

WHAT IS THE STATE OF THE STRAIT?



DETROIT RIVER-WESTERN LAKE ERIE INDICATOR PROJECT



http://www.epa.gov/med/grosseile_site/indicators/index.html

INTRODUCTION

- Wide variety of indicators; not integrated
- Indicator information not widely known
- Other data sets suitable for trend analysis are available
- Collectively, these indicators have considerable use to management
- Some critical indicators important to RAPs and LaMPs are missing
- Some data may still be available but unknown to us

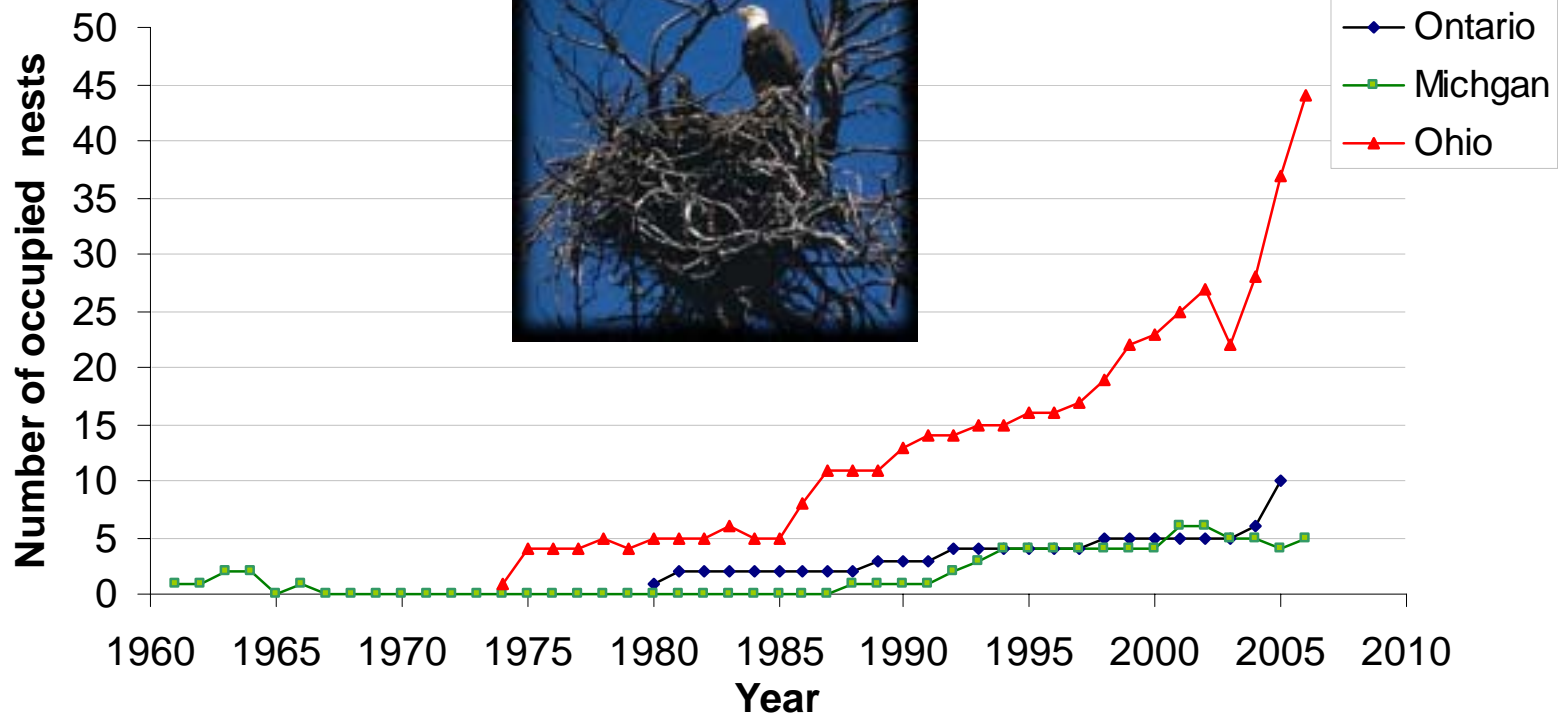
Summary of Results

- 46 indicators (to date)
- 22 indicators show improving trends (things getting better)
- 18 indicators show declining trends (things getting worse)
- 6 indicators show no clear trend or no change
- 14 have quantitative targets – 5 are meeting the target and 9 are not meeting the target

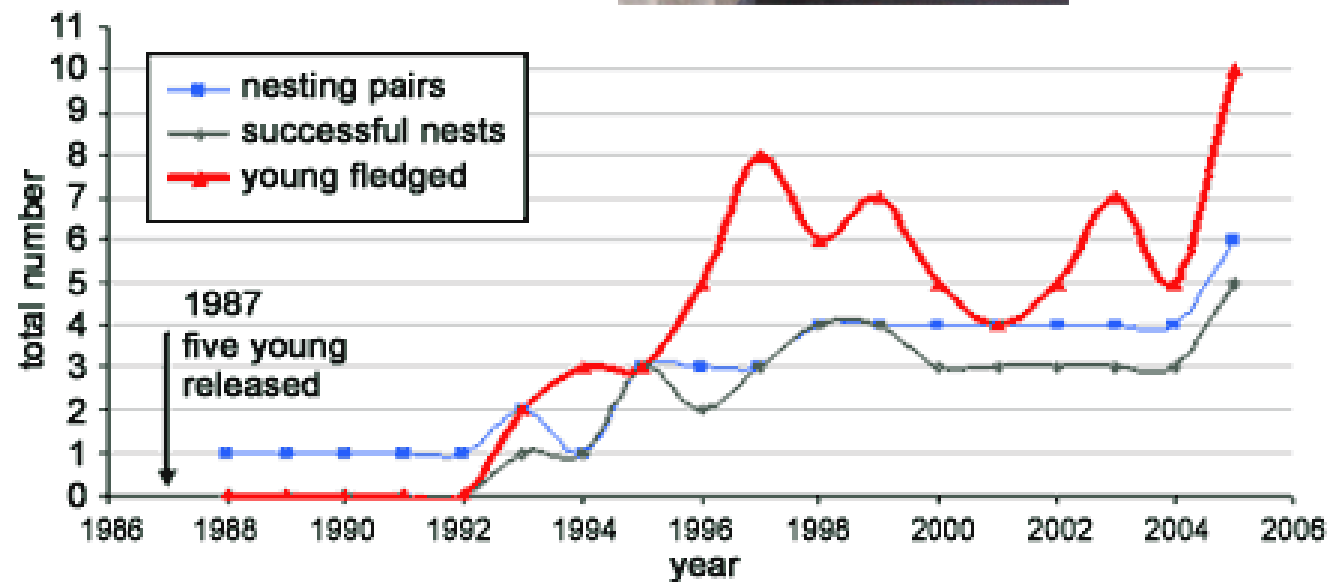
INDICATORS of IMPROVEMENT



BALD EAGLES



PEREGRINE FALCONS



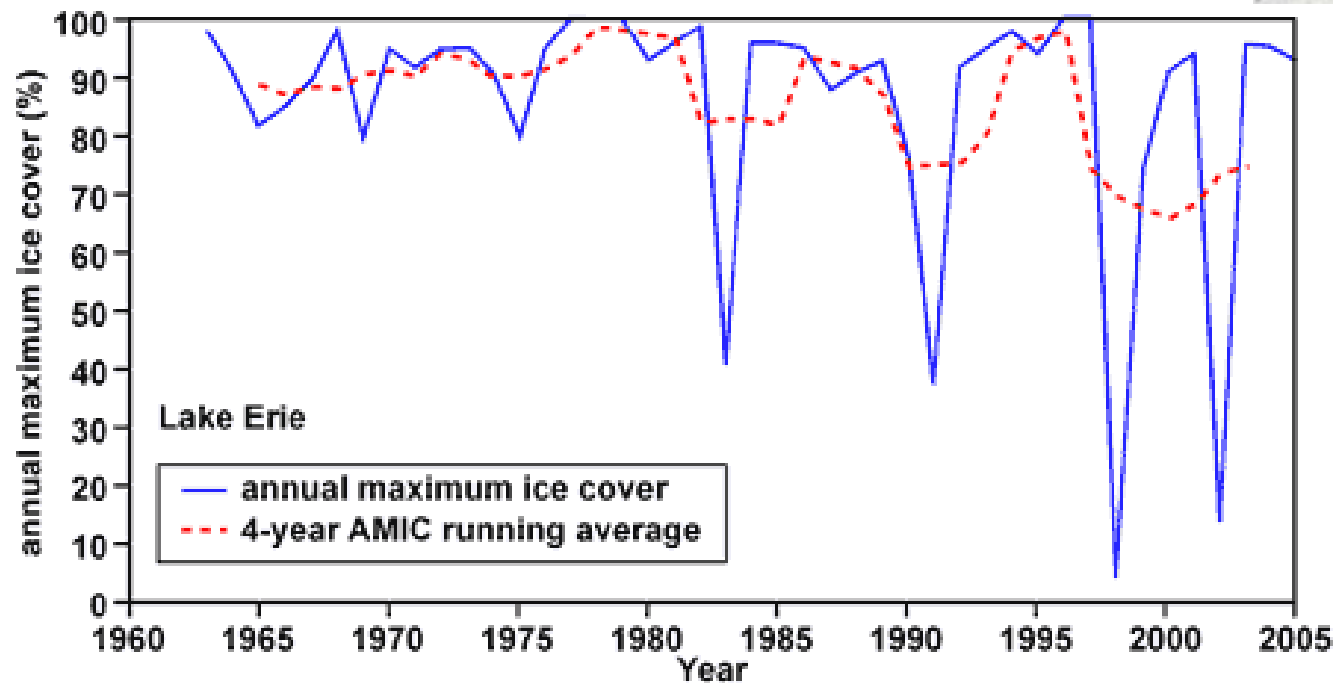
OTHER IMPROVEMENTS

- 20 other indicators showing improving trends
- Measures of ecosystem health (sturgeon, whitefish, walleye, mayflies)
- Stressors (phosphorus from WWTPs, sediment contamination, contaminants in fish and herring gulls)

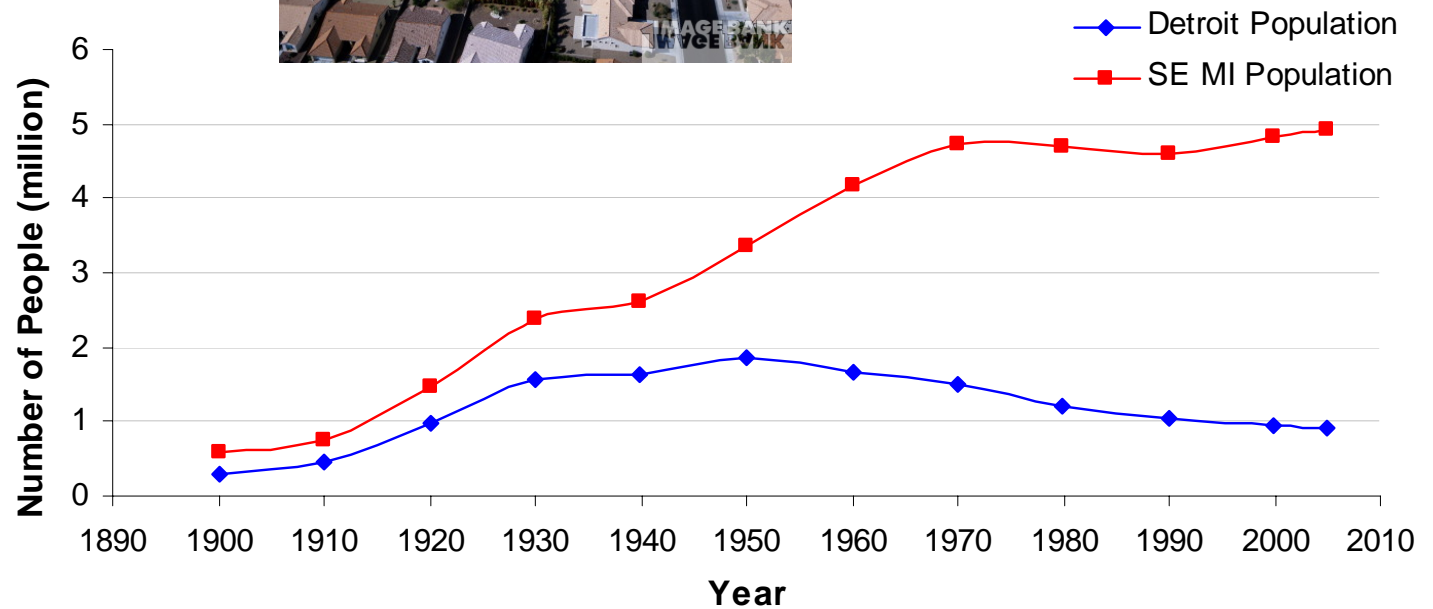
INDICATORS of DETERIORATION



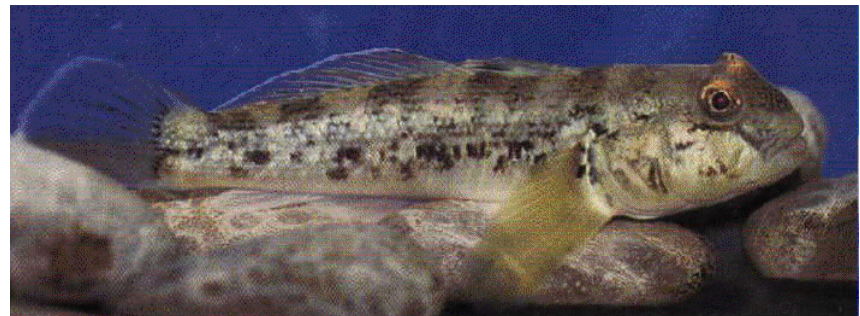
LAKE ERIE ICE COVER



POPULATION

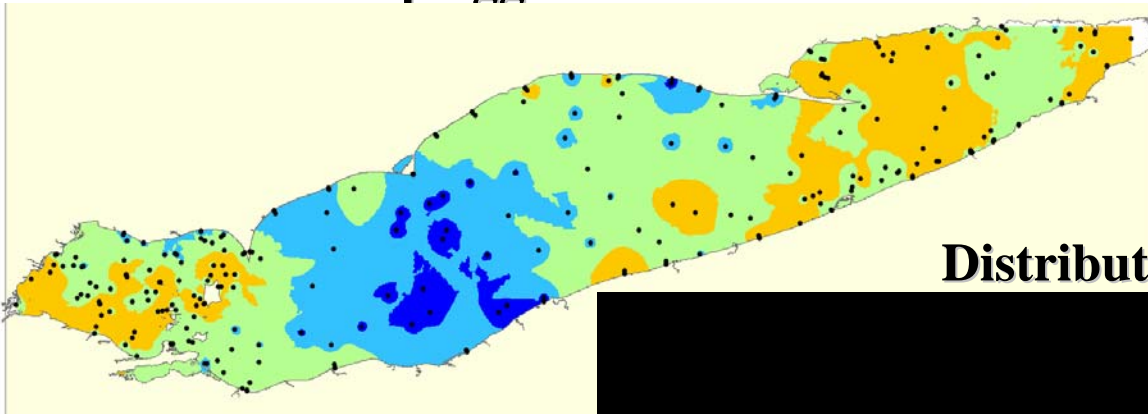


EXOTIC SPECIES

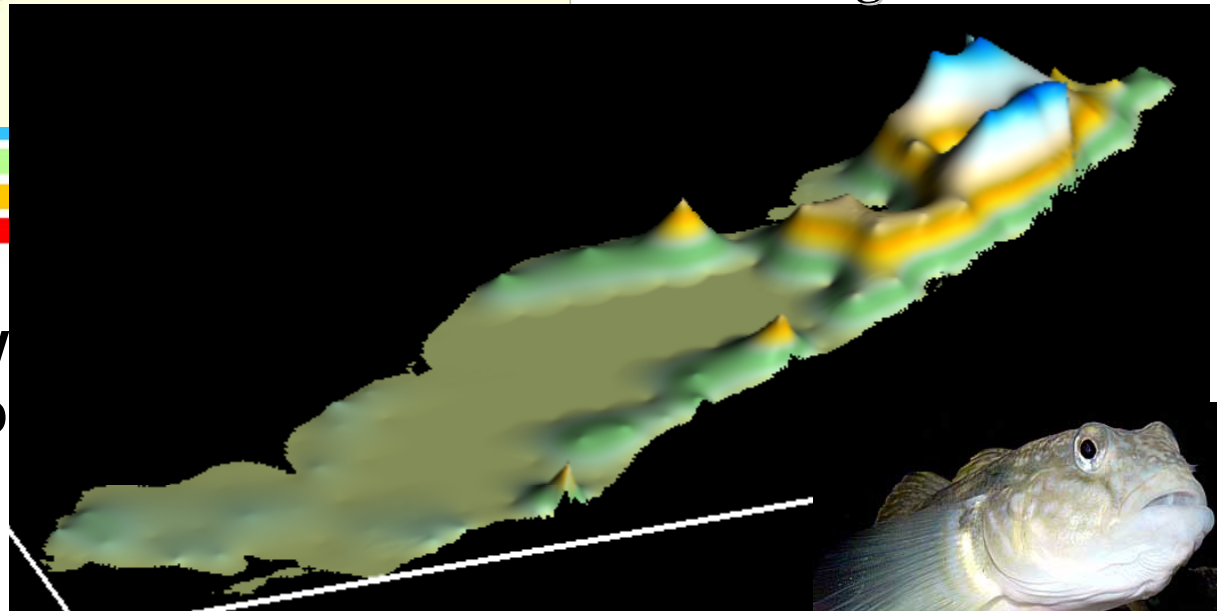


EXOTIC SPECIES

Distribution of quagga mussels - 2004



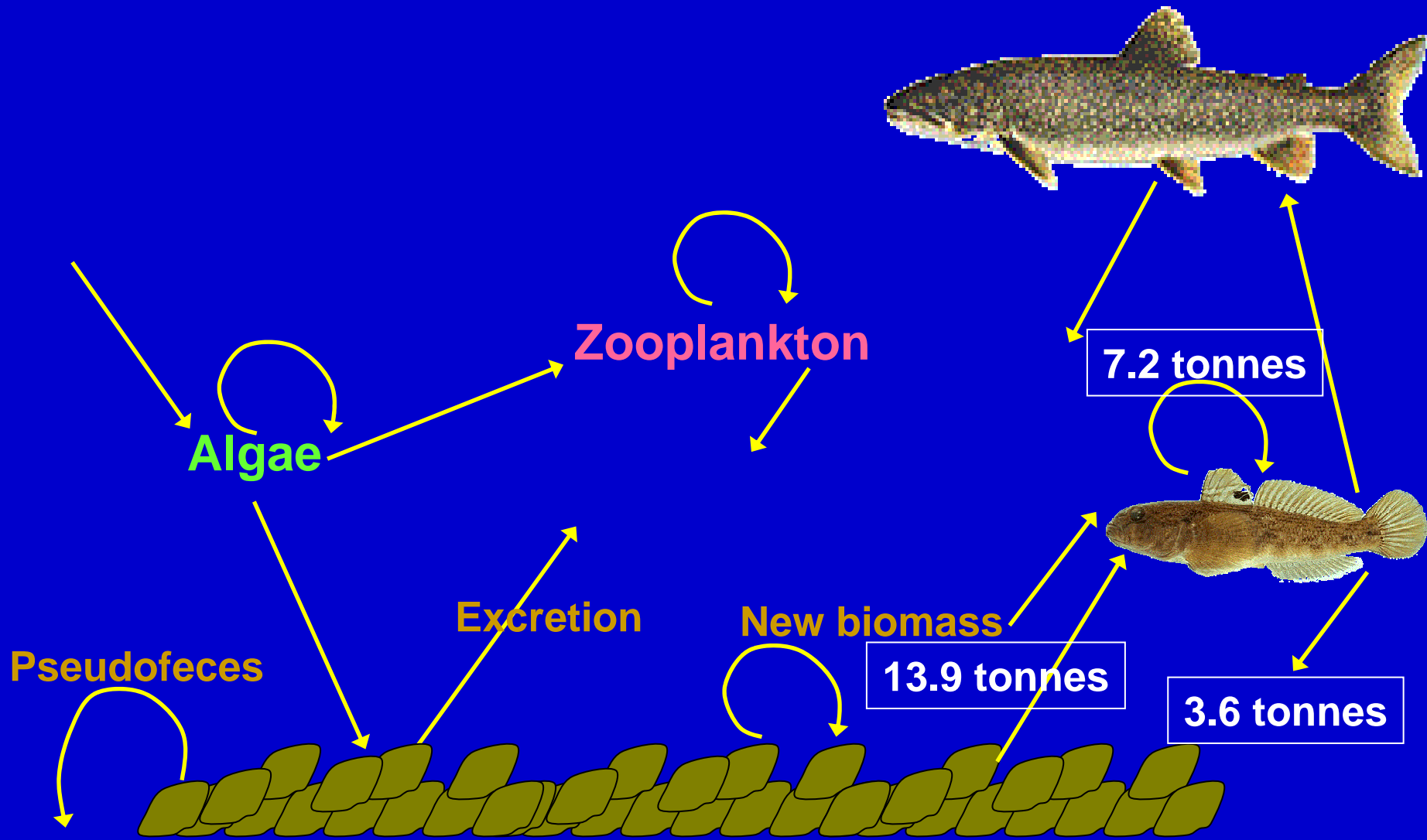
Distribution of round gobies - 2005



**Altered energy flow
disrupted food web**



2002 Phosphorus dynamics



OTHER DETERIORATING

- Algal blooms
- Shoreline hardening
- Wetland loss



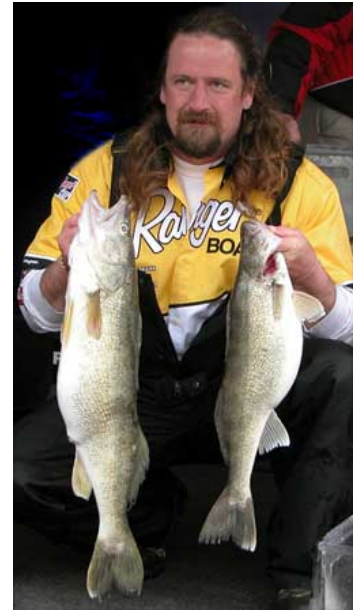
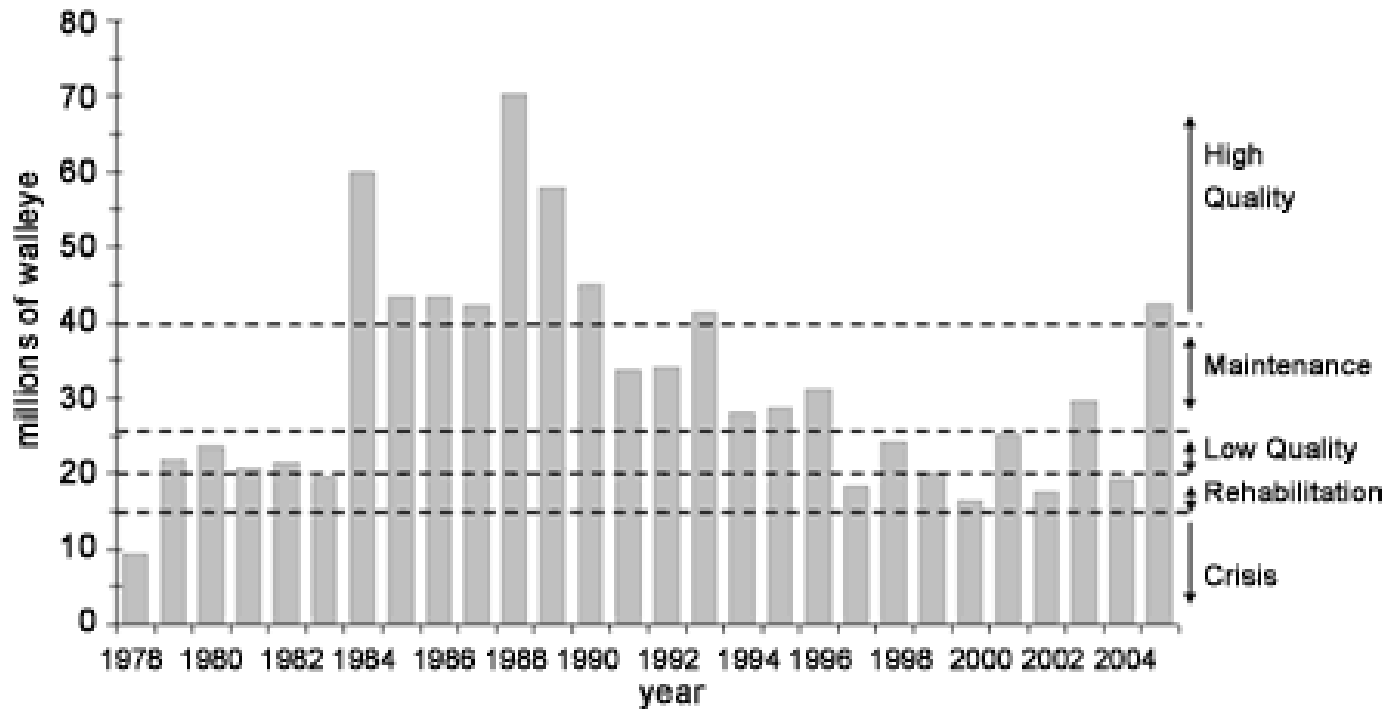
TARGETS AND ASSESSMENT



TARGETS

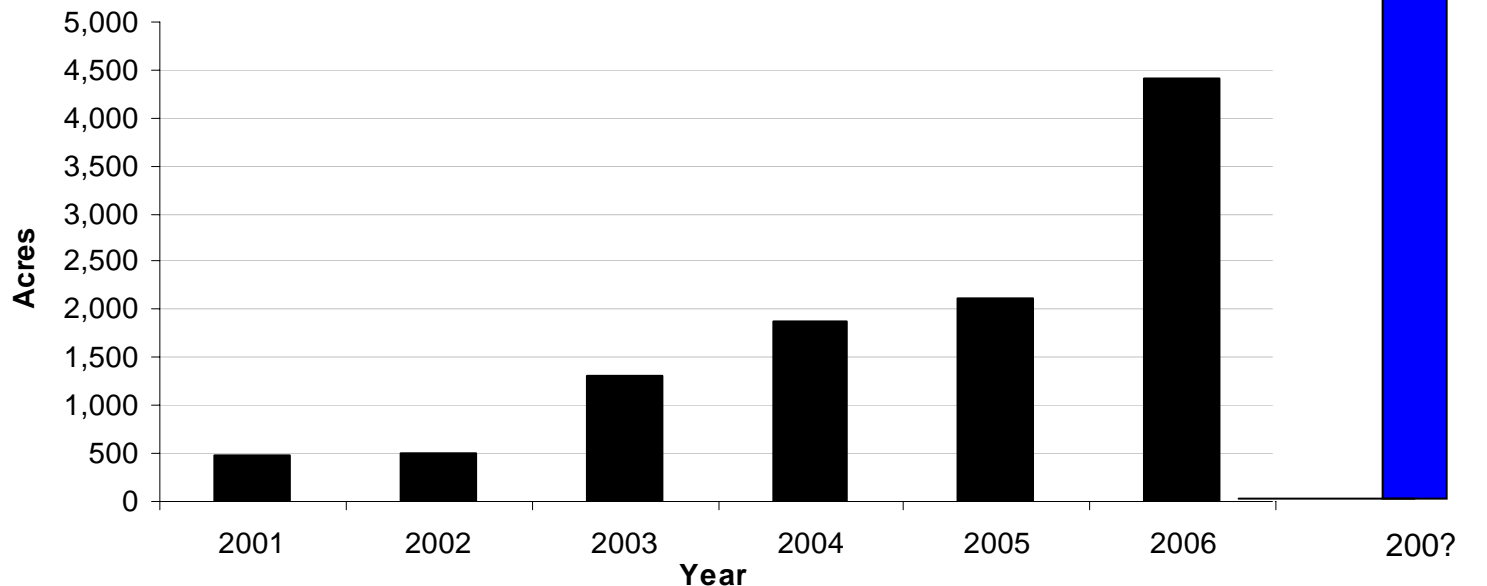
- Only 30% of the indicators have quantitative targets
- 5 of these are meeting established target
- 9 are not
- Existing targets are for specific purposes, which may not be suitable for other resource management needs or jurisdictions
- Emphasis on quantitative target setting!!!!

WALLEYE TARGET



REFUGE LAND CONSERVATION

- Detroit River IWR has a 12,000 acre target established in its CCP
- 4,200 acres protected to date
- Target not met



COMPREHENSIVE and INTEGRATED ASSESSMENT

- If you only look at a small number of indicators, you may get an inaccurate assessment or picture
- Comprehensive and integrated assessment requires corridor-wide perspective
- For resource management, a smaller, suitable suite of integrated indicators may be sufficient

RESEARCH/MONITORING NEEDS



RESEARCH/MONITORING NEEDS

- Specific research and monitoring needs are identified in each indicator write-up
- Demonstrate and quantify cause-effect linkages
- Appropriate quantitative targets
- Cumulative impacts
- Key controlling factors
- Modeling and prediction
- Long-term monitoring for adaptive management
- Prioritizing management based on ecosystem impact

RESEARCH/MONITORING NEEDS

- Corridor perspective
- Determine endpoints & desired future states
- Determine how indicators relate
- Develop suites of metrics that link “pressure” to “state” to “response” metrics
- Create a map, database & monitoring schedule for tracking condition and progress
- Prioritize areas for protection and restoration needed to reach the target of “state” indicators
- Recognize corridor’s changing nature & anticipate future scenarios

MANAGEMENT ACTIONS



PRIORITY MANAGEMENT ACTIONS

- Control
contaminants at
source
- Remediate
contaminated
sediment
hotspots



MANAGEMENT *(continued)*

- Greenhouse gas reduction targets (reduce loadings)
- Integrate plans to address impacts
- Manage growth & transportation



MANAGEMENT *(continued)*

- Stop introduction of invasive species
- Protect high quality habitats



MANAGEMENT *(continued)*

- Control combined sewer overflows (CSOs), including timetable
- Accelerate control of nonpoint sources



WHERE DO WE GO FROM HERE?



WHERE DO WE GO FROM HERE?

- Website
- Final report in December 2007 (indicator cut-off by April 2007)
- Develop mechanism to continue comprehensive integrated assessment
- Strengthen science-policy-management linkage

WHERE DO WE GO FROM HERE?

- We need **comprehensive and integrated assessments** of indicator status and trends, to identify high priority management actions and research needs

WHERE DO WE GO FROM HERE?

We need - **Data**

- Compiled
- Interpreted
- Translated
- Made accessible to all

WHERE DO WE GO FROM HERE?

We need - **Integration**

- RAPs
- Lake Erie LaMP
- International Wildlife Refuge
- Lake Erie Committee of GLFC
- Conservation Authorities
- watershed organizations
- land use planning organizations
- “Friends of” groups

PANEL DISCUSSION



PANELISTS

- Ted Briggs, Ontario Ministry of the Environment
- Rose Ellison, U.S. Environmental Protection Agency-GLNPO
- Sandra George, Environment Canada
- Russ Kreis, U.S. Environmental Protection Agency-LLRS
- Don Scavia, Michigan Sea Grant

QUESTIONS FOR PANEL

- What surprised you?
- What is useful to you?
- Is this synthesis of indicators valuable?
- How do we create and sustain comprehensive and integrated assessments?

(3 minutes!)