

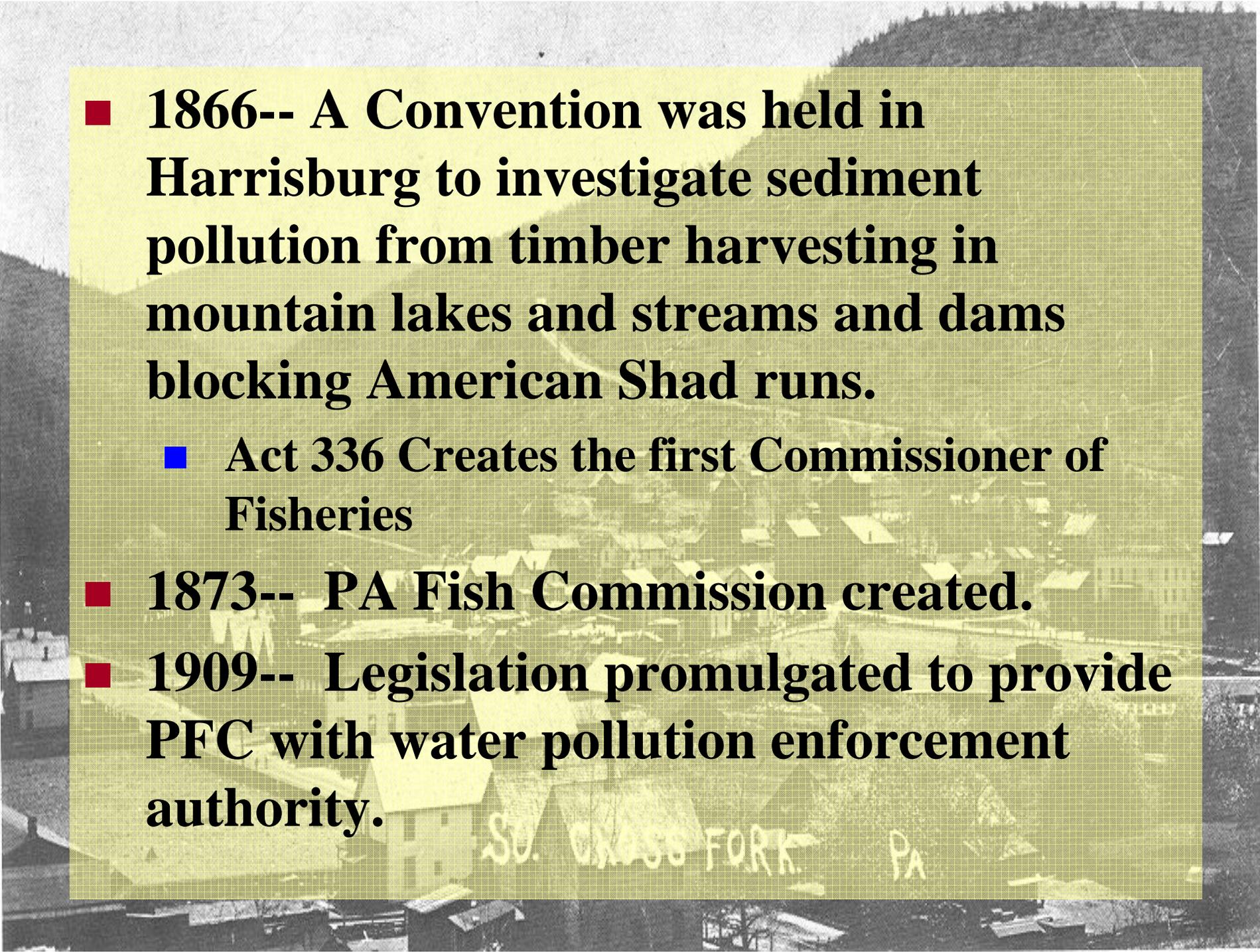
Coldwater Aquatic Resource Protection and Conservation in Pennsylvania

John Arway

PA Fish & Boat Commission

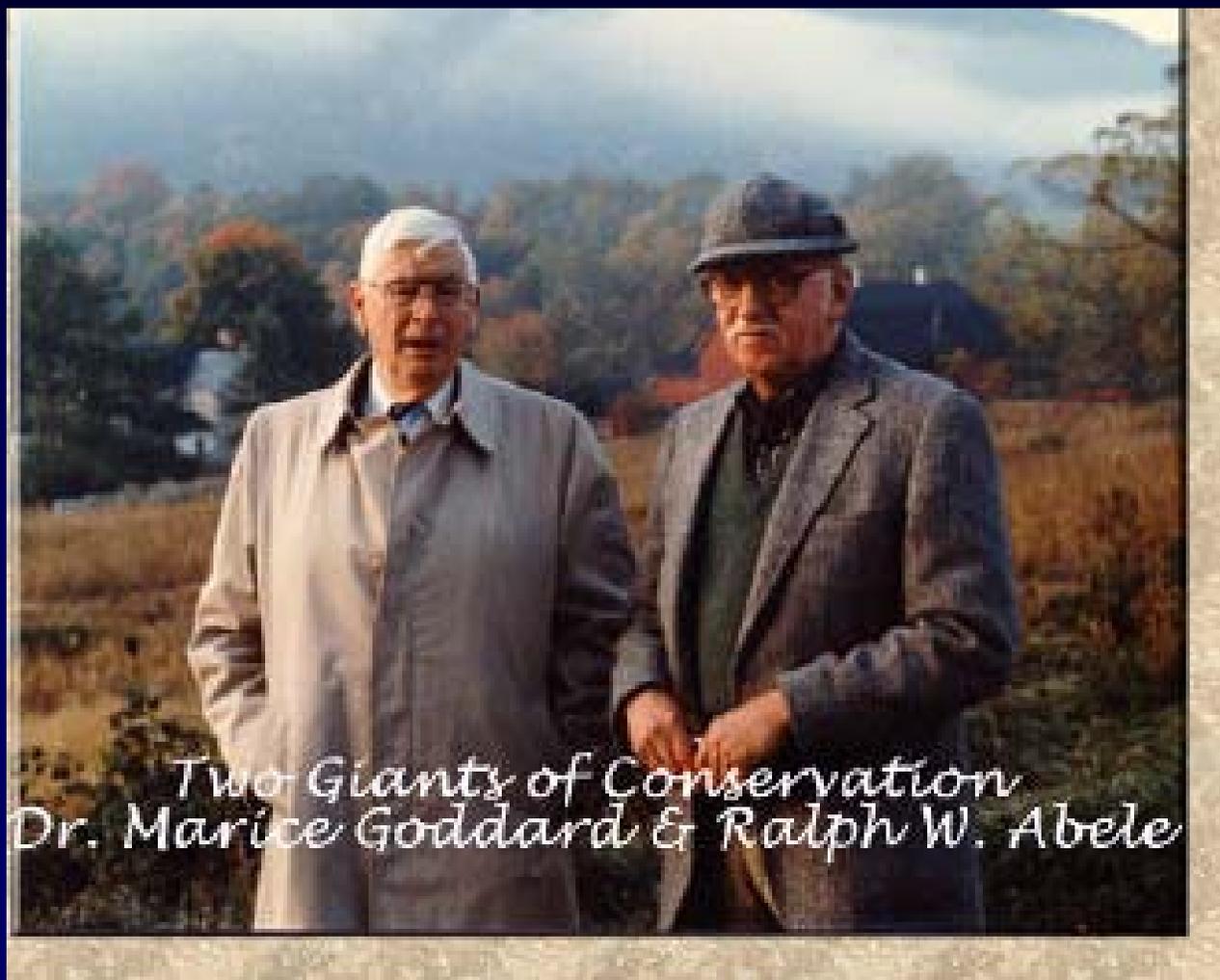
Fisheries Committee Meeting

30 September 2007

- 
- **1866-- A Convention was held in Harrisburg to investigate sediment pollution from timber harvesting in mountain lakes and streams and dams blocking American Shad runs.**
 - **Act 336 Creates the first Commissioner of Fisheries**
 - **1873-- PA Fish Commission created.**
 - **1909-- Legislation promulgated to provide PFC with water pollution enforcement authority.**

SO. BRASS FORK PA

In April 1992 Dr. Goddard accepted the Ralph W. Abele Conservation Heritage Award and said "with Ralph's leadership, the Fish Commission was the environmental conscience for the environment in Pennsylvania."



Division of Environmental Services

Proactive-- Permit/Regulatory Review/Environmental Risk Assessment

What do we do to minimize environmental risk to coldwater streams and prevent environmental damage to coldwater resources?



State Atlas

State Population (2004 Census Data)	12,406,292
State Surface Area (mi²)	45,333
Rivers and Streams (miles)	86,000
Number of Lakes, Reservoirs/Ponds)	3,956
Significant Lakes	215
Freshwater Wetlands (acres)	403,924

Source DEP 2006 305(b) Report

Water Quality Assessment Trends in Pennsylvania

	1975	1984	1986	1996	1998	2002	2006
Stream Miles	12,859	12,962	50,000	53,962	83,261	83,161	86,000
Impaired	3215	2722	2894	4497	4314	8385	14,942
Wetlands (acres)			498,000	407,330		403,924	403,924
Lakes (acres)			149,000	161,445	94,530*	93,238*	98,942*

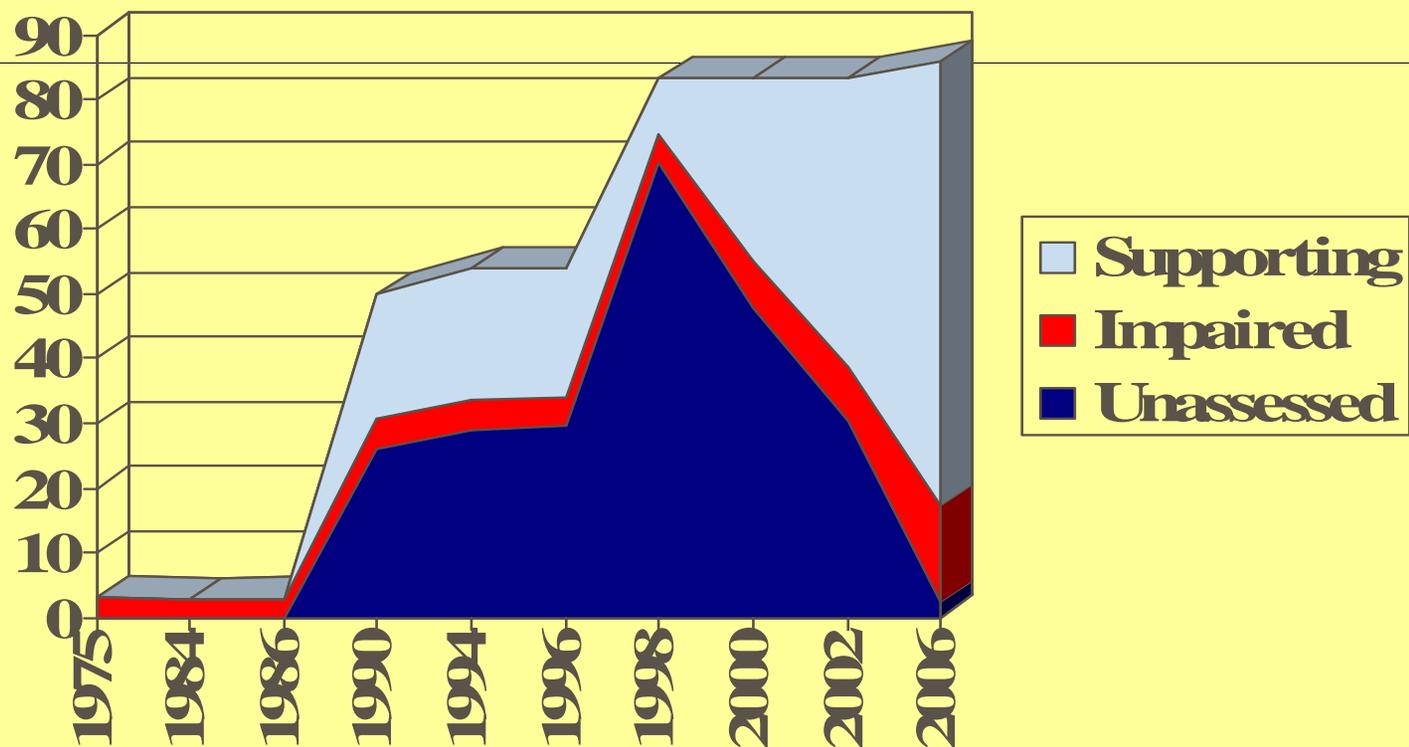
Source: DER/DEP 305b Reports

*Significant Lakes—

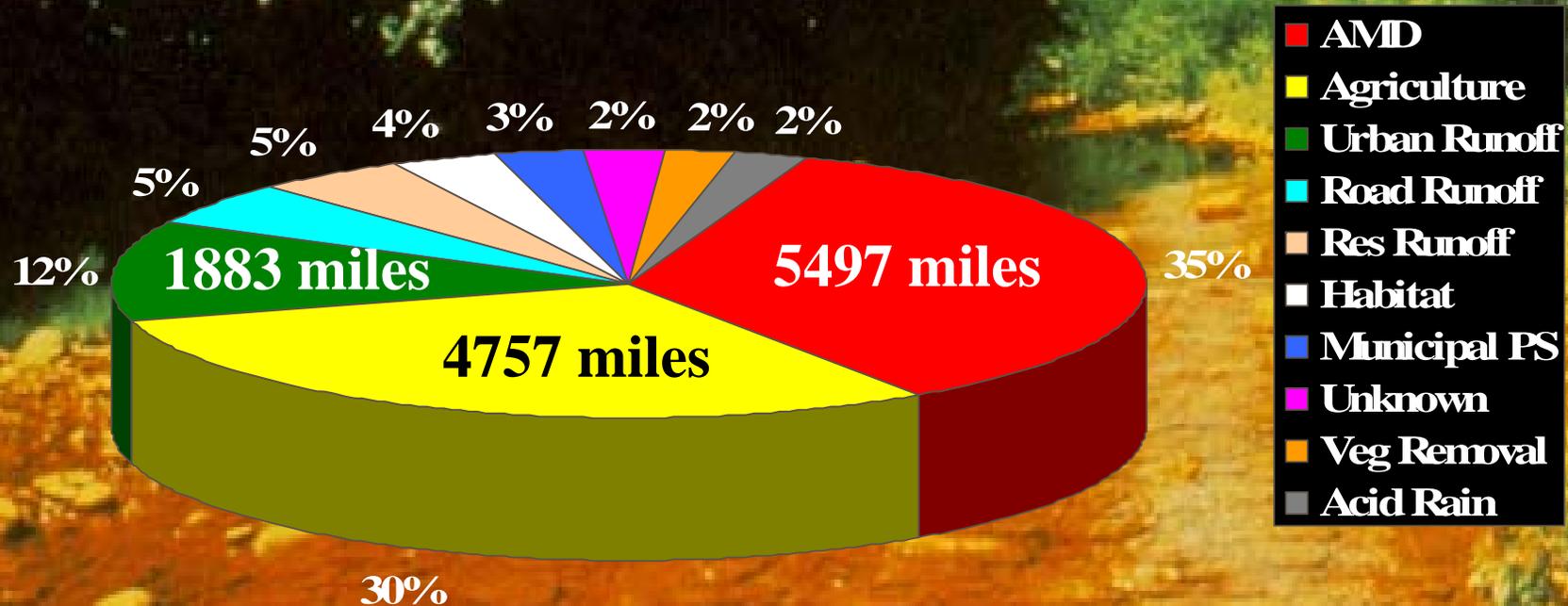
Public Access/14 day Retention

Water Quality Assessment Trends in Pennsylvania

Thousands

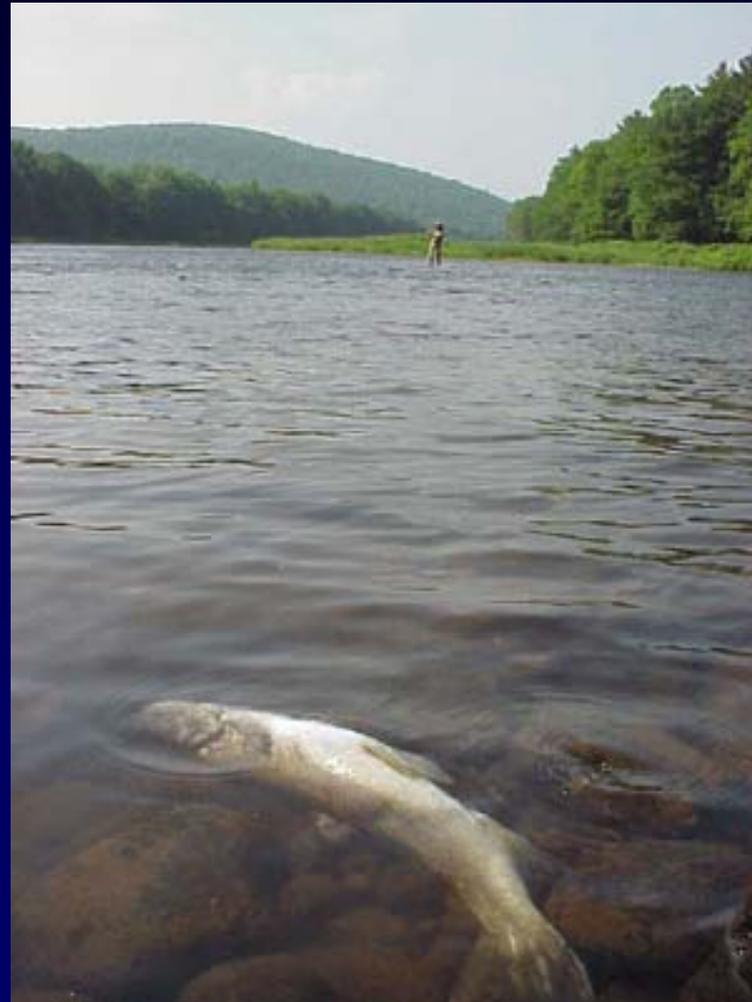
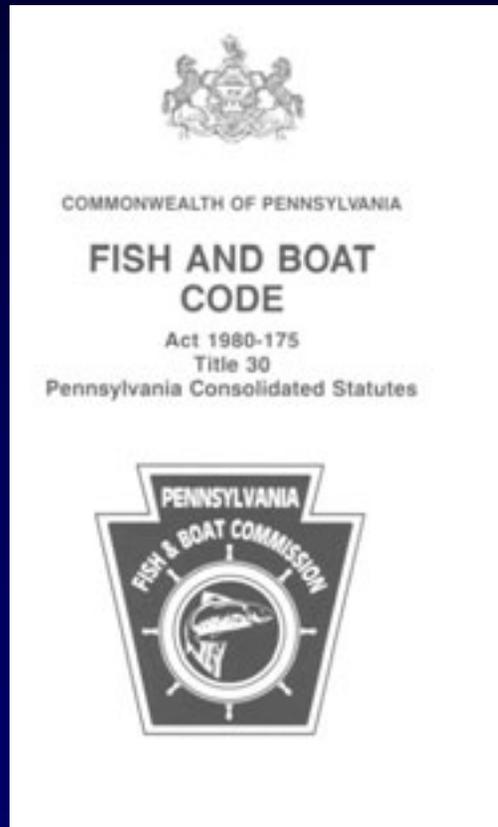


Major Sources of Water Quality Degradation (14,942 miles)



Source: DEP 2006 305(b) Report

Why is the PFBC interested in Water Quality Protection?



Pollution Enforcement

It's the Law!!!!

- **Most State and Federal laws and regulations contain Fish & Wildlife protection provisions.**
- **MOUs with other State and Federal regulatory agencies.**
- **PFBC is a member of the EQB.**

257 US ACOE 404 Permits

**623 DEP Stream and Wetland
Encroachment Permits**

Permit Reviews

13 DEP Water Allocation Permits

902 Aquatic Herbicide Permits

2900 20,000 Envelopes mits
ses

**325 Triploid Grass
Carp Permits**

135 Scientific Collectors Permits

99 Lake Drawdown Permits

**50 PennDOT Projects (including
130 Stream and Wetland
encroachments)**

142 Mining Permits

69 Blasting Permits

12 Landfill Projects

Numbers per year

§ 57.3. PFBC Policy on water quality designation

Adopted November 8, 1985

It is the policy of the Commission to advance and seek, when supported by the current data base, the highest Department of Environmental Protection water quality designation for waters of this Commonwealth in order to achieve the objectives of this chapter.



§ 57.3. Policy on water quality designation

Provisions of this § 57.3 adopted November 8, 1985

-  **DES functions as liaison to DEP.**
-  **Fisheries Management refers candidate waters to DES. A list of waters for upgrades is compiled consistent with the data and DEP/PFBC policy.**
-  **DEP protects existing uses immediately if supported by the data and the recommendation has been public participated.**
-  **DEP prepares rulemaking packages for EQB to change designated use in 25 PA Code Chapter 93.**

25 PA Code Chapter 93

Commonwealth of Pennsylvania
Pennsylvania Code

Title 25. Environmental Protection
Department of Environmental Protection
Chapter 93. Water Quality Standards



Department of Environmental Protection
Bureau of Watershed Conservation
Division of Water Quality Assessment & Standards
Rachel Carson State Office Building, 10th Floor
400 Market Street
Harrisburg, PA 17101-8555
(717) 787-9637

Current through 29 Pa.B. 4414 (August 14, 1999)

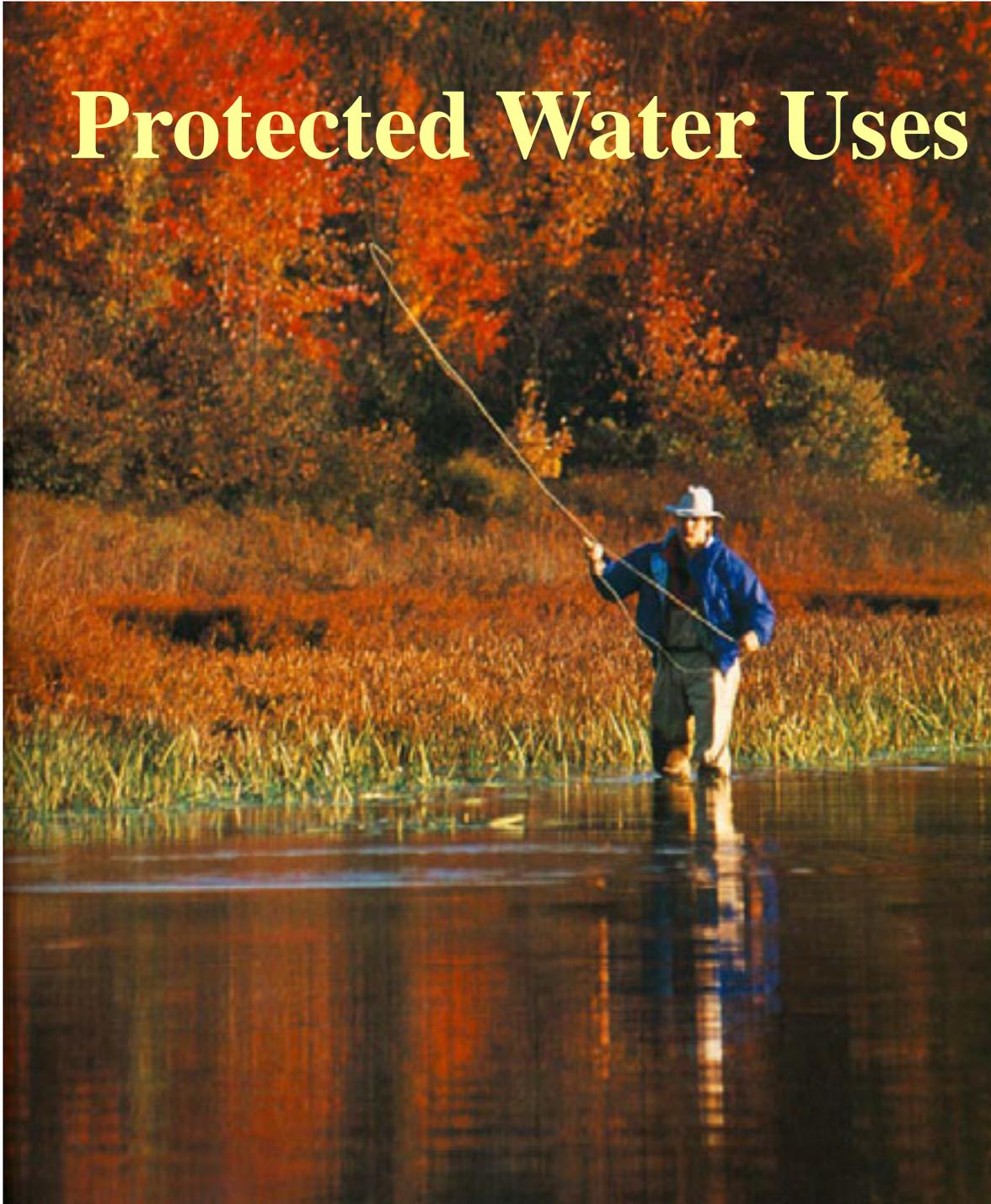
Water Quality Standards =

Water Quality Criteria

+

Designated Use

Protected Water Uses



- *Aquatic Life*
- *Water Supply*
- *Recreation*
 - *Fishing/Boating*
 - *Water Contact Sports*
 - *Esthetics*
- *Special Protection*
 - *HQ & EV*
- *Navigation*

Protected Water Uses

Aquatic Life

- *Cold Water Fishes (CWF)*
- *Warm Water Fishes (WWF)*
- *Migratory Fishes (MF)*
- *Trout Stocking (TSF)*



DEP Protected Use Classifications

Protected Use

- ✓ CWF - Cold Water Fishes—Maintenance or propagation, or both, of fish species including the family Salmonidae and additional flora and fauna which are indigenous to a cold water habitat.
- ✓ WWF - Warm Water Fishes—Maintenance and propagation of fish species and additional flora and fauna which are indigenous to a warm water habitat.
- ✓ MF - Migratory Fishes—Passage, maintenance and propagation of anadromous and catadromous fishes and other fishes which ascend to flowing waters to complete their life cycle.
- ✓ TSF - Trout Stocking—Maintenance of stocked trout from February 15 to July 31 and maintenance and propagation of fish species and additional flora and fauna which are indigenous to a warm water habitat.

DEP Protected Use Classifications

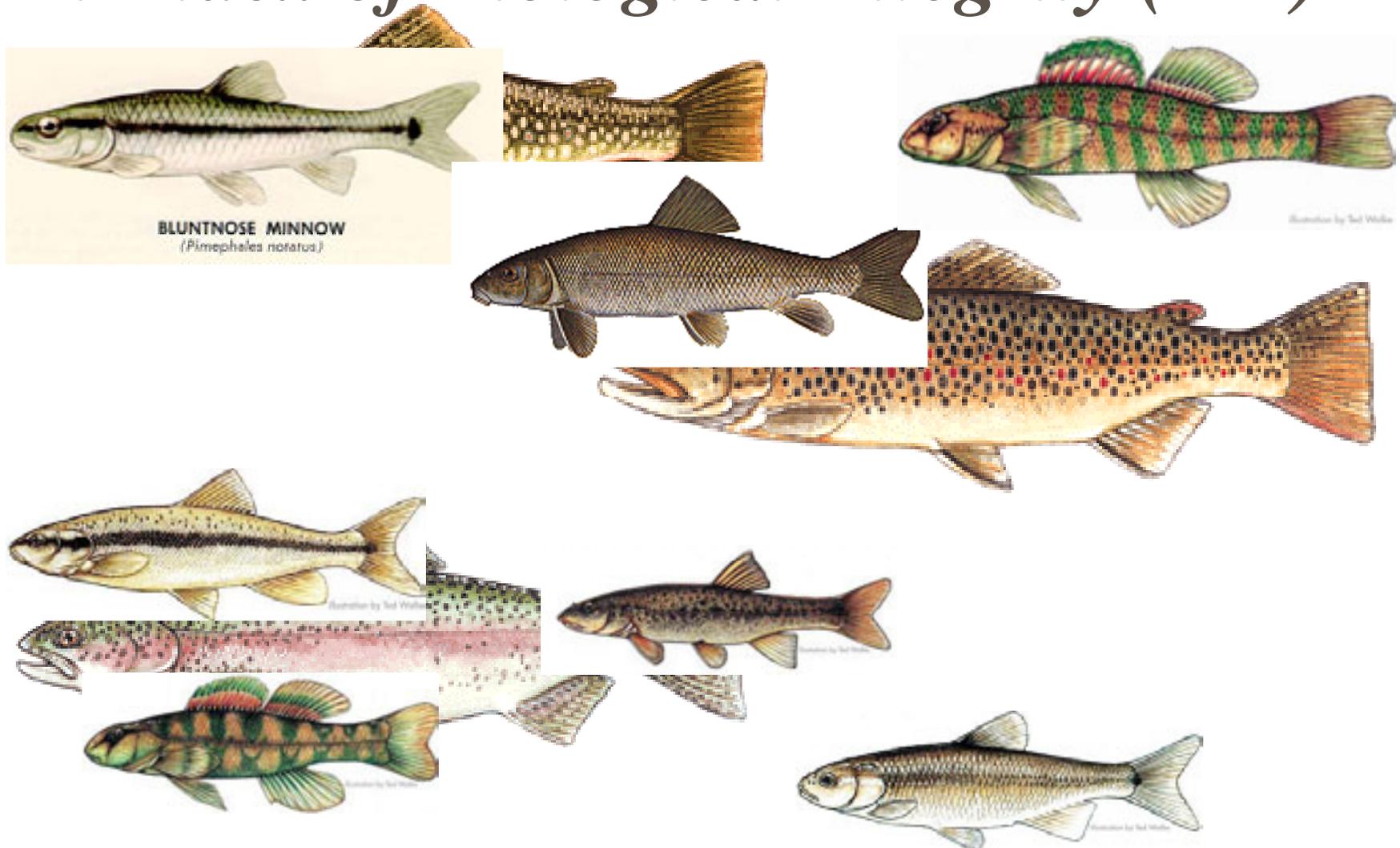
Special Protection

- ✓ **HQ - High Quality waters - Surface waters having quality which exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water by satisfying § 93.4b(a).**
- ✓ **EV - Exceptional Value Waters - Surface waters of high quality which satisfy § 93.4b(b) (relating to antidegradation).**

Benthic Macroinvertebrate Community Sampling



A Fish Method In Development: An Index of Biological Integrity (IBI)



PFBC Wild Trout Water Classifications

- ✓ ***Class A wild trout water***
Supports a population of naturally produced trout of sufficient size and abundance to support a long-term and rewarding sport fishery. Natural reproduction, wild populations with no stocking. (ST Biomass ≥ 30 kg/ha; BT Biomass ≥ 40 kg/ha)
- ✓ ***Class B waters***
support good wild trout populations (ST & BT ≥ 20 kg/ha)
- ✓ ***Class C waters***
support fair wild trout populations (ST & BT ≥ 10 kg/ha)
- ✓ ***Class D waters***
do not support trout reproduction or support low density wild trout populations (ST & BT < 10 kg/ha)

Trout Fisheries Assessment Trends in Pennsylvania

	1976	1983	1991	1997	2003	2007
Wild Trout Streams (miles)			1300	1519	3312 (10,500)	3389 (?)
Class A Wild Trout Streams (miles)		138 (397)		347 (1049)	434 (1282)	473 (1395)
Wilderness Trout Streams (miles)	82	87	88	96	111 (380)	111 (380)

Source: PFBC Open File Reports



§ 57.11. Listing of wild trout streams.

Provisions of § 57.11 adopted July 18, 2003



Implications of PFBC Listings



25 PA Code Chapter 105



Exceptional Value Wetlands-- “Wetlands that are located in or along the floodplain of the reach of a *wild trout stream* or waters listed as exceptional value under Chapter 93, and *the floodplain of streams tributary thereto.....”*



Wetlands that serve as habitat for *T&E-listed fauna* and wetlands that are hydrologically connected to or located w/in 0.5 mile of those wetlands...



§ 57.11. Listing of wild trout streams.

Provisions of § 57.11 adopted July 18, 2003



Implications of PFBC Listings (con't)



25 PA Code Chapter 105



Construction Windows (105.43 Time Limits)



Wild Trout-- October 31 to December 31



Hatchery Trout-- March 1 to June 15



General Permits



§ 57.8a. Class A wild trout streams.

Provisions of § 57.8a adopted April 18, 1997?



25 PA Code Chapter 93



High Quality Cold Water Fishes Designation



“Class A wild trout stream qualifier. The surface water has been **designated a Class A wild trout stream** by the Fish and Boat Commission following public notice and comment.” (93.4b(a)(2)(ii))



§ 57.8a. Class A wild trout streams.

Provisions of § 57.8a adopted April 18, 1997?



DEP WQ Antidegradation Implementation Guidance



This criterion is designed to recognize waters supporting a high biomass of stream-bred trout and, therefore, considers both **biological** and **recreational** attributes of the candidate water.



§ 57.4. Wilderness trout streams.

Provisions of § 57.4 adopted November 8, 1985; amended Feb. 12, 1993



25 PA Code Chapter 93



Exceptional Value (EV) Waters

“Wilderness Trout Stream designations are conferred by the PFBC, following public notice and comment. The use as a criterion for EV waters recognizes both the biological/ecological and recreational significance of these waterbodies. DEP will evaluate and confirm the PFBC’s rationale for the designation, and inclusion of appropriate public involvement prior to providing EV status under this criterion.”

This designation is an effort to protect and promote native trout fisheries and maintain and enhance the wilderness aesthetics and ecological requirements necessary for natural reproduction of trout.

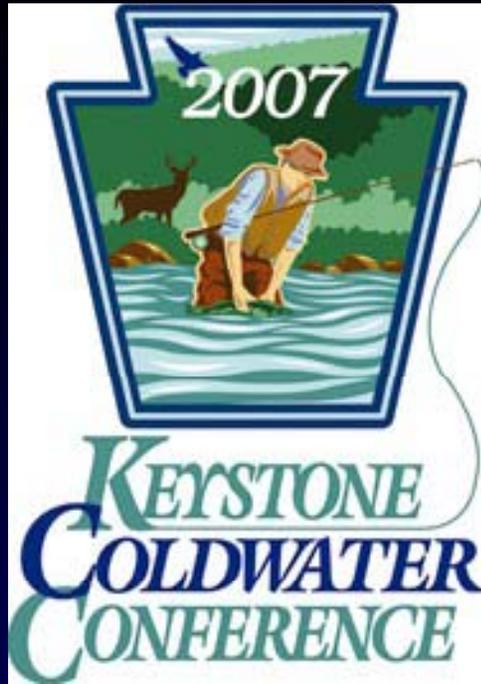
DEP & SRBC Policies on Water Withdrawals

Stream Designations	Protection Limit
<i>EV (PFBC Wilderness Trout)</i>	$\leq 5\%$ loss of Habitat
<i>HQ (PFBC Class A)</i>	$\leq 5\%$ loss of Habitat $\leq 7.5\%$ permitted w/exceptions
<i>CWF (PFBC Class B)</i>	$\leq 10\%$ loss of Habitat
<i>CWF (PFBC Class C or D)</i>	$< 15\%$ loss of Habitat
All Other Streams	Never $< Q7-10$

Coldwater Heritage Partnership

To provide leadership, coordination, technical assistance, and funding support for the preservation, protection and restoration of Pennsylvania's coldwater streams and wild trout populations.





1997 Keystone Coldwater Conference

Water Quality, Habitat & Trout: The Watershed Approach

1998 Keystone Coldwater Conference

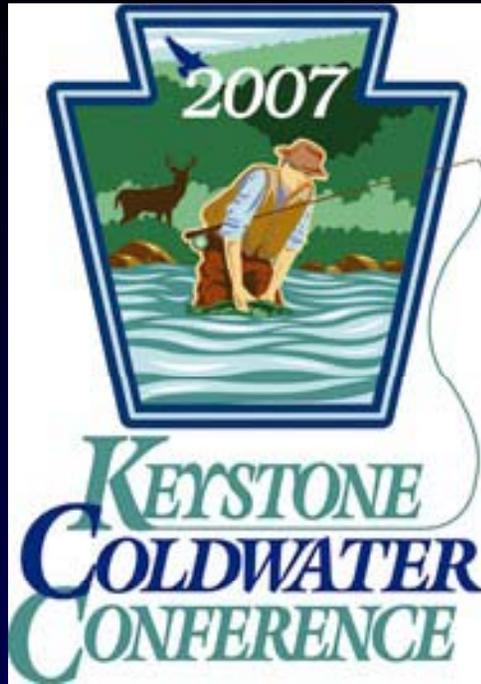
What Works and How to Do It

1999 Keystone Coldwater Conference

Multiple Benefits of Streamside Buffers

2000 Keystone Coldwater Conference

A Primer on Instream Habitat



2002 Keystone Coldwater Conference

Headwater Habitats: The Importance of Native Plant and Animal Diversity

2004 Keystone Coldwater Conference

Managing Runoff: Urban and Rural

2006 Keystone Coldwater Conference

Our Watersheds at Risk: Protecting Water Quality, Quantity and Stream Access

2008 Keystone Coldwater Conference

Headwater Ecosystems: Protection, Management and Research

Division of Environmental Services

**Reactive--- Pollution Assessment,
Damage Assessment/Restoration**

**What are the impacts and how do we
deal with them?**

What Are the Impacts?

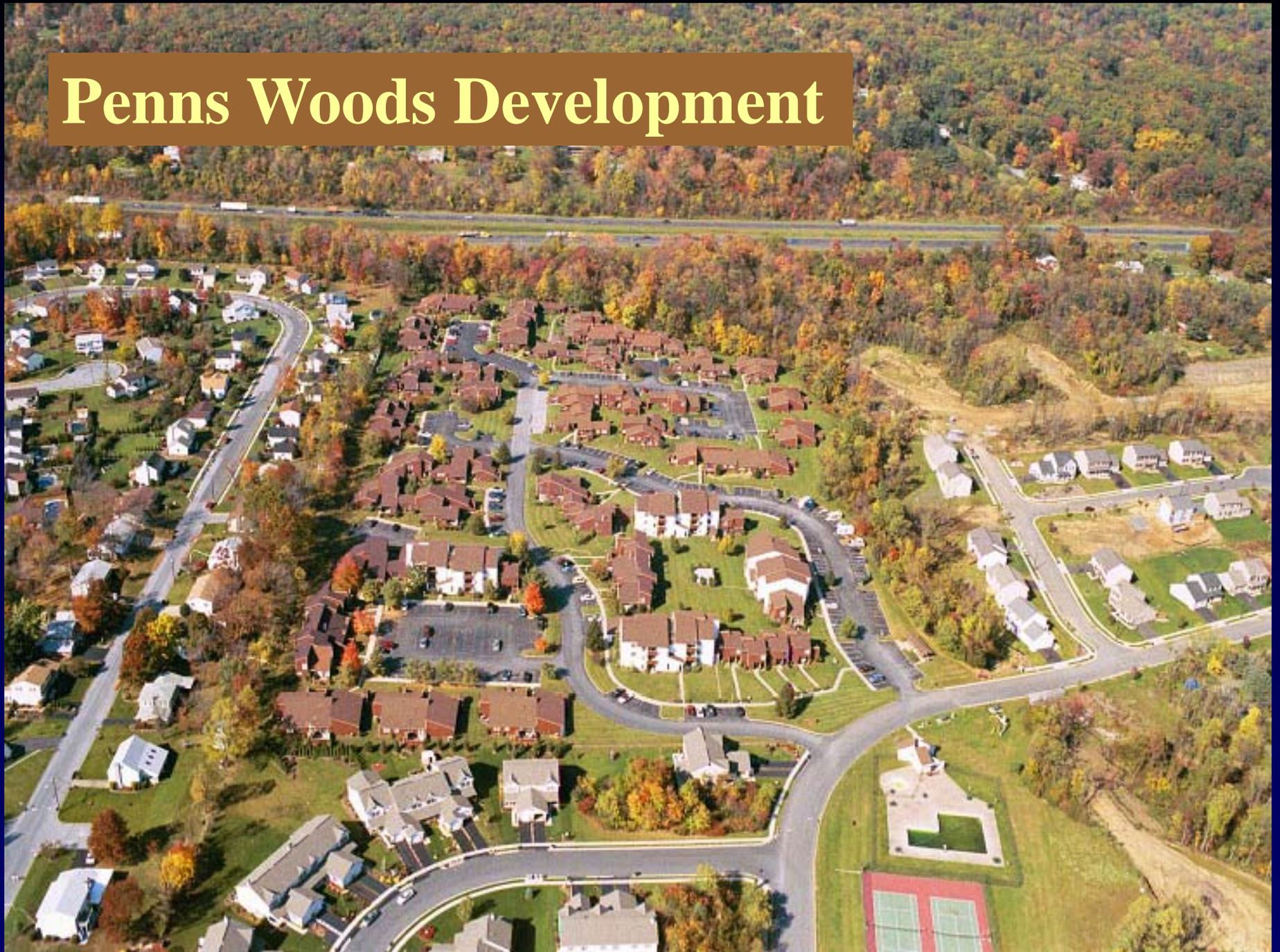
DRY



Penns Woods is turning into:



Penns Woods Development





Impacts of Increased Amount of Impervious Surfaces

- **Increased stormwater runoff**
- **Increased local flooding**
- **Increased streambank erosion and stream siltation**
- **Decreased groundwater infiltration**
- **Decreased stream base flows**

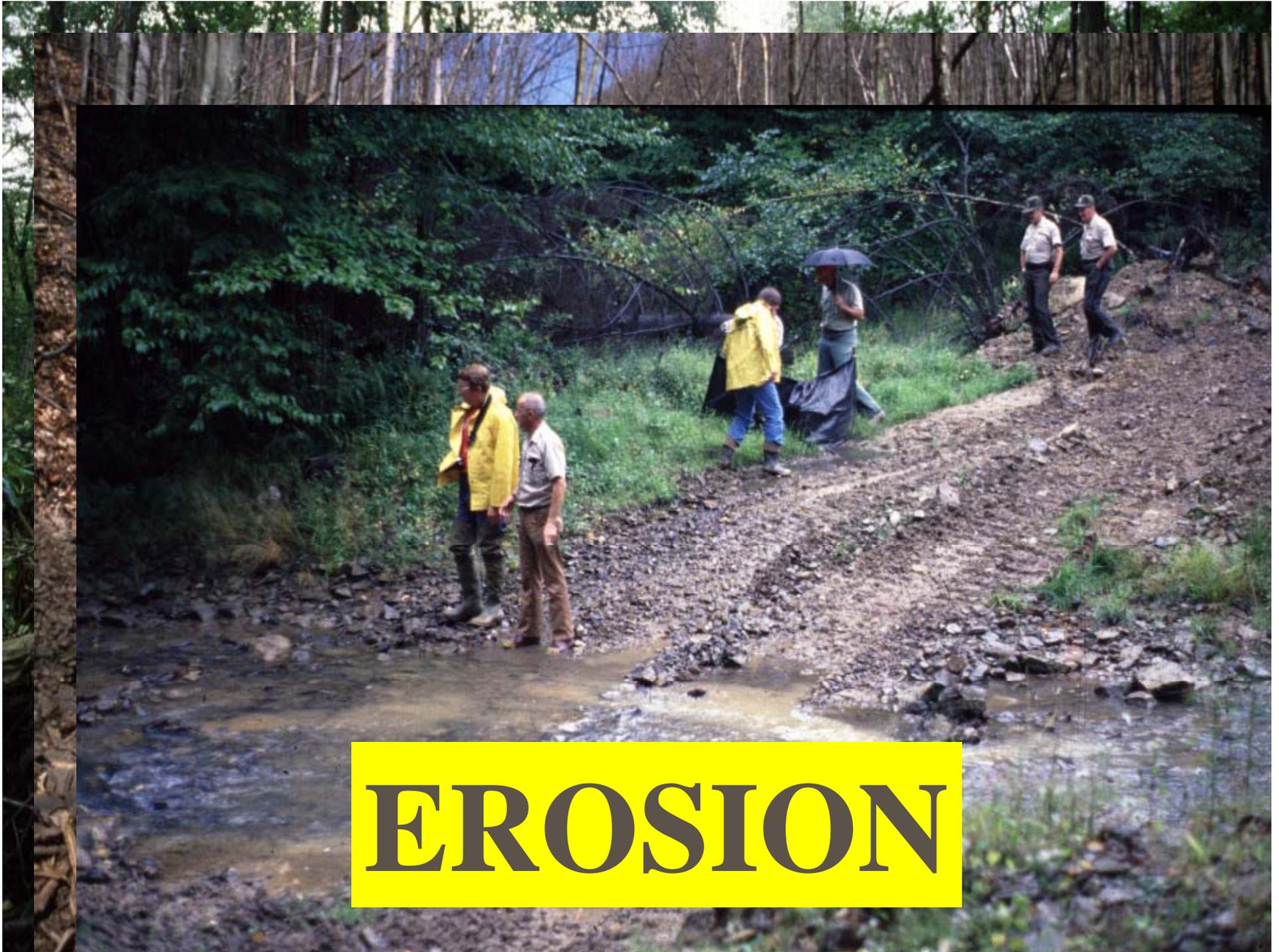
Percent Impervious Indicator

Maryland Biological Stream Survey

< 4% Fair to Good for fish and inverts

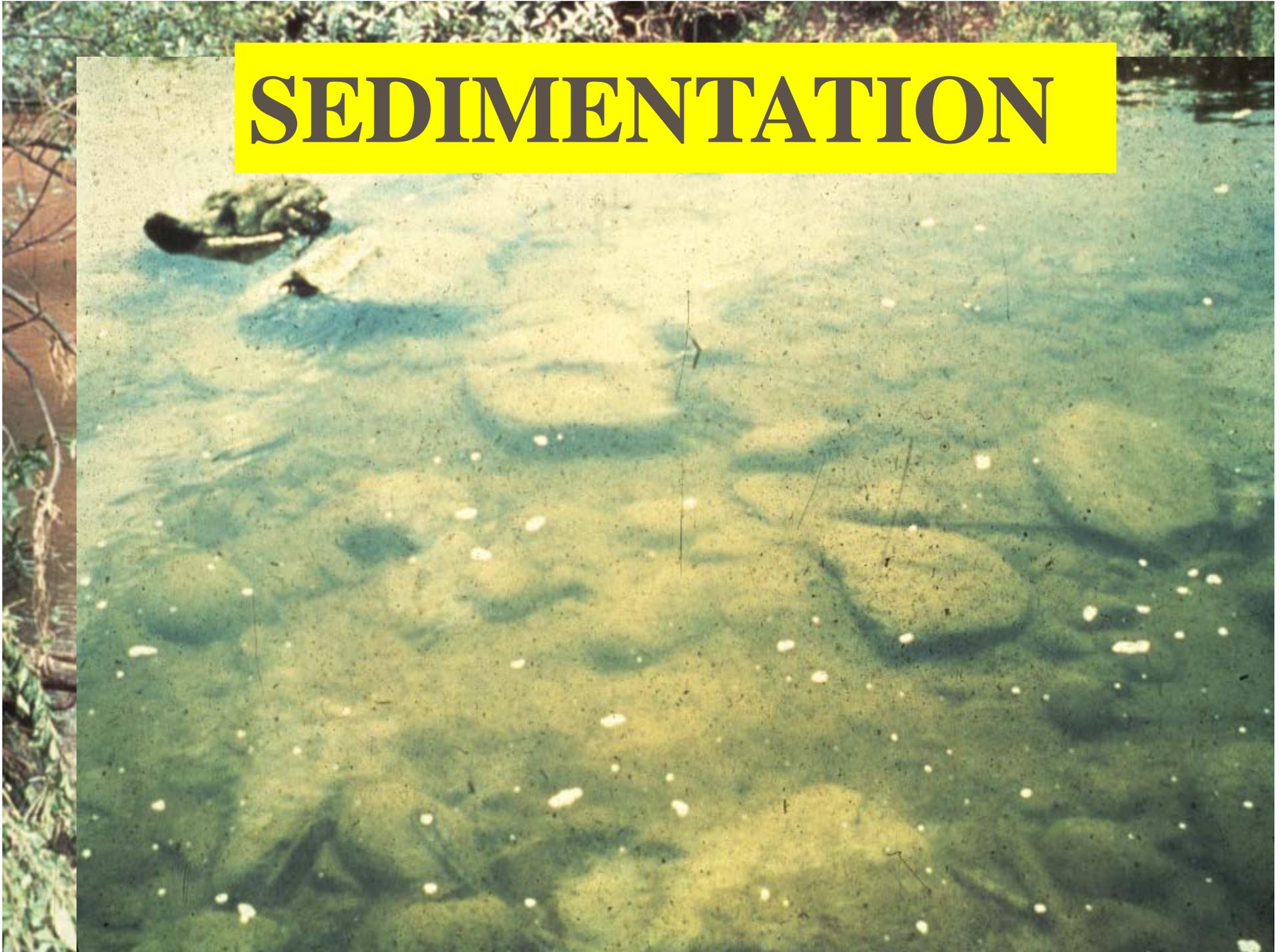
> 12% Poor to Fair for both fish & inverts

20 species including herps and fish begin declines when > 4% occurs. For brook trout the threshold value is 4.26% (Stranko (MBSS) 2006)



EROSION

SEDIMENTATION

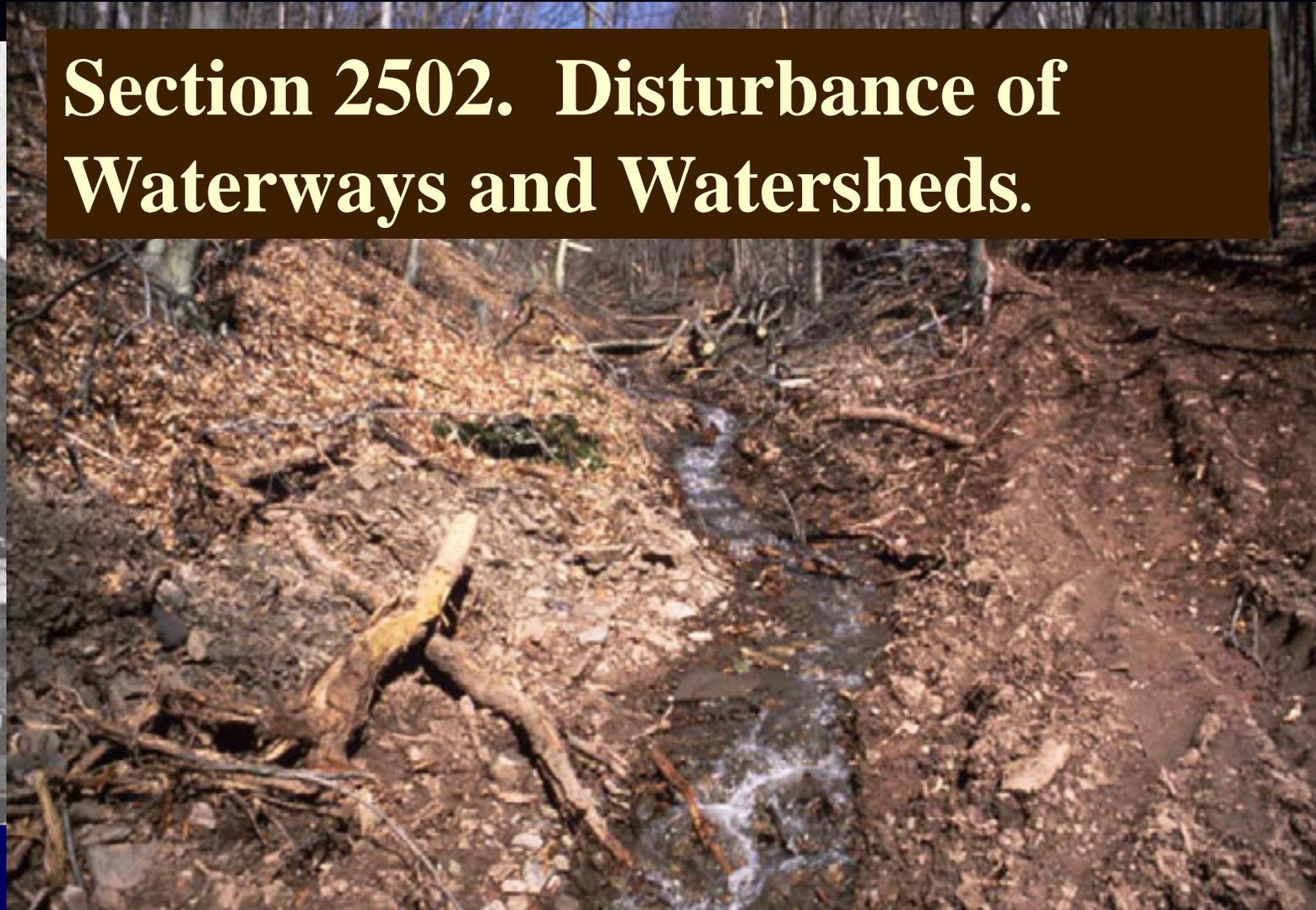


Section 2504. Pollution of Waters.



Pollution Enforcement

Section 2502. Disturbance of Waterways and Watersheds.

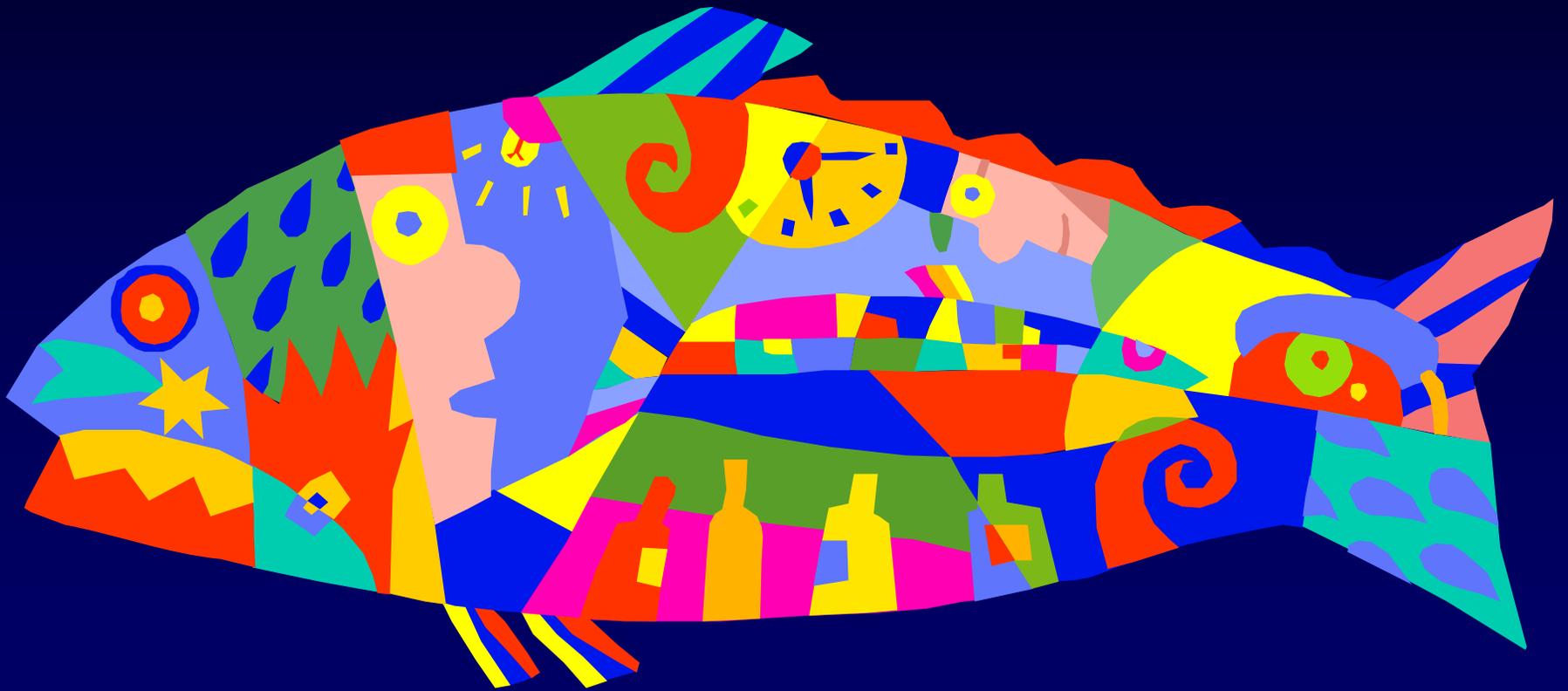


Pollution Enforcement

Pennsylvania's Aquatic Invasive Species



Fish Tissue Contamination



Fish Tissue Contamination

2008 PENNSYLVANIA FISHING SUMMARY

Summary of Fishing Regulations and Laws



2 TROUT OPENERS

18 Southeastern
Counties

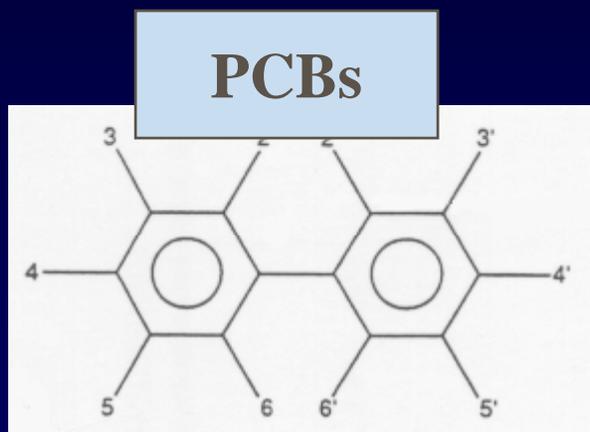
March 29 AND April 12

Regular Opening Day
for Trout Statewide

Your sportman's ID#

www.fish.state.pa.us

PCBs in Wild and Hatchery Trout in Pennsylvania



2008- Statewide one meal per week advisory

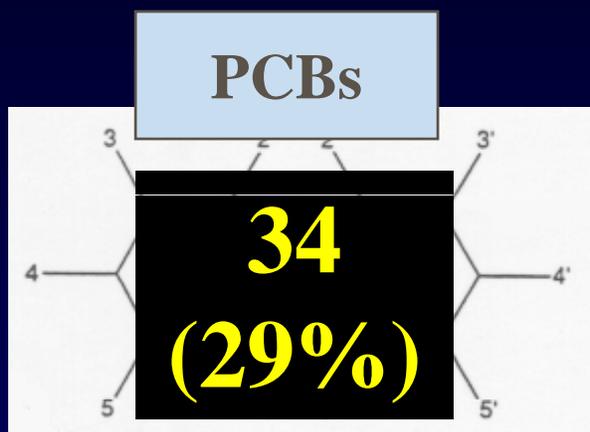
Wild Trout Advisories

Water	County	Species
Lake Erie	Erie	RBT
PIB	Erie	RBT
Schuylkill River	Schuylkill	ST,BT, RBT
Tulpehocken Ck	Berks	BT, RBT
W. Br. Delaware River	Wayne	BT
W. Br. Schuylkill River	Schuylkill	BT
Jacks Creek	Mifflin	BT

Wild Trout Advisories

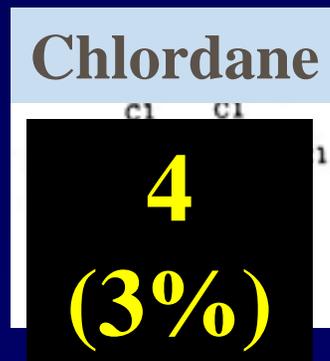
Water	County	Species
Logan Branch	Centre	BT
Trindle Spring Run	Cumberland	RBT
Yellow Breeches Creek	Cumberland	BT
White Deer Creek	Union	BT
W. Br. Caldwell Creek	Warren	BT

Fish Consumption Advisories for Wild and Hatchery Fish

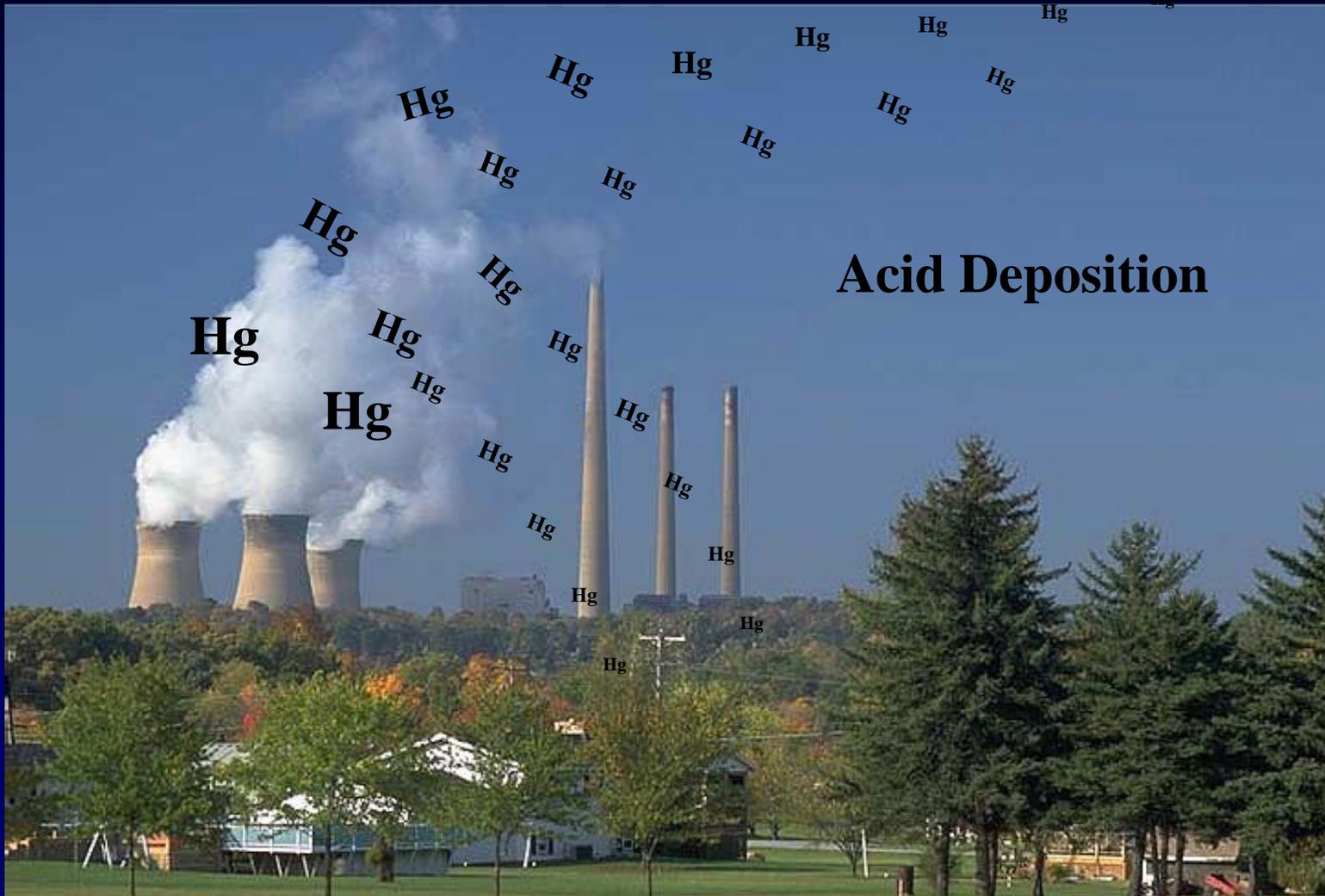


80
(68%)

Hg



The Mercury In Air Debate



Staff Challenges

-  **Continue to be advocates for protecting aquatic resources in permit application reviews consistent with the agency's Resource First mission.**
-  **Identify trout streams that support good trout populations and seek DEP special protection designations consistent with agency policy.**
-  **Work on developing a fish community assessment tool (IBI) for evaluating water quality.**

Staff Challenges

-  **Work with Law Enforcement on updating water pollution response training.**
-  **Improve risk assessment, management and communication methods used for issuing fish consumption advisories.**

Should we continue our fight for clean water and good habitat or grow a.....

STAINLESS Steelhead Trout
(Robert B. Hesser, 1982)????



THE END

