. These stream sections are managed solely for the perpetuation of the wild trout fishery with no stocking.

# Goal

To provide recreational trout angling opportunities in waters where wild trout populations are capable of supporting a sport fishery without stocking

# Objectives:

- To protect wild trout populations from possible harmful effects of stocking due to competition with hatchery trout
- To minimize the potential of over harvest of wild trout due to attraction of large numbers of anglers through stocking
- To maintain standing stocks of wild trout at a Class A biomass density
- To protect habitat and water quality through public education and by seeking the highest DEP Water Quality Standards applicable

# Class A Wild Brook Trout Criteria

- Total wild brook trout biomass of at least 30 kg/ha
- Total biomass of brook trout < 15 cm (5.9”) of at least 0.1 kg/ha
- Brook trout biomass must comprise at least 75% of the total trout biomass

# Class A Wild Brown Trout Criteria

- Total wild brown trout biomass of at least 40 kg/ha
- Total biomass of brown trout < 15 cm (5.9”) of at least 0.1 kg/ha
- Brown trout biomass must comprise at least 75% of the total trout biomass

# Class A Mixed Wild Brook & Brown Trout Waters Criteria

- Combined wild brook and brown trout biomass of at least 40 kg/ha
- Total biomass of brook trout < 15 cm (5.9”) of at least 0.1 kg/ha
- Total biomass of brown trout < 15 cm (5.9”) of at least 0.1 kg/ha
- Brook trout biomass must comprise < 75% of the total trout biomass
- Brown trout biomass must comprise < 75% of the total trout biomass

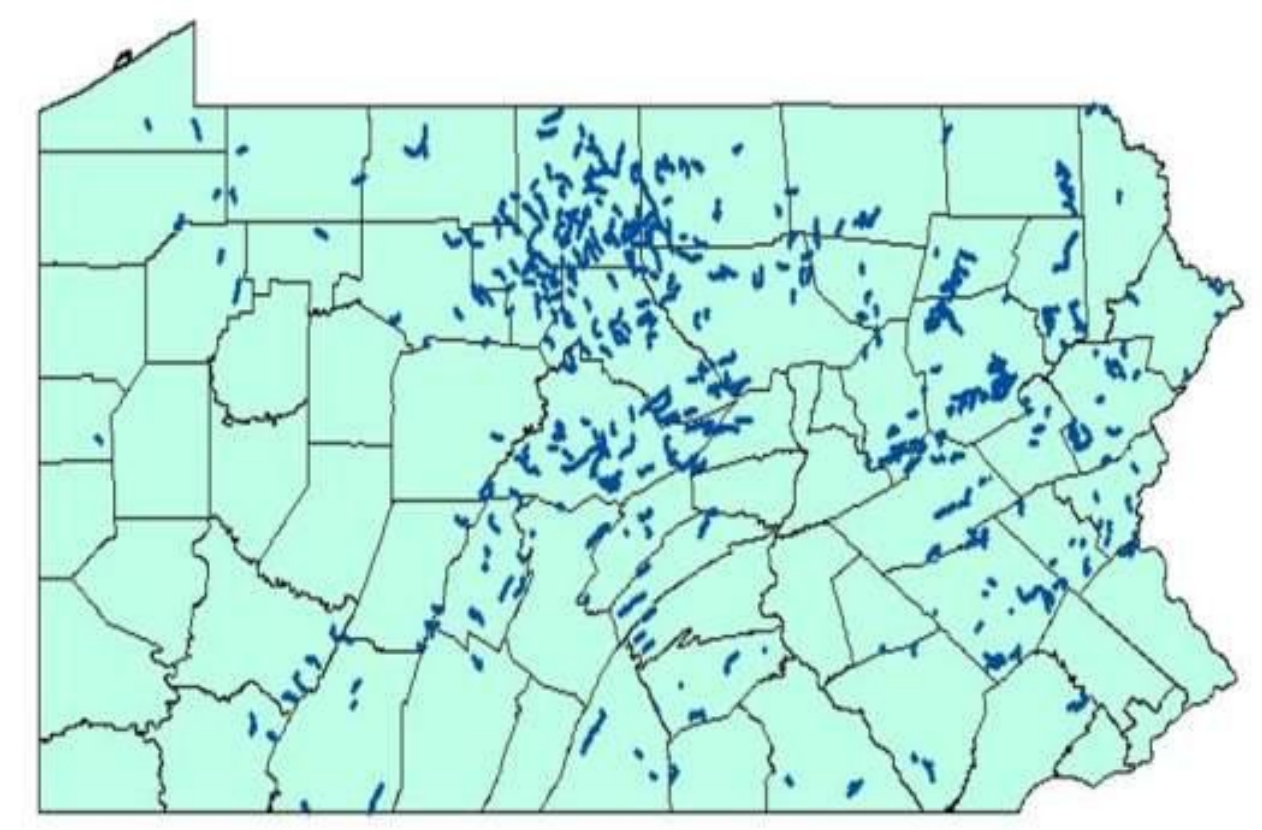
# Class A Wild Rainbow Trout Criteria

- Total biomass of wild rainbow trout < 15 cm (5.9 inches) of at least 2.0 kg/ha

# Class A Wild Trout Waters Summary

| Species | Stream Sections | Miles |
|---|---|---|
| Brook Trout | 274 | 743.6 |
| Brown Trout | 163 | 507.3 |
| Mixed Brook and Brown Trout | 62 | 211.0 |
| Rainbow Trout | 11 | 28.7 |
| Total | 510 | 1,490.6 |

# Statewide distribution of Class A Wild Trout Streams



# Class A and DEP

# WATER QUALITY ANTIDEGRADATION IMPLEMENTATION GUIDANCE

# Existing Use

- An “existing use” is defined in Title 25 Pa. Code Section 93.1 as ***“Those uses actually attained in the waterbody on or after November 28, 1975, whether or not they are included in the water quality standards.”***

# Class A and Existing Use

- Section 93.4b(a)(2)(ii) provides that a waterbody ***"…that has been designated a Class A wild trout stream by the Fish and Boat Commission following public notice and comment." is*** an HQ water.

# Existing Use Protection for Class A Wild Trout Streams

- DEP will review all data submitted to it by the PFBC and others regarding the Class A wild trout stream status of a stream. If, upon DEP review, DEP finds that:

  (1) the waterbody has been designated by the PFBC as a Class A wild trout stream;

  (2) the PFBC designation has been adequately publicly participated, with provisions for public notice and comment; and

  (3) BWSWM (now Bureau of Water Standards and Facilities Management) has reviewed the fishery data and the Director concurs with the classification, DEP will place the water on the existing use list with an existing use of HQ waters.

# Class B, C, D, and E Streams

# Class B-E Wild Trout Criteria

| Class | Criteria |
|---|---|
| B | a. Total wild brook trout biomass of at least 20 kg/ha (17.8 lbs/acre) and less than 30 kg/ha (26.7 lbs/ acre).<br>b. Total wild brown trout or wild brown and wild brook trout combined biomass of at least 20 kg/ha (17.8 lbs/ acre) and less than 40 kg/ha (35.6 lbs/acre). |
| C | Total wild trout biomass of at least 10 kg/ha (8.9 lbs/ acre) and less than 20 kg/ha (17.8 lbs/acre). |
| D | Total wild trout biomass greater than 0 kg/ha and less than 10 kg/ha (8.9 lbs/ acre). |
| E | Total wild trout biomass of 0 kg/ha. |

# DEP Chapter 93 Criteria for Class B-E streams

- EV – for criteria other than Class A
- HQ – for criteria other that Class A
- CWF
- TSF – No wild trout, but stocked

# PFBC Wild Trout Classification and the Susquehanna River Basin Commission

SRBC Policy No. 2003-01

- GUIDELINES FOR USING AND DETERMINING PASSBY FLOWS AND CONSERVATION RELEASES FOR SURFACE-WATER AND GROUND-WATER WITHDRAWAL APPROVALS (NOVEMBER 8, 2002)

# Passby Flow

- A passby flow is a prescribed quantity of flow that must be allowed to pass a prescribed point downstream from a water supply intake at any time during which a withdrawal is occurring. When the natural flow is equal to, or less than, the prescribed passby flow, no water may be withdrawn from the water source, and the entire natural flow shall be allowed to pass the point of withdrawal. Natural flow in the stream channel below the point of withdrawal is maintained at the same level as may prevail above

# Conservation Release

- An amount of water required to pass downstream of a reservoir

# Instream Habitat Loss associated with Water Withdrawals

- EV – 5%

- High Quality (HQ) Waters—Withdrawals may not cause greater than a 5 percent loss of habitat; except a habitat loss of 7.5 percent may be allowed if the following conditions are met:
  - The project is in compliance with the Commission's water conservation regulations of Section 804.20;
  - No feasible alternative source is available; and
  - Available project sources are used in a program of conjunctive use approved by the Commission, and combined alternative project source yields are inadequate.

- Cold-Water Fishery (CWF) Waters:
  - PFBC Class B Wild Trout Streams— Withdrawals may not cause greater than a 10 percent loss of habitat.
  - PFBC Class C or D Wild Trout Stream standards— Withdrawals may not cause greater than a 15 percent loss of habitat.

# DEP water withdrawal regulation

- Is generally following SRBC policy in their water withdrawal permitting for municipal water supplies

- Application to Marcellus fracing and Water Management Plans in oil and gas permits

# How is Habitat Loss Determined ?

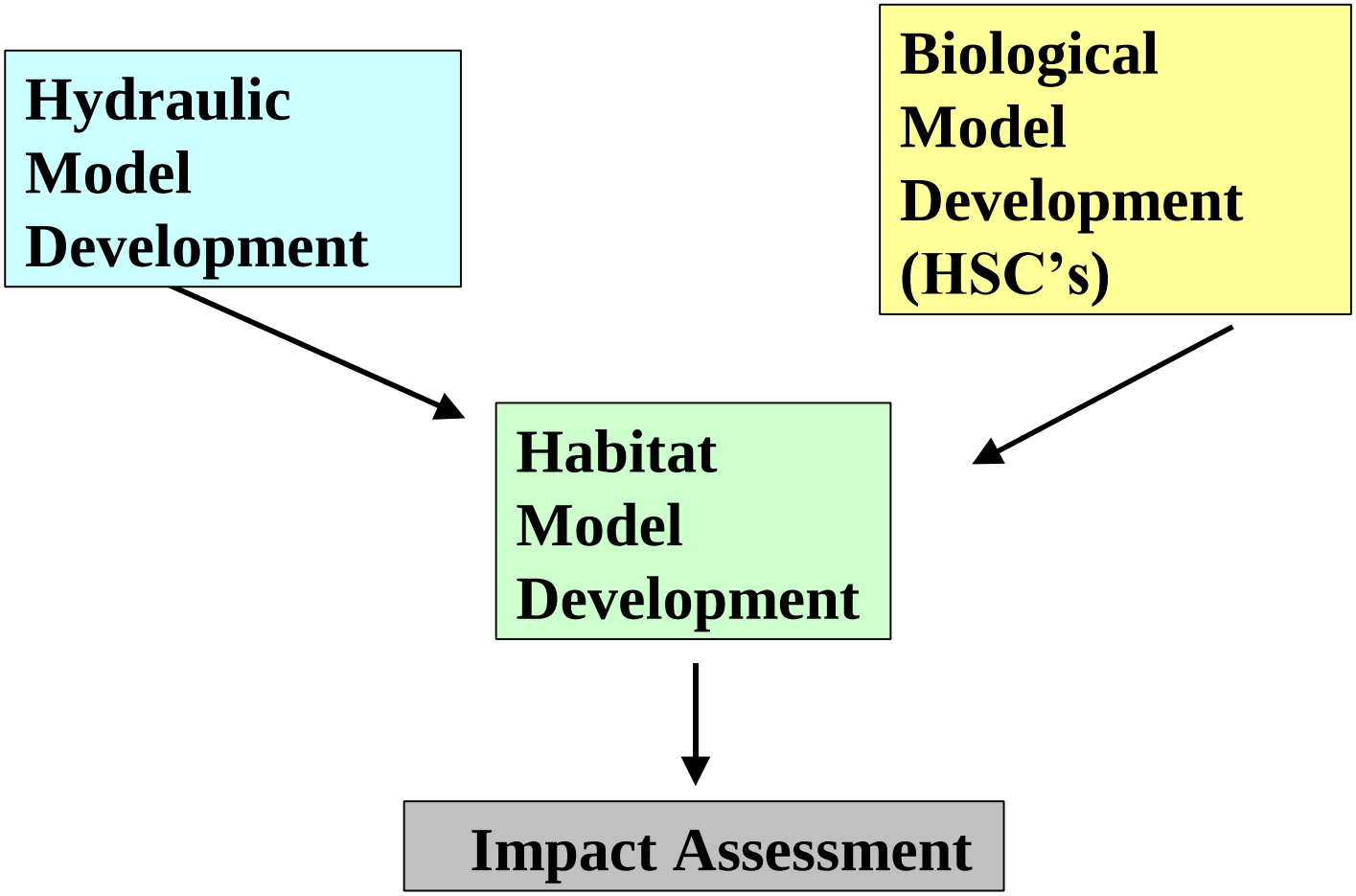
SRBC Publication 191, Instream Flow Studies Pennsylvania and Maryland (May 1998)

- Used to determine instream habitat loss for wild trout based on given withdrawal and passby amounts

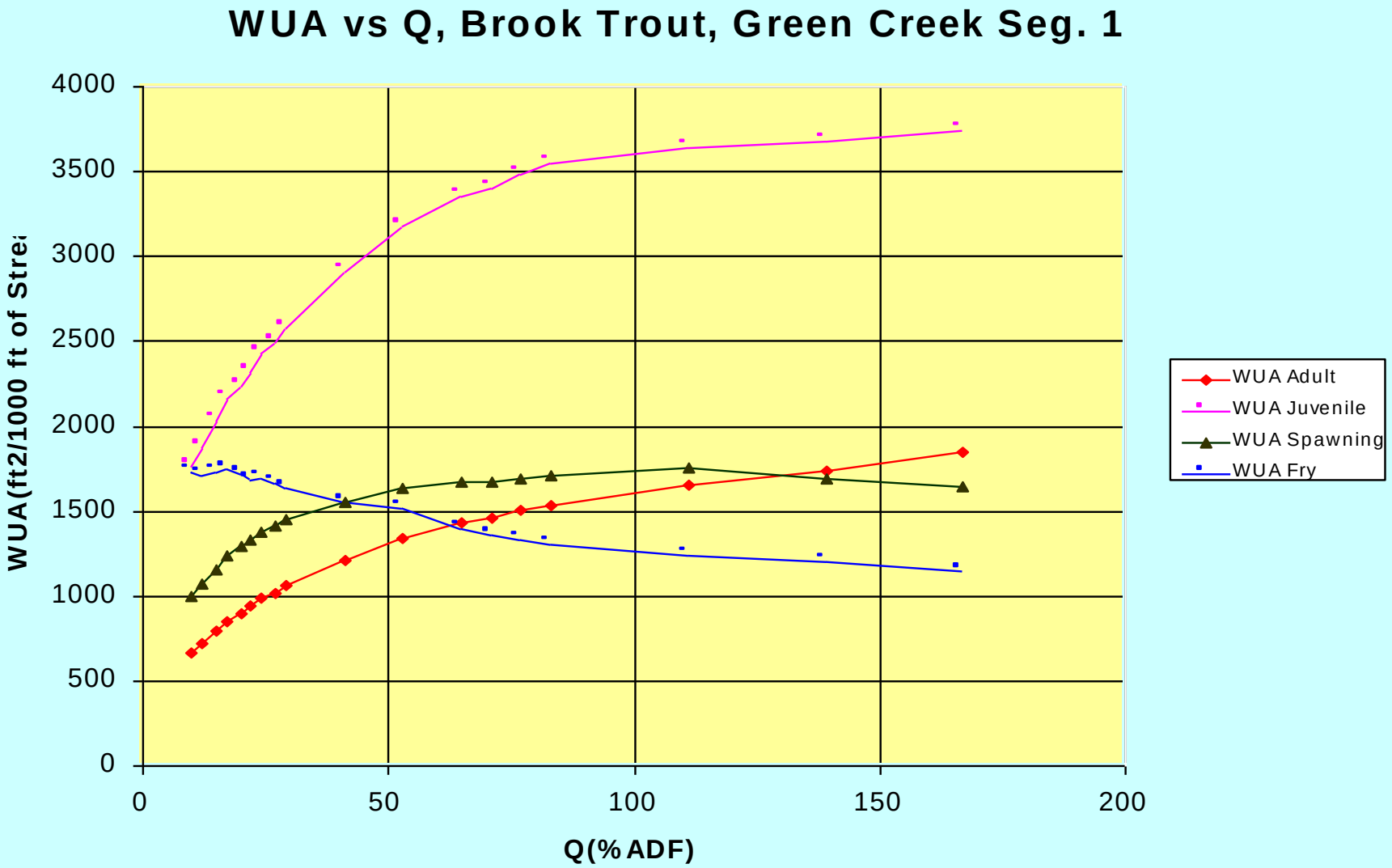
# PA/MD Instream Flow Model

SRBC, DEP, Pennsylvania Fish and Boat Commission, U.S. Army Corps of Engineers, Maryland Department of the Environment and the Chesapeake Bay Program

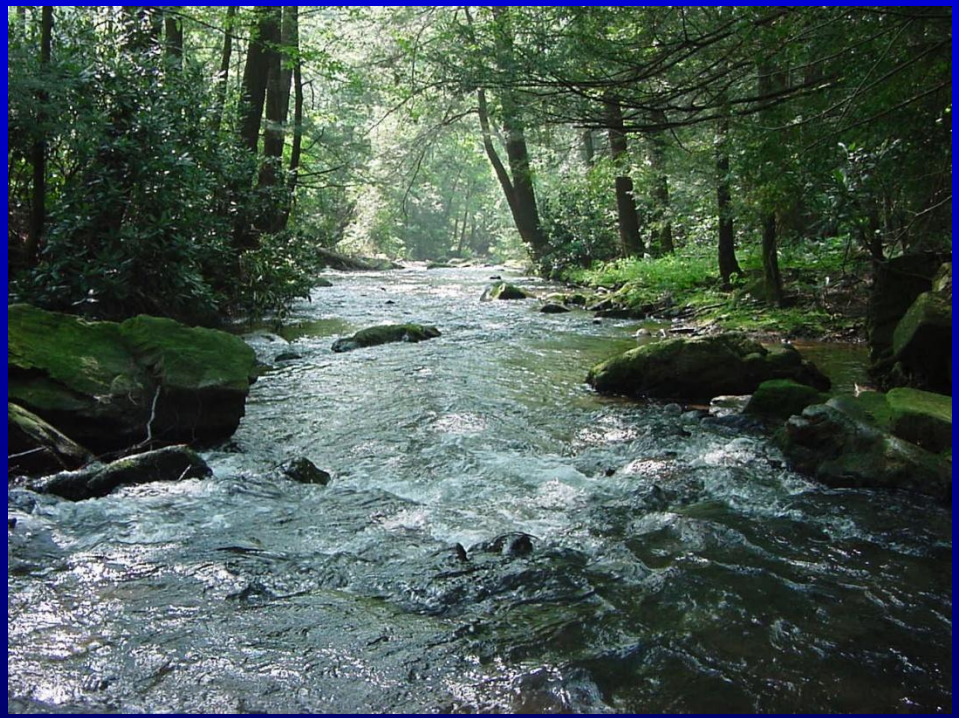
# Components of IFIM



# Habitat Model Development



# Wilderness Trout



# Wilderness Trout Streams

- **§ 57.4. Wilderness trout streams.**
  - It is the policy of the Commission to maintain the wilderness trout streams program where stream remoteness and populations of naturally reproducing trout combine to offer sport fishing opportunity for the recreation of anglers in a wilderness setting away from roads or vehicular access. It is the Commission's intent to advocate proper watershed management to maintain the wilderness setting and to advance and seek the highest water quality standards through the Department of Environmental Protection.

# Wilderness Trout Criteria

- Accessible to motorized vehicles to at most one point every two miles
- At least two miles in length
- Natural reproduction sufficient to support a sport fishery
- Open to the general public

# Overview

- Program initiated in 1969
- 31 Class A stream sections
- 177 Class B, C, and D stream sections have been so designated.
- Protection is achieved through the application of the highest DEP water quality classification (EV) and the prohibition of stocking.

# 25 Pa.Code Chapter 93.4(b)(b)

- “ *A surface water that meets one or more of the following conditions is an Exceptional Value Water.*
  - *(1) The water meets the requirements of subsection (a) (qualification as an HQ water) and one or more of the following:* . . . Qualification as a Wilderness Trout Stream

# Approved Trout Streams – Streams approved for stocking by the PFBC

- Various Chapter 93 criteria apply:
  - HQ – for criteria other that Class A
  - CWF – could be a wild trout stream, but stocked
  - TSF – No wild trout

# High Quality-Warm Water Fishes

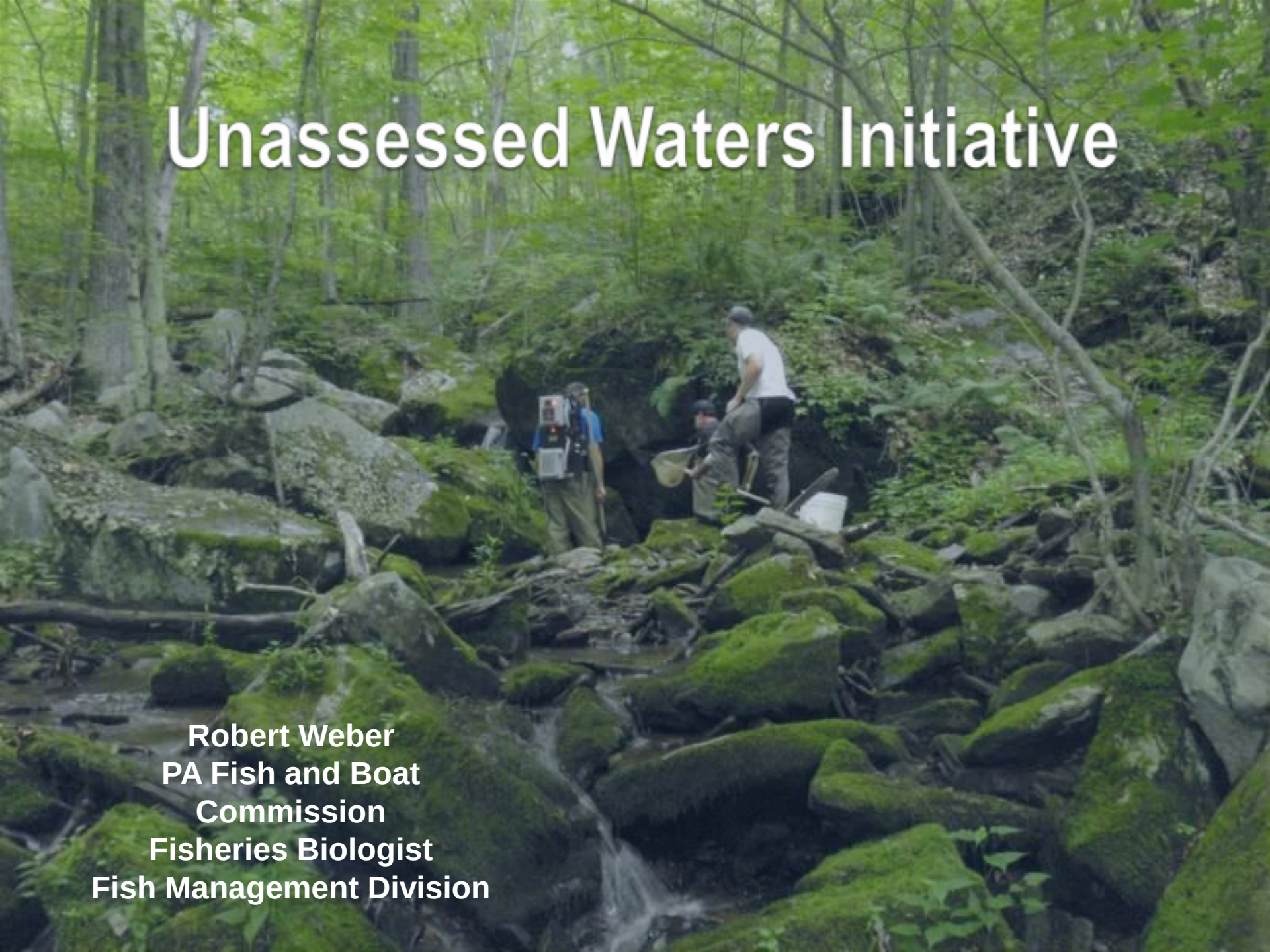
# HQ-WWF

- Currently no fish population criteria for this class of streams
- PFBC Strategic Plan
  - By January 2013, develop and advocate for water quality protection criteria for special protection classes of Warm Water Fishes in 25 Pa. Code Chapter 93 in collaboration with the Pennsylvania Department of Environmental Protection
- PFBC staff are currently working on this with DEP

# Problem

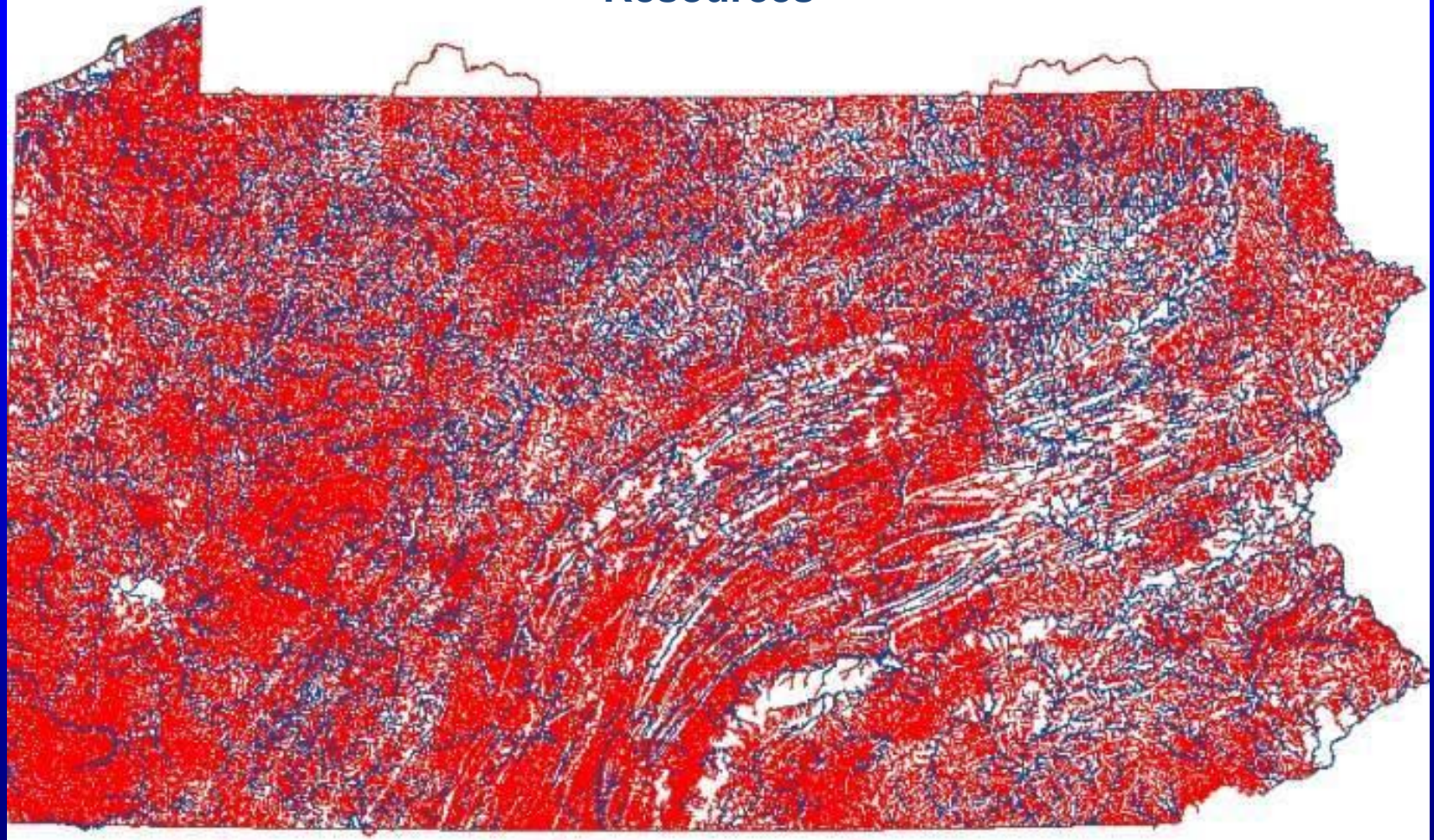
Many waters in Pennsylvania have never been surveyed by the PFBC

# Unassessed Waters Initiative



**Robert Weber**
**PA Fish and Boat Commission**
**Fisheries Biologist**
**Fish Management Division**

# Pennsylvania's Flowing Water Resources



- Surveyed Stream Sections

- Unassessed Stream Sections

# Pennsylvania's Flowing Water Resource

- PA estimated to contain 86,000 miles of flowing water.
- Approximately 22,000 miles have been sampled
- To date, 12,800 miles designated as wild trout waters

# Strategic Plan for Management of Trout Fisheries in Pennsylvania 2010 - 2014

Issue 1: *The PFBC has not assessed all of the streams throughout the Commonwealth. As a result, the total number of streams that support wild trout populations in Pennsylvania is unknown, which leads to inadequate protection for these streams. The PFBC does not currently have the ability to assess these most at-risk streams at a rate that outpaces the rate of degradation.*

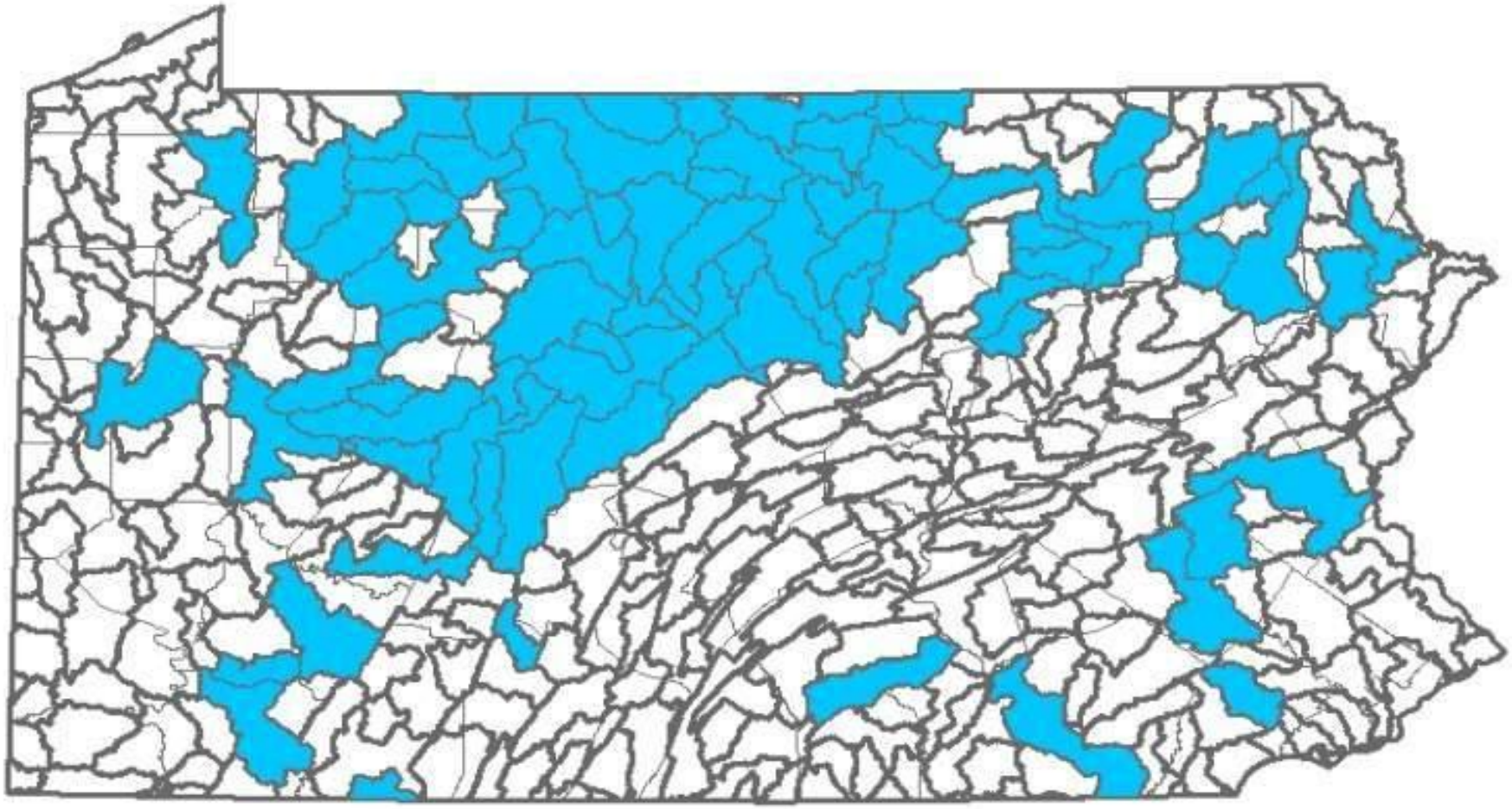
# Goal:

Proactively identify and properly classify the most at-risk streams which support naturally reproducing trout populations in order to protect, conserve and enhance those waters as wild trout streams.

# Strategy:

- Utilize GIS technology to identify potential wild trout streams (watersheds) most at risk.

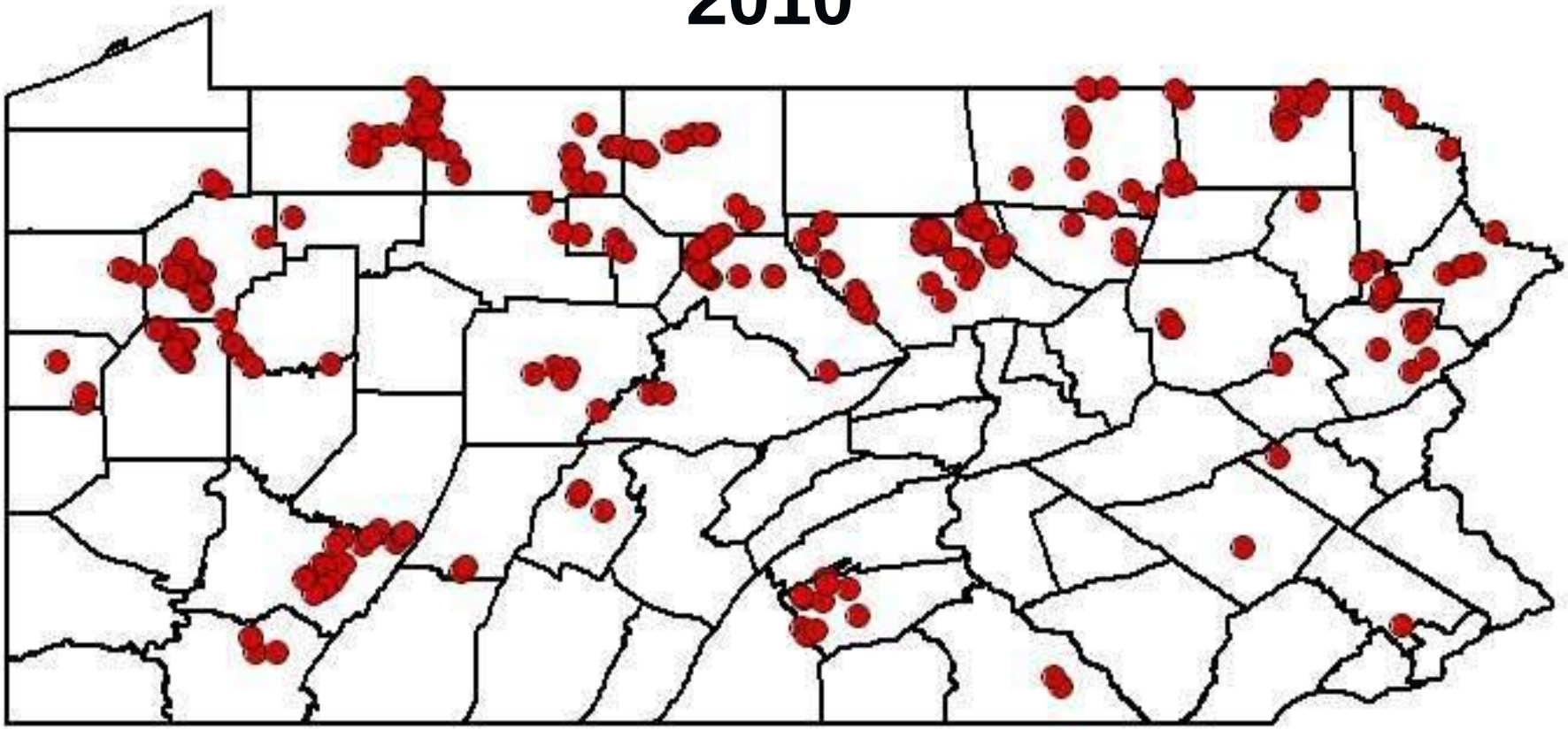
# Unassessed Waters Initiative – 2011 Priority



# 2010 Activities

1. PFBC biologists sampling
2. Developed and implemented pilot program with contracted Universities
3. Enlisted cooperation of DEP biologists
4. Sampled 307 Unassessed waters

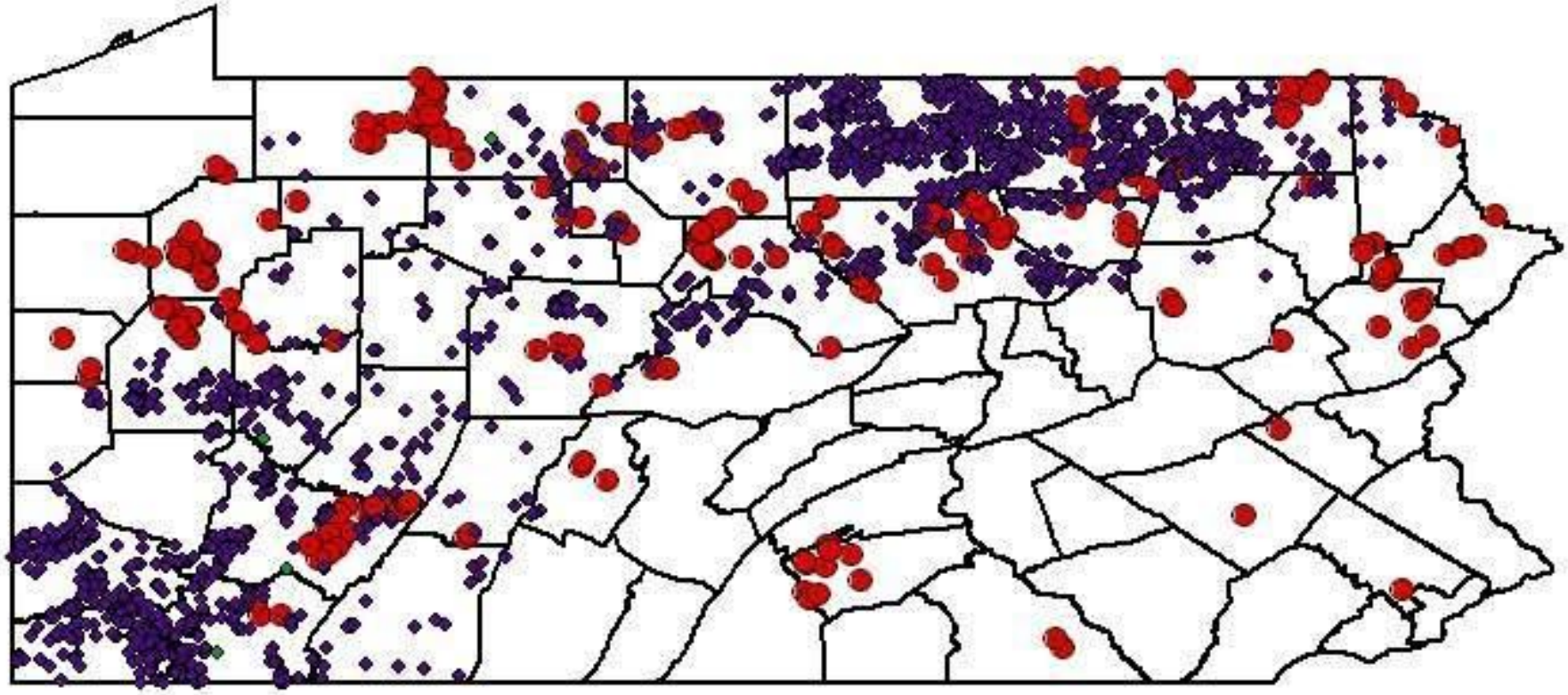
# 307 Unassessed Waters Sampled in 2010



**Sampling Conducted by:**

**Fisheries Management Division, Environmental Services Division, DEP, Lycoming College and Kings College.**

# Unassessed Waters Sampled in 2010



♦ **Permited and /or Active Marcellus Gas Drilling Sites**

# From the 307 Unassessed Waters Sampled in 2010:

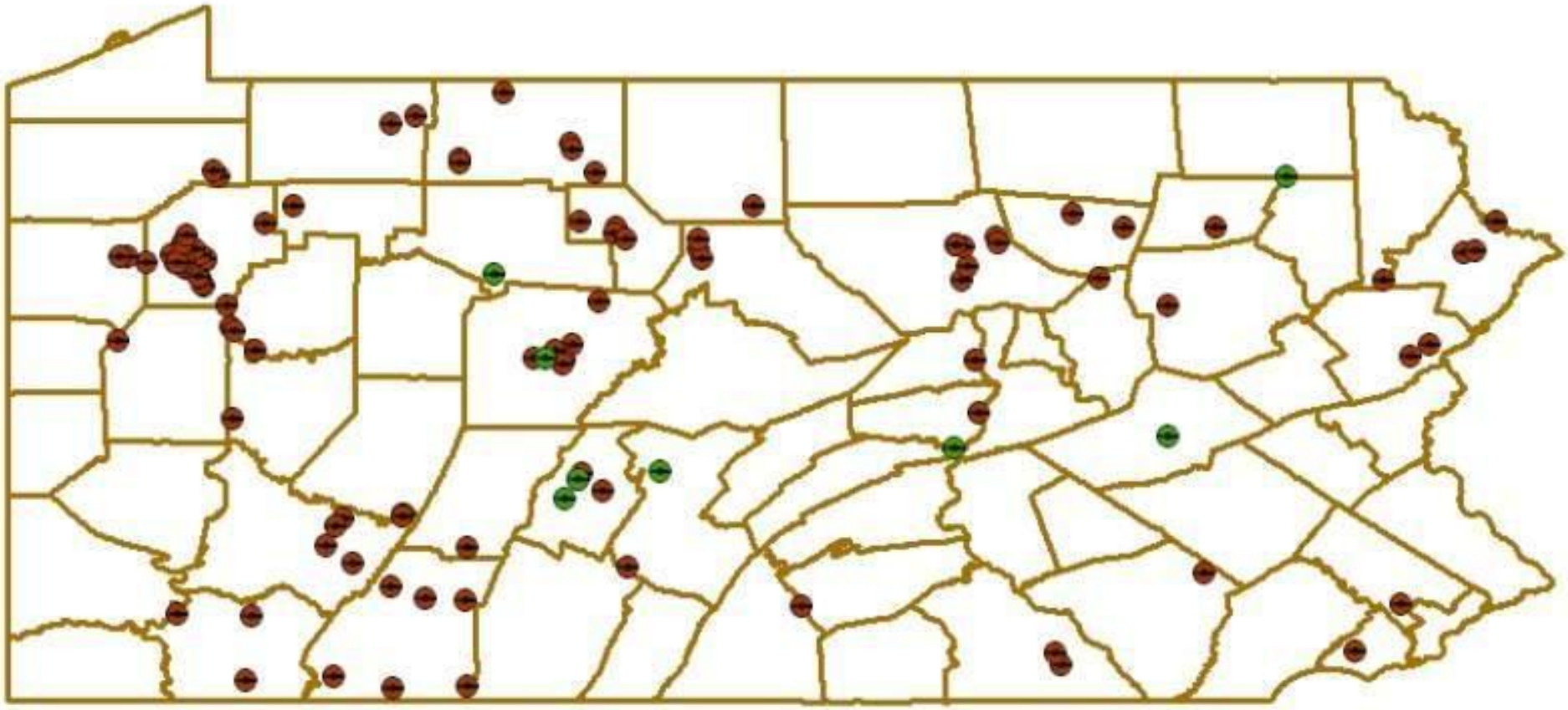
- 241 waters sampled by PFBC and DEP staffs (79%).

- 66 waters sampled by Lycoming College and Kings College (21%).

# Additions/Modifications to 2011 Wild Trout List

- 99 New waters have been proposed for addition to the wild trout list.
- 78 of the 99 new waters from 2010 unassessed waters work while 21 from previous surveys.
- 8 waters proposed to have their wild trout limits changed (7 extensions, 1 reduction)
- 3 waters approved for Class A Wild Trout management documented via unassessed waters work in 2010.

# Additions/Modifications to 2011 Wild Trout List



- Proposed New Additions to Wild Trout List
- Proposed Updated Waters to Wild Trout List

# Summary

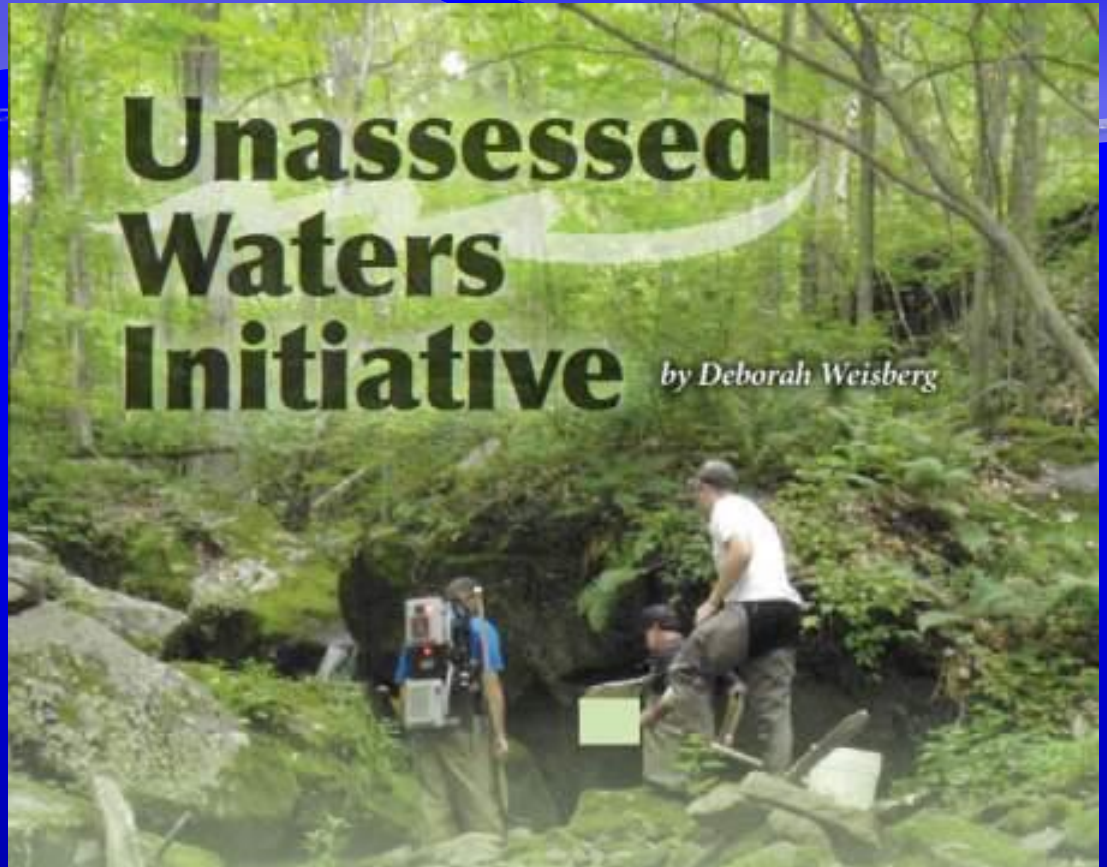
- PFBC staff exceeded the 5-year goal of 200 surveys during the first year of the program.
- Pilot project with contracted Universities was successful on all levels.
- Interest in the Unassessed Waters Initiative continues to grow among academic groups, conservation groups and organized sportsmen’s groups.

# Future Initiatives of the Program

- Number of contracted “entities” will expand in 2011. Seven Universities and 2 Conservation Organizations.
- Obtain long-term funding source(s).
- DEP regional biologists have agreed to participate in the program as a partner. Training for their staff completed in February.
- Will be working with Sportsmen’s groups to develop additional partnerships.

# Unassessed Waters Initiative

by Deborah Weisberg



***Biologists from the Pennsylvania Fish & Boat Commission (PFBC) will be venturing to remote streams again this year in search of wild trout, one of the Commonwealth's most precious natural resources.***

Partnering with colleges and conservation groups, PFBC personnel will visit headwater tributaries they have never before assessed to determine which merit the greatest protection against Marcellus shale natural gas drilling and other impacts. It's a labor-intensive challenge, given there are 45,000 waterways in Pennsylvania, a state second only to Alaska in sheer number of stream miles. PFBC has scientific data on only 3,000 streams; the rest are unnamed lines on a map known only, perhaps, to a handful of local anglers.

The unassessed waters initiative was officially launched in 2010 as part of the PFBC's five-year strategic trout management plan, but the groundwork was laid in 2006. Initially, the goal was to document streams in wild trout watersheds with increasing human encroachment. However, the boon in natural gas extraction has given the task new urgency, according to PFBC fisheries biologist Bob Weber, who is coordinating the project. "We used Geographic Information System technology to map wild streams we currently know about. Then, we layered those with human population data from the United States Census, because that tells us where development is occurring," he said. "We later layered in where Marcellus drilling operations have been permitted or where they are likely to be."

Since 2005, the Pennsylvania Department of Environmental Protection (DEP) has permitted the drilling of 21,075 gas wells. In just the past 22 months, DEP has cited 43 drilling companies for more than 1,435 violations.

# Questions?