Wide-spread mortality of young-of-year smallmouth bass *Micropterus dolomieu* in the Susquehanna River Basin:

*The effect on the population*

**Mission:** To protect, conserve, and enhance the Commonwealth’s aquatic resources and provide fishing and boating opportunities
Onset of disease outbreak

- First appeared in 2005
- West Branch Susquehanna, Susquehanna, and Juniata rivers
- Affected young-of-year (YOY) smallmouth bass
- Disease prevalence as high as 70%

Photo: J. Cukjati - USGS PA Water Sci. Center
Onset of disease outbreak

- Varies temporally and spatially
- Most prevalent during years with normal (low) summer flow and high water temperature
- First documented in tributaries in 2010
- First documented outside of Susquehanna Basin in 2011

Photo: J. Chaplin - USGS PA Water Sci. Center
Catch rate (fish/50 m) of young-of-year smallmouth bass *Micropterus dolomieu* at the middle Susquehanna River: 1990 - 2012
Catch rate (fish/h) of adult smallmouth bass *Micropterus dolomieu* at the middle Susquehanna River: 1990 - 2012
Proportional stock density (PSD) of smallmouth bass *Micropterus dolomieu* at the middle Susquehanna River before (pre) and following (post) onset of disease-related mortality.
Relative stock density of 200 mm and greater TL (RSD-200) of smallmouth bass *Micropterus dolomieu* at the middle Susquehanna River before (pre) and following (post) onset of disease-related mortality
Overview

• Affected survival and recruitment of juvenile fish to the population

• Resulted in decrease in overall density of adult fish

• Created an atypical age (size) structure

Photo: J. Hepp
Reason for urgency

- Takes 5 - 6 years to reach 15” (legal-length)

- Each poor year class translates to poor fishery 5 or 6 years later.
Big business

- Fishing and Boating are big business in Pennsylvania
  - $3.4 billion to PA economy, annually
  - 18,000 jobs
  - $120 million in state and local tax revenue, annually

Photo: M. Hendricks
Big business

• Major recreational resource

• Nationally, black bass most popular game fish species (USFWS 2006)

• Black bass second to trout in terms of total anglers and days spent angling in Pennsylvania (both residents and non-residents; USFWS 2006)

• Susquehanna River smallmouth bass (2007)
  • Nearly 69,000 trips (April – October)
  • 286,144 hours

Photo: A. Shiels
Public outcry

- Several public meetings over the last several years
  - Approximately 1,000 attendees
  - Hundreds of comment letters
Public outcry

- Press coverage
  - Newspaper articles
    - Numerous local articles (Harrisburg, Sunbury, Lancaster)
    - Baltimore Sun
    - Wall Street Journal
    - San Francisco Chronicle
  - Magazine articles
    - Outdoor News
    - Flyfishing magazine
    - Outdoor America
  - Television programs
  - Countless blogs and web forums
Political activity

- Several contacts from legislators regarding constituents
- Presentations to House and Senate Fish and Game Committees
- Emergency Action to change regulations to immediate catch-and-release
- Formal regulation changes
- Request for PADEP impairment
Questions