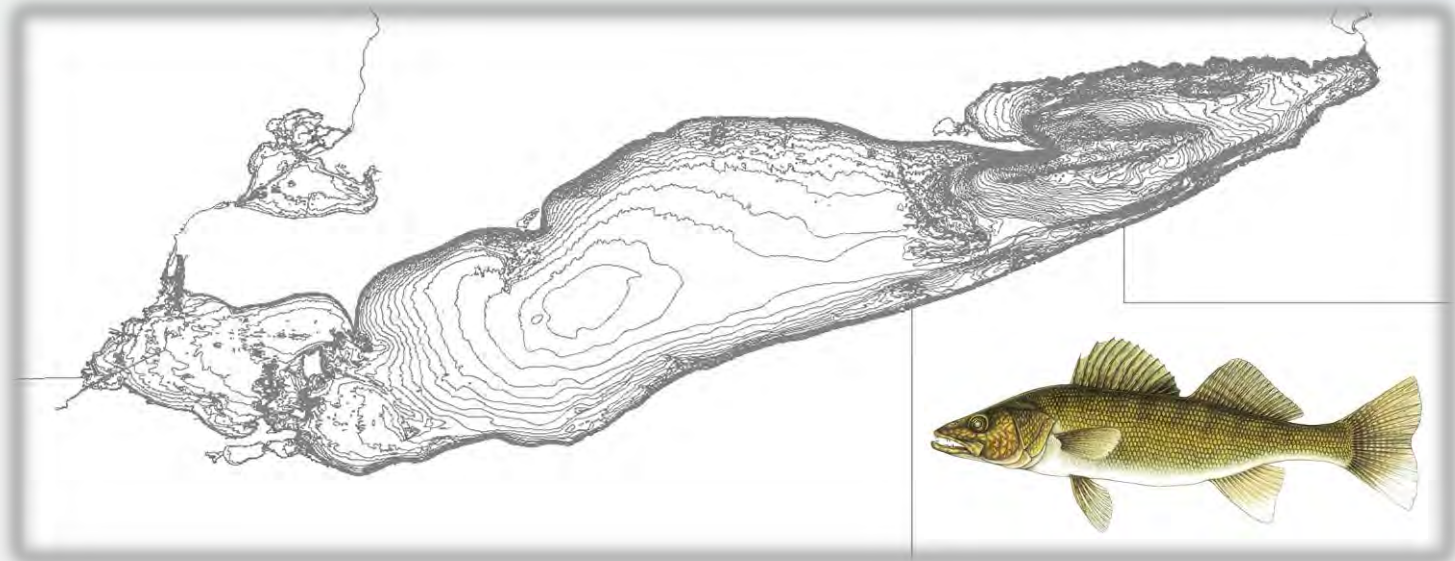


Lake Erie's Walleye Fishery: 50 Years From Closure to Abundance



86th Annual Midwest Association of Fish
& Wildlife Agencies Directors' Meeting

Travis Hartman
Lake Erie Program Administrator



15 Minutes of Lake Erie Walleye

Topic Outline

- 1) Setting the Stage, pre-1970
- 2) Recovery and Angler Participation
- 3) Year Class Failures and CPMS
- 4) Walleye Management Plan and Population Explosion
- 5) Summary



15 Minutes of Lake Erie Walleye

Topic Outline

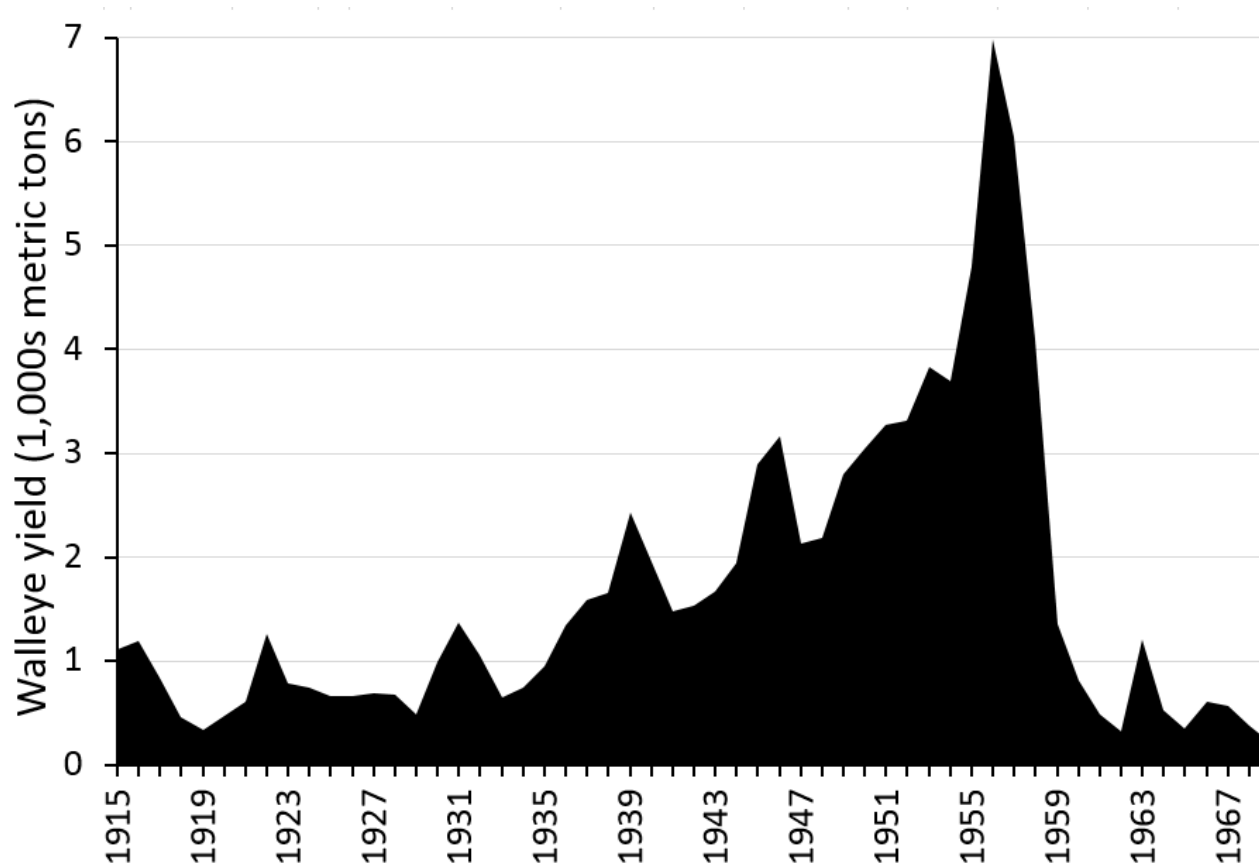
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Setting the Stage

Pre-1970

- Commercial Fishery Harvest Increase: 15 Million Pounds by 1956
- Annual Harvest Fell Sharply: 1.3 Million Pounds (8.6% of peak) by Mid-1960's



Modified from Baldwin et al. (2009)

Setting the Stage

Pre-1970

- Commercial Fishery Harvest Increase: 15 Million Pounds by 1956
- Annual Harvest Fell Sharply: 1.3 Million Pounds (8.6% of peak) by Mid-1960's
- Commercial Harvest of Walleye Closed (Mercury) in West Basin: 1970-1972



Setting the Stage

Pre-1970



Cleveland State University Library, alleghenyfront.org

Clean Water Act, 1972.....

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Recovery and Angler Participation

1970's and 1980's

- Environmental Recovery and Coordinated Management
- Large 1970's Year Classes and Reduced Fishing Mortality
- 1980's Angler Participation Explosion



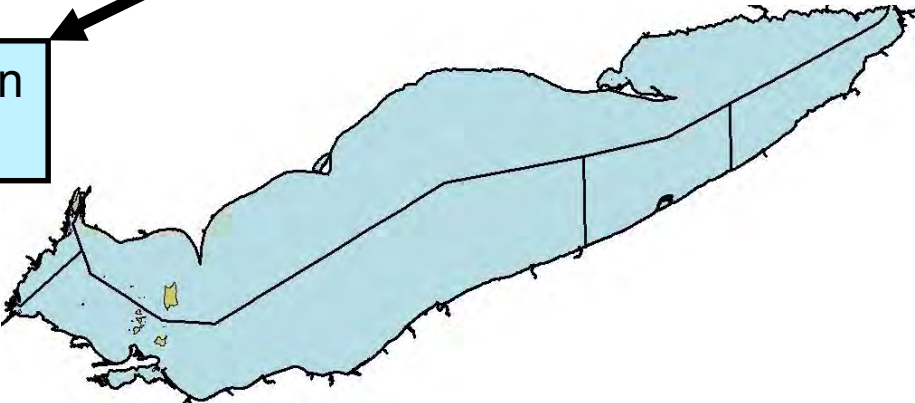
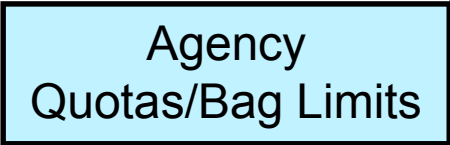
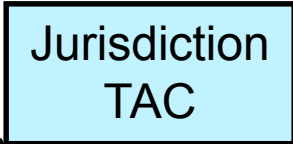
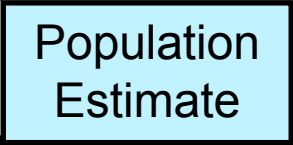
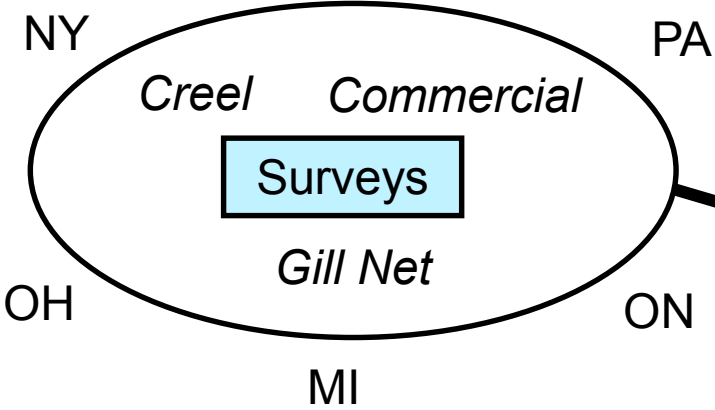
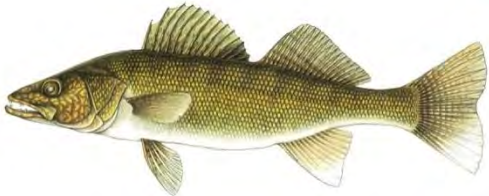
Recovery and Angler Participation

1970's and 1980's

- Environmental Recovery and Coordinated Management
 - Point-source pollution reduction
 - Beginning of Lake Erie Committee coordinated walleye management, 1973
 - Interagency quota management, 1976



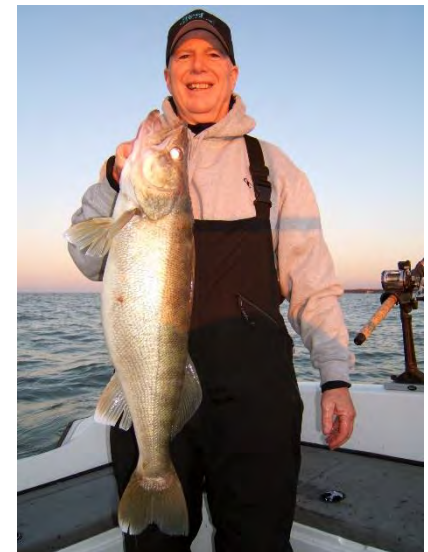
Lake Erie's Walleye Management Process



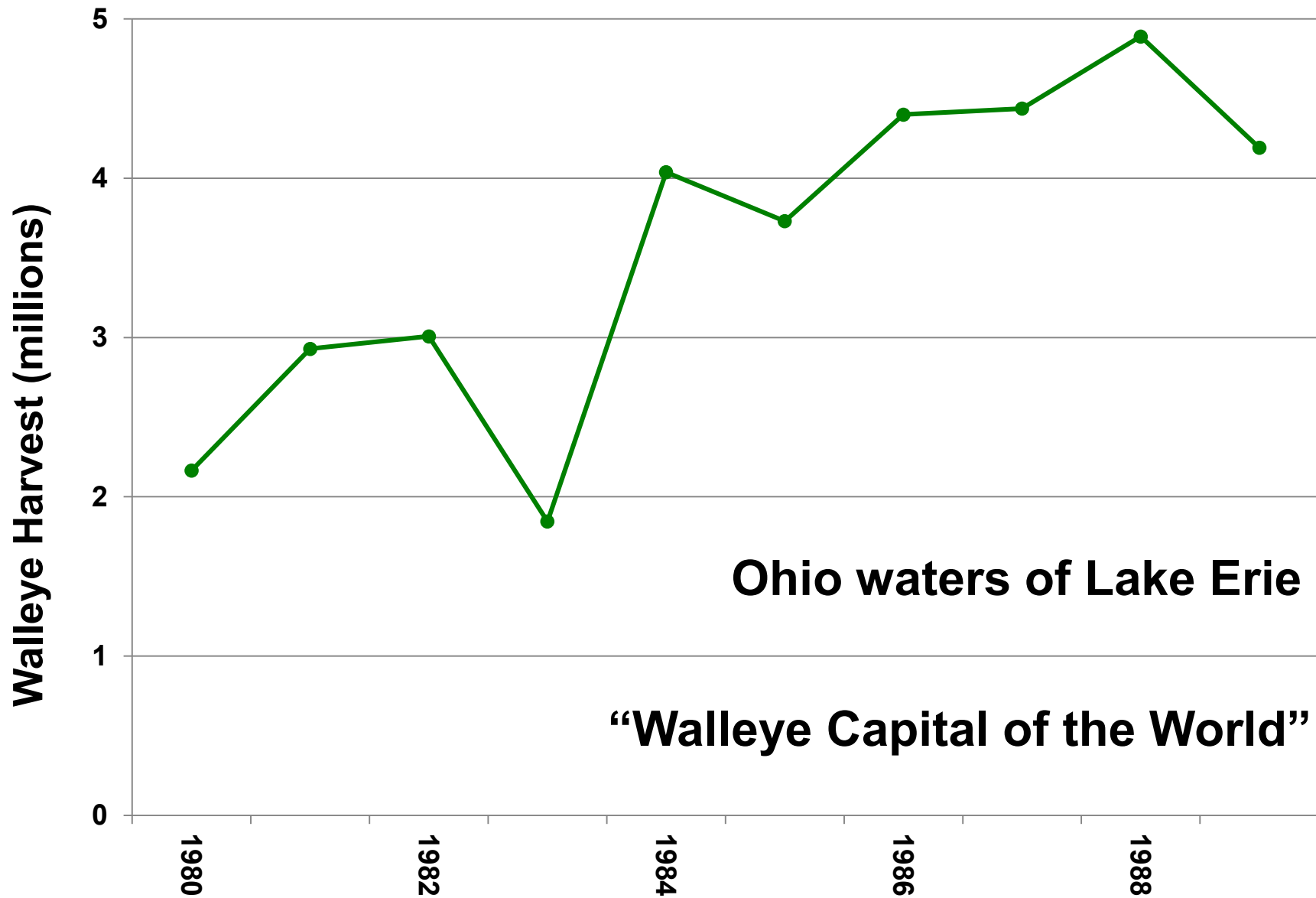
Recovery and Angler Participation

1970's and 1980's

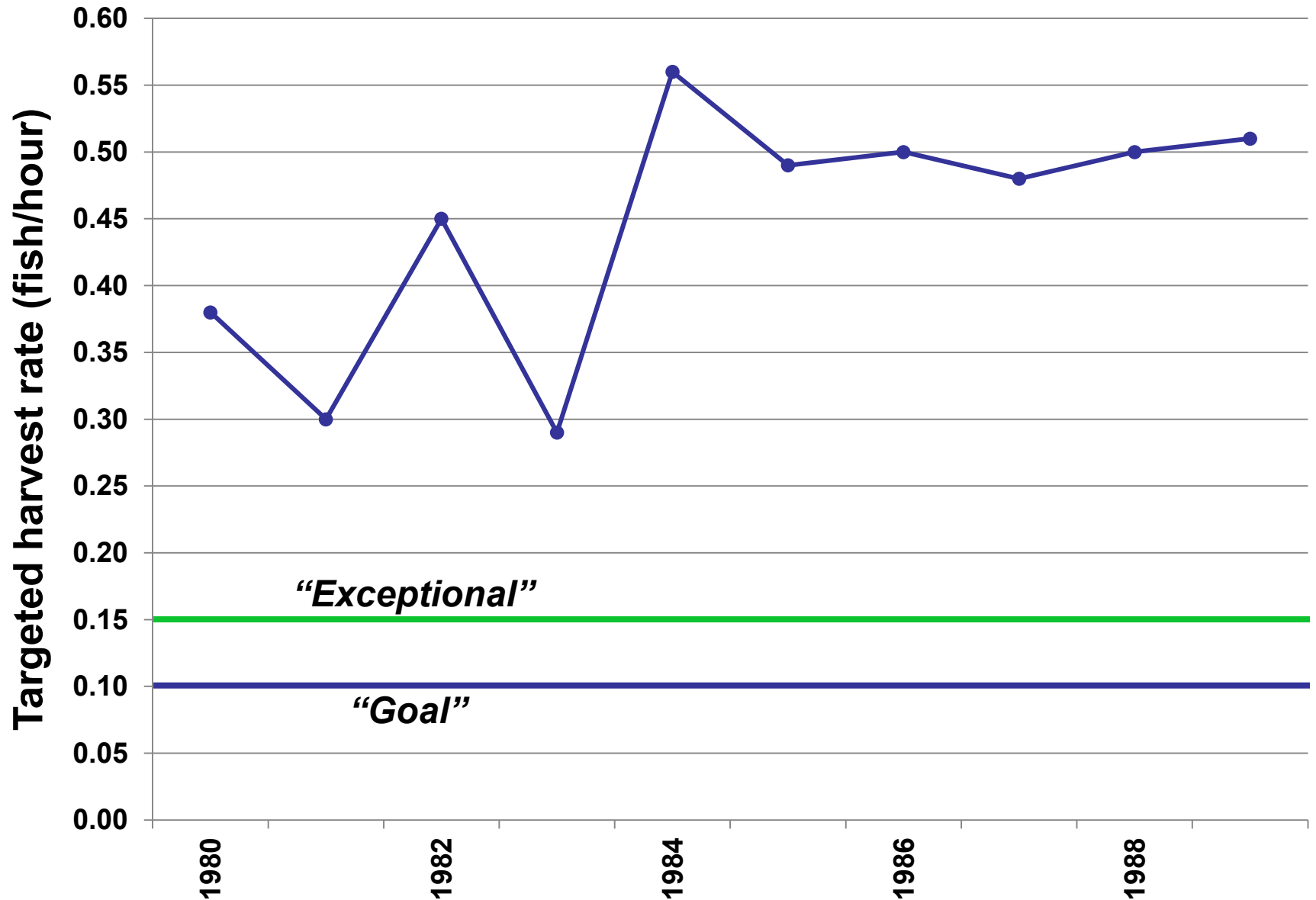
- Environmental Recovery and Coordinated Management
 - Point-source pollution reduction
 - Beginning of coordinated walleye management, 1973
 - Interagency quota management, 1976
- Large 1970's Year Classes and Reduced Fishing Mortality
 - Set the stage for a world-class walleye fishery
- 1980's Angler Participation Explosion
 - Targeted effort approached 10 million hours in Ohio
 - Ohio angler walleye harvest peaked at 4.9 million fish



Angler Walleye Harvest



Harvest Rates



15 Minutes of Lake Erie Walleye

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Year Class Failures and CPMS

1990's and 2000's

- Environmental and Fish Community Changes
- Reduction in Recruitment and Management Response
- Reduced Angler Participation and the Evolution of Angling Methods



Year Class Failures and CPMS

1990's and 2000's

- Environmental and Fish Community Changes
 - Less productivity and less turbidity
 - Lower water levels
 - AIS: Zebra/quagga mussels, gobies, white perch, bythotrephes, etc.



MSU.edu

Year Class Failures and CPMS

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 - Less frequent and smaller walleye year classes
 - Coordinated Percid Management Strategy, '01 thru '03...lower quotas

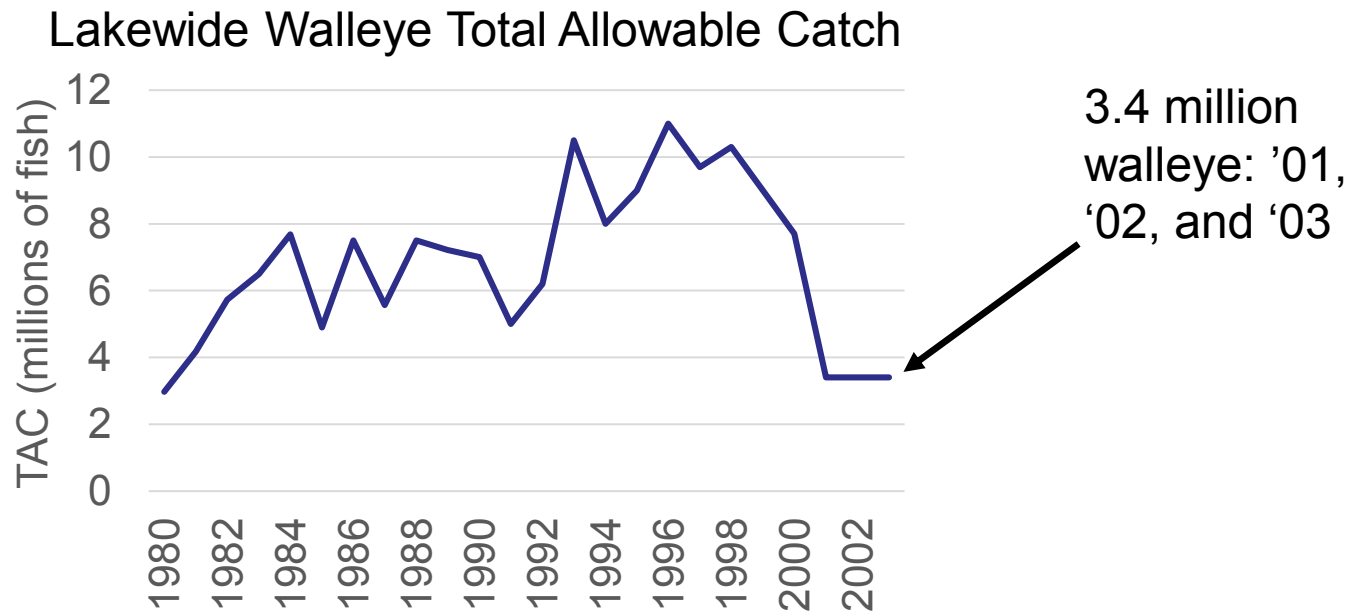
• reverse declines and rebuild percid stocks to achieve broad distribution of benefits throughout the lake

• improve approaches used to estimate percid abundance and determine sustainable harvest levels.

Year Class Failures and CPMS

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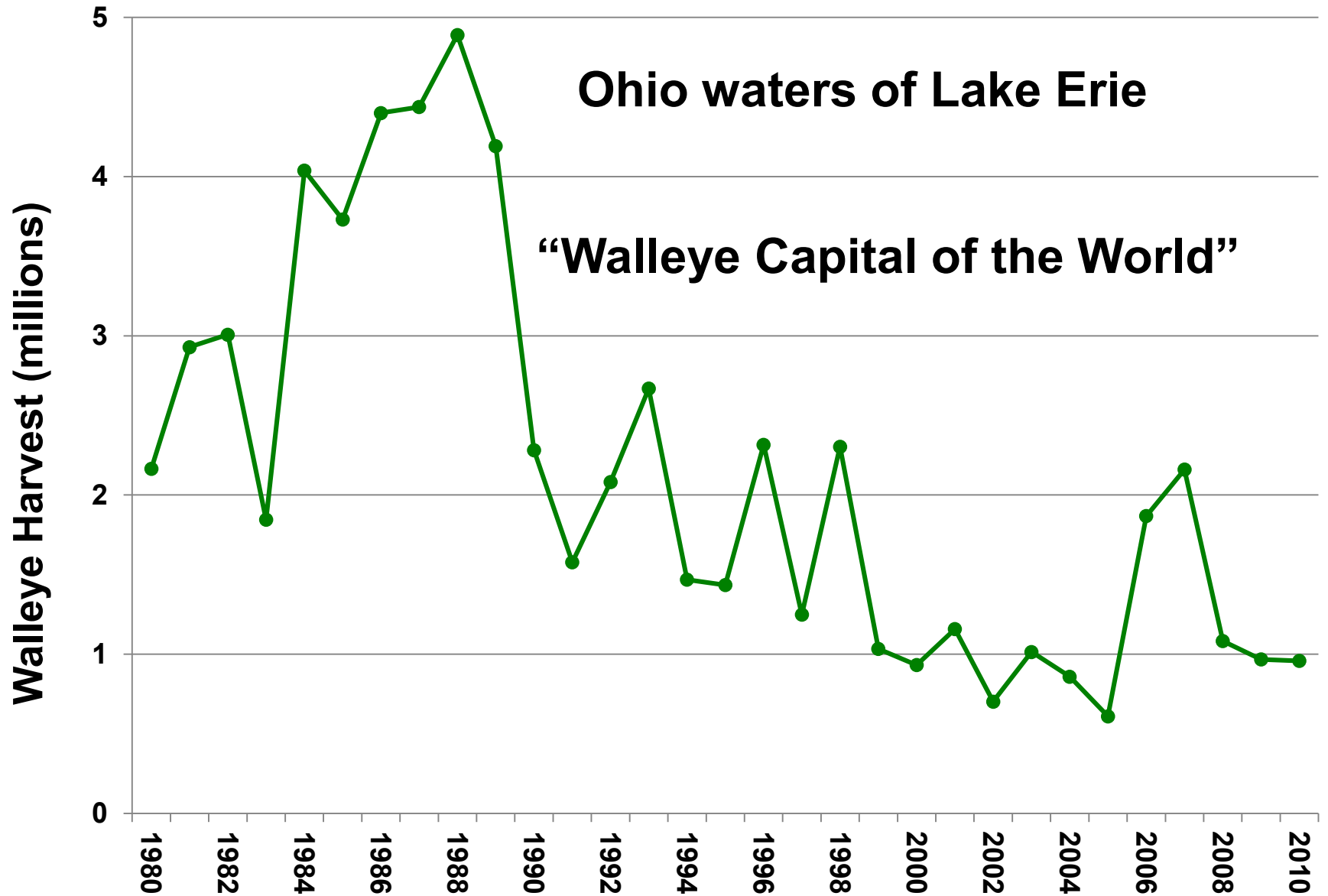
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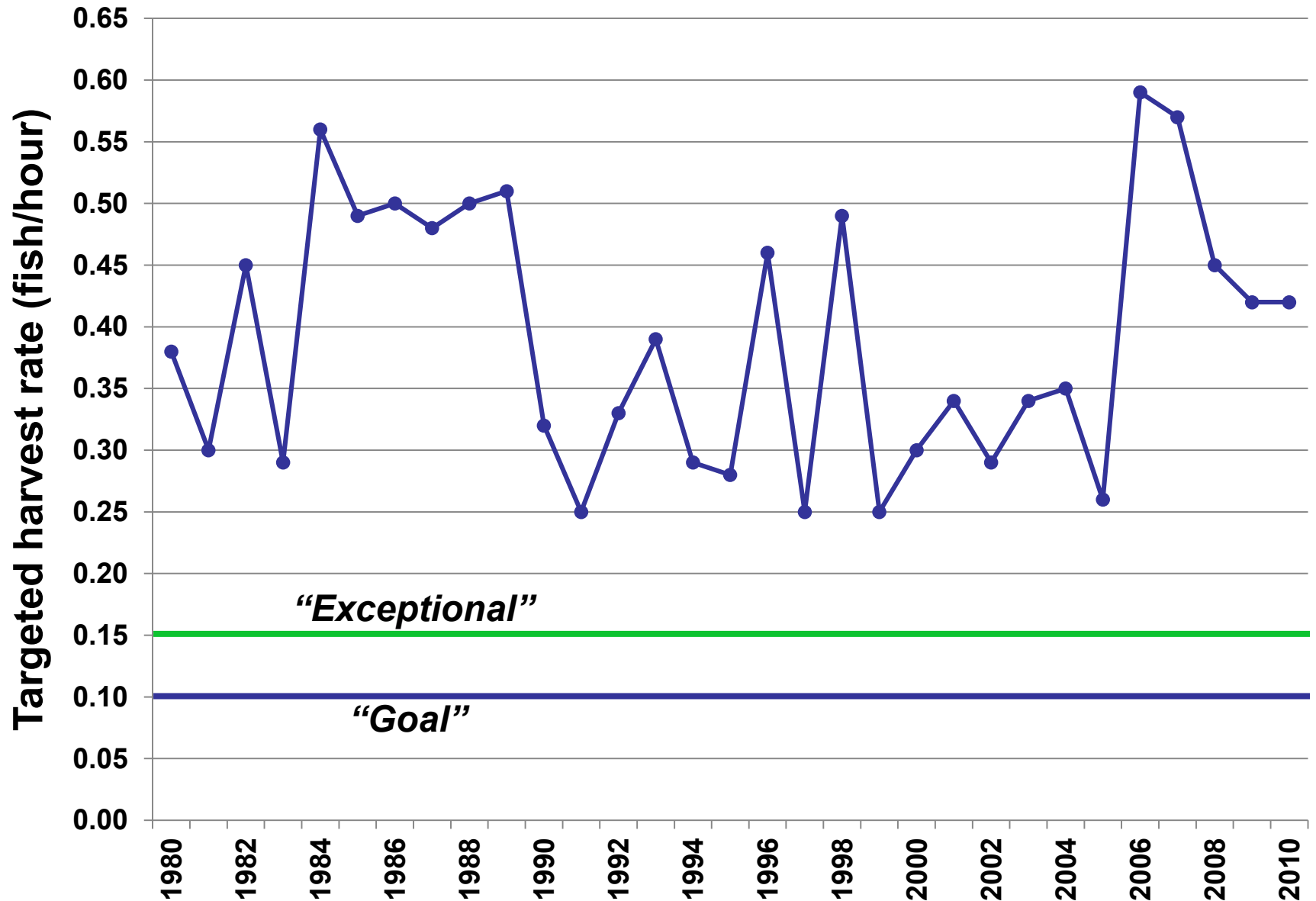
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 - Coordinated Percid Management Strategy, '01 thru '03...lower quotas
- Reduced Angler Participation and the Evolution of Angling Methods
 - Drastically declining targeted hours and harvest
 - Frustration with casting catch rates and exploration of trolling



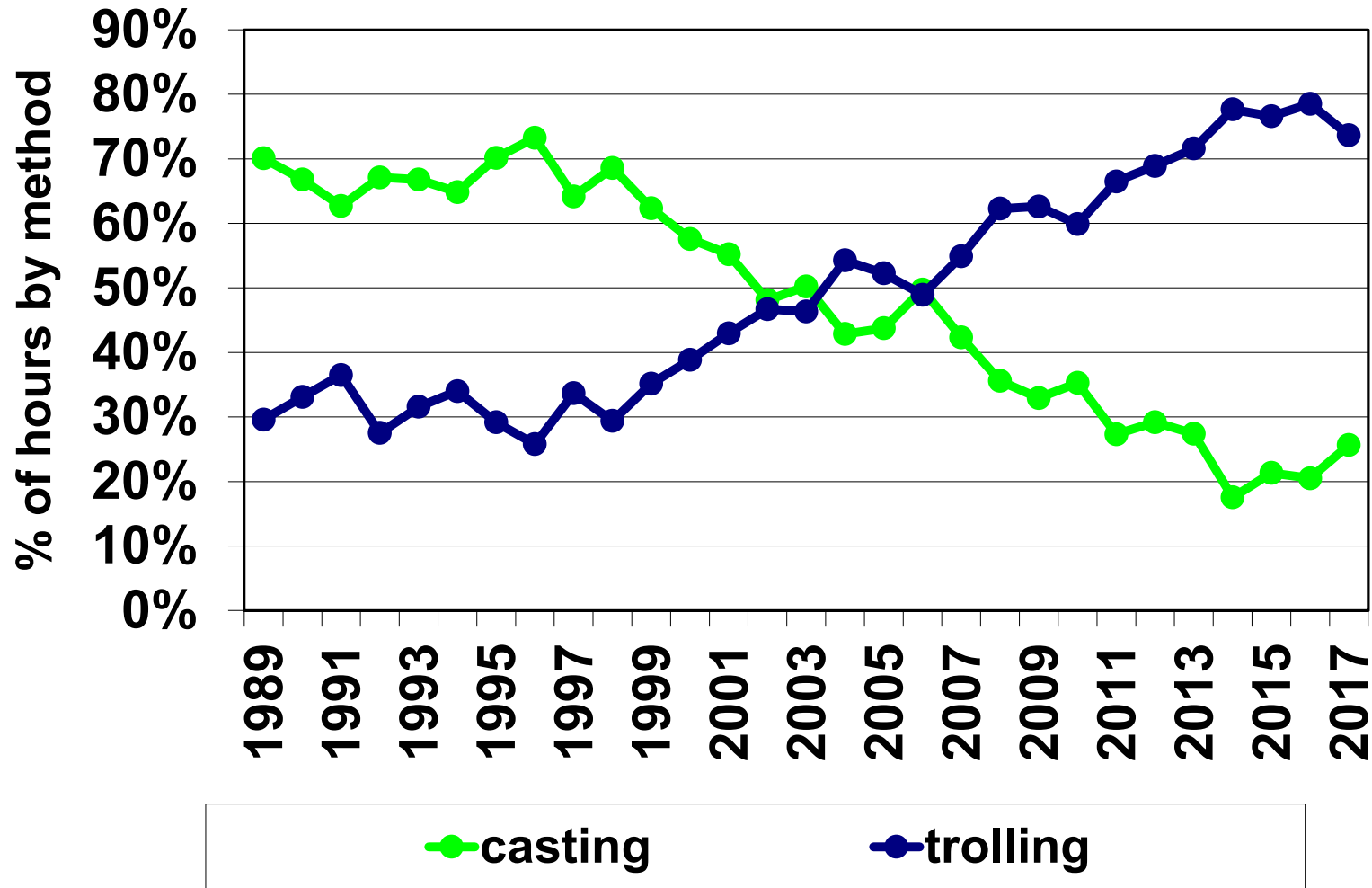
Angler Walleye Harvest



Harvest Rates



Walleye Fishing Methods



15 Minutes of Lake Erie Walleye

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Walleye Management Plan and Population Explosion

2010 and Beyond

- Stakeholder Engagement and LEC Walleye Management Plan
- Environmental Changes and Remarkable Recruitment
- Angler Success and New Challenges



Walleye Management Plan and Population Explosion

2010 and Beyond

- Stakeholder Engagement and LEC Walleye Management Plan
 - Lake Erie Percid Management Advisory Group (2011), MSU QFC facilitation
 - 2015-2019 WMP harvest policies
 - Previous plan extended to 2024

**Lake Erie
Walleye Management Plan
2015-2019**



Lake Erie Committee
Great Lakes Fishery Commission

October 2015

Kevin Kayle – Ohio Department of Natural Resources
Kurt Oldenburg – Ontario Ministry of Natural Resources and Forestry
Chuck Murray – Pennsylvania Fish and Boat Commission
Jim Francis – Michigan Department of Natural Resources
Jim Markham – New York State Department of Environmental Conservation

Walleye Management Plan and Population Explosion

2010 and Beyond

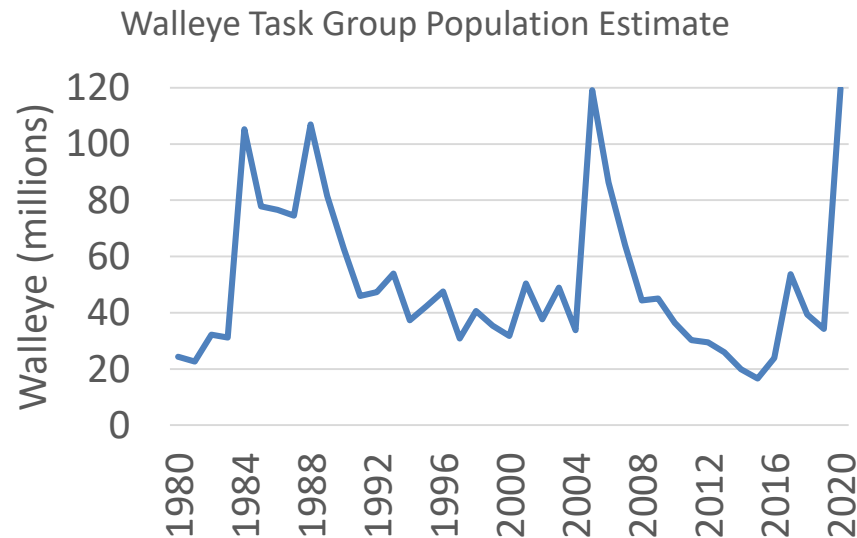
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 - Four average to large year classes in past five years



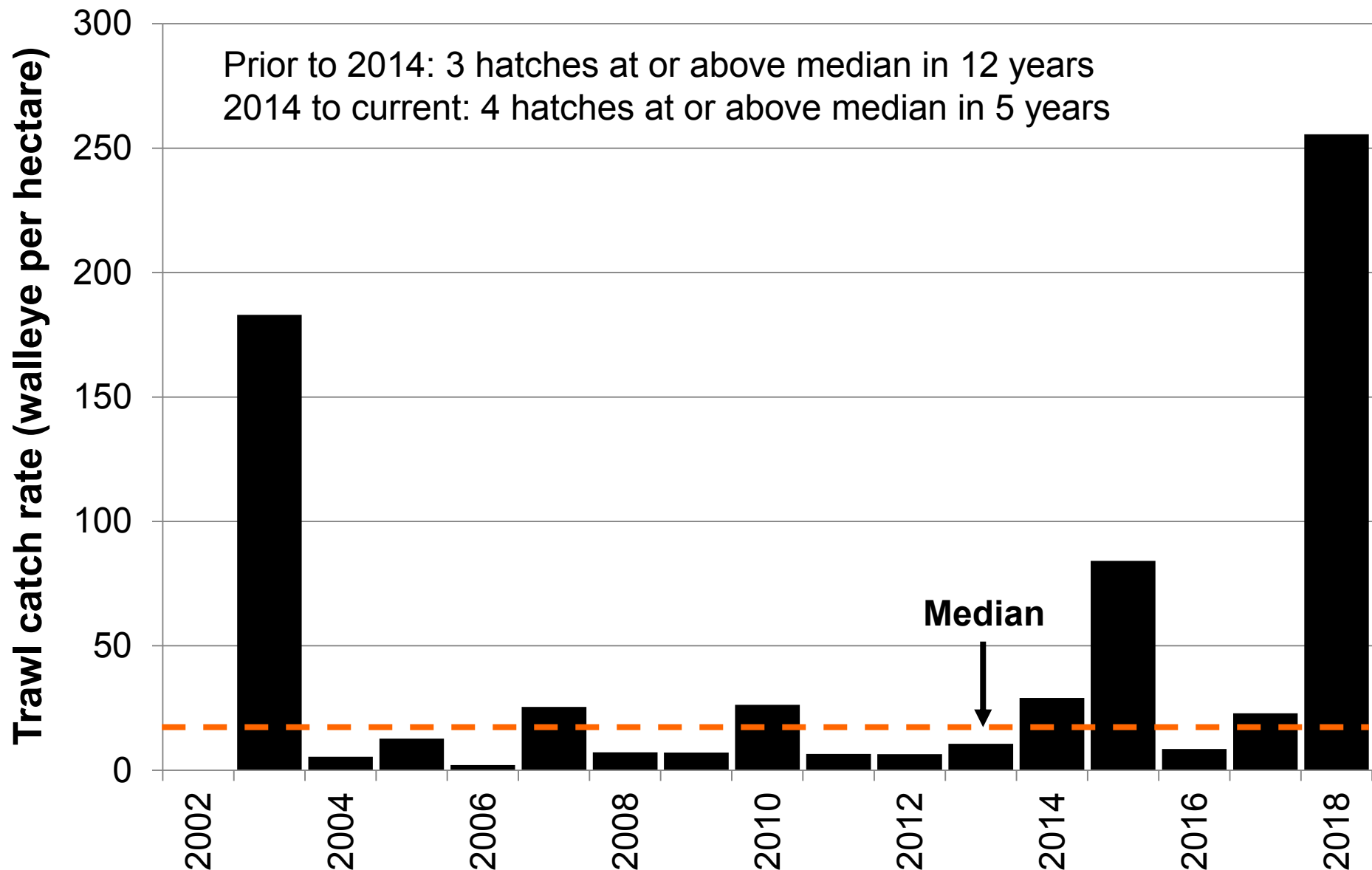
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Combined ON-OH Walleye Trawl Values

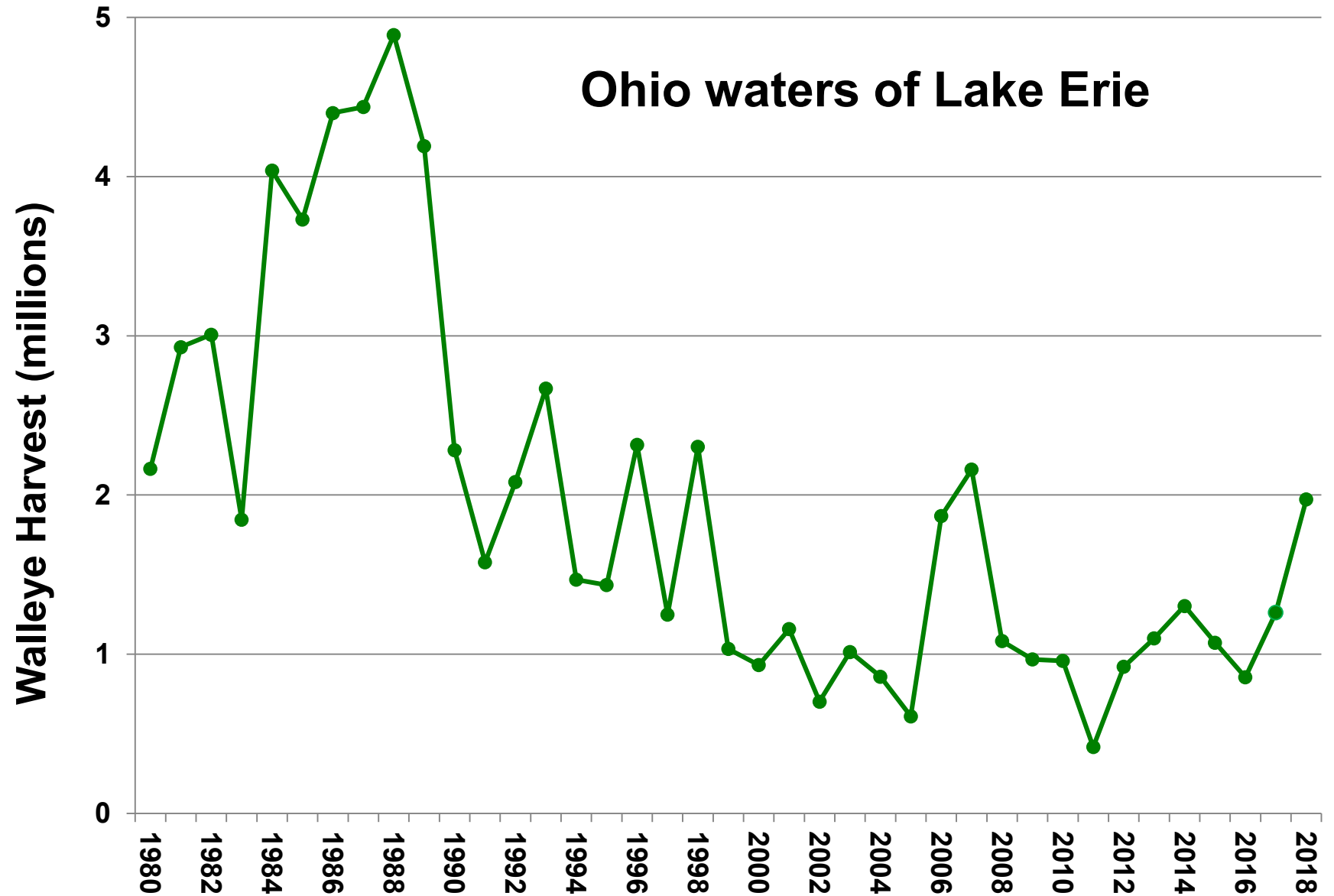


Walleye Management Plan and Population Explosion

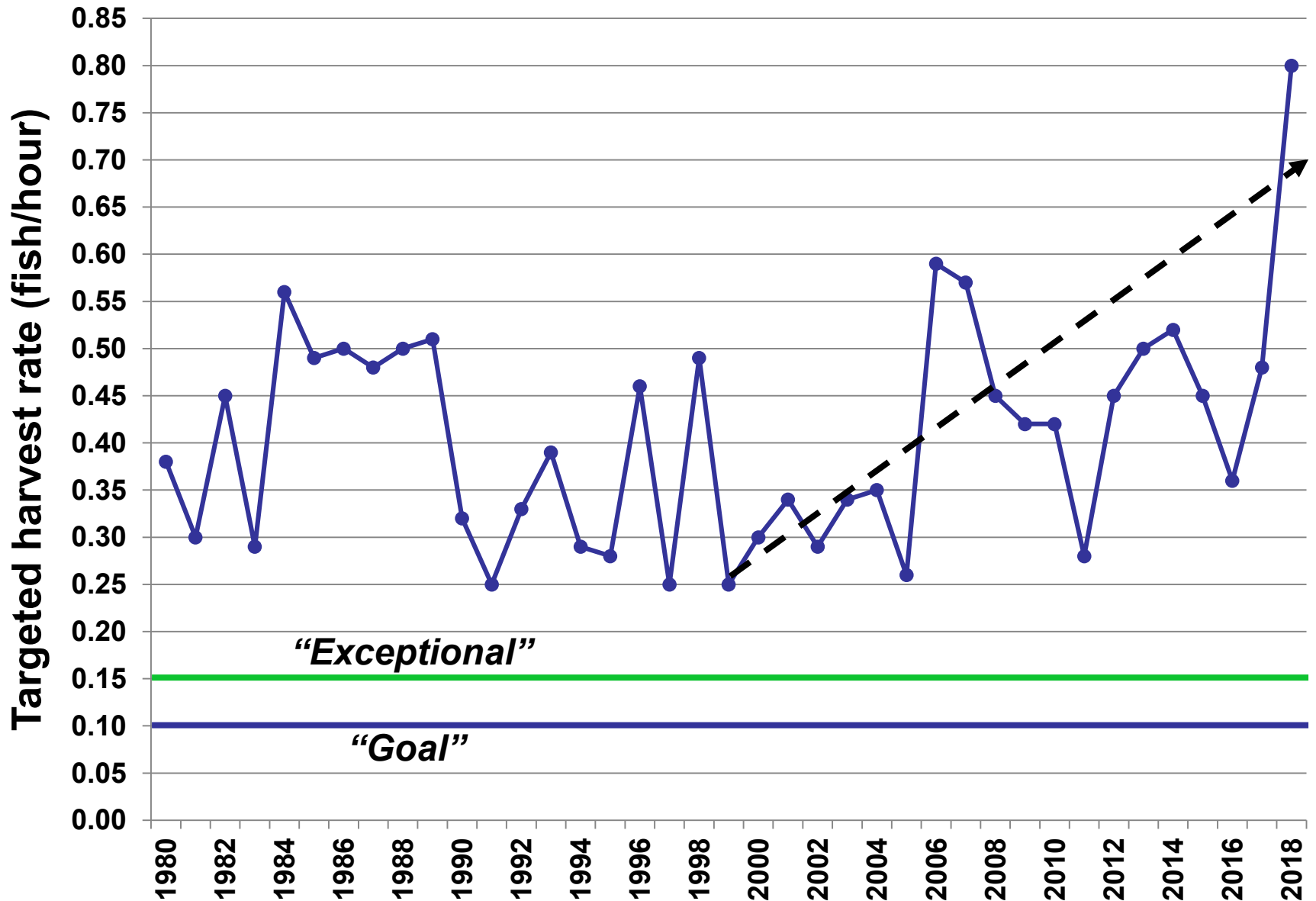
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- Environmental Changes and Remarkable Recruitment
 - Higher level of productivity
 - Increasing water level, similar to 1980's
 - Four average to large year classes in past five years
- Angler Success and New Challenges
 - Highest targeted walleye catch rates in entire data series
 - Ohio-wide success, not just western basin (central basin reproduction?)
 - Challenges: Predator/prey balance, HABs, and AIS

Walleye Harvest



Harvest Rates

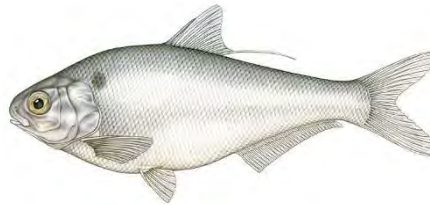


Challenges

HABs



Forage



AIS



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Summary

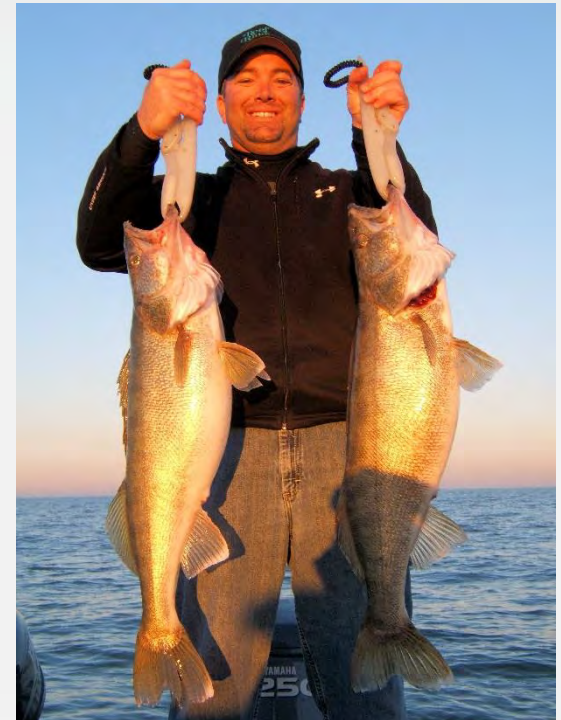
Sustainable Harvest Despite Change

- Complex, dynamic environment will present challenges
- Sustainability can only be accomplished through collaboration
- New era of “good old days” for foreseeable future



Contacts

- **Sandusky or Fairport Harbor Fisheries Research Stations**
(419) 625-8062 or (440) 352-4199
- 1-800-WILDLIFE
- 1-888-HOOKFISH (Fishing Report)
- www.ohiodnr.com/wildlife
- Fish Ohio forms online ONLY:
(apps.ohiodnr.gov/wildlife/FishOhio)



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