



***Regional Perspectives:  
State Management Planning for  
Great Lakes Aquatic Invasions***

**Great Lakes Commission Project Staff:**

**Kathe Glassner Shwayder, Senior AIS Project Manager**

**Erika Jensen, Sea Grant Fellow (2006-2007)**

**Lisa Butch, Sea Grant Fellow (2005-2006)**

**Tom Crane, Program Manager, Resource Management**

# ***Regional Perspectives: State Management Planning for Great Lakes Aquatic Invasions***

## **Presentation Overview**

- Our purpose in convening here today on ANS State Management Planning (SMP)
- Institutional arrangements at work in the process of ANS state management planning
  - Great Lakes Commission
  - Federal Legislation: ANS Task Force & Great Lakes Panel
- Project sponsorship of this session: *A Collaborative Approach to Advance State Management Plans for Prevention and Control of Aquatic Nuisance Species*
- Great Lakes Regional Collaboration: Future directions for ANS management planning in the Great Lakes region





# ***Regional Perspectives: State Management Planning for Great Lakes Aquatic Invasions***

## **Purpose of ANS SMP Session**

- Share lessons learned from the Great Lakes states through a series of state-specific workshops on ANS state management planning
- Use these lessons to guide plenary and breakout discussion to:
  - Identify successful strategies for SMP development and implementation
  - Ascertain challenges in the SMP process and how to address
  - Initiate dialogue on creative funding strategies
  - Examine feasibility of regional management planning
  - Explore ways that the Regional ANS Panels can work together with each and the ANS Task Force to more effectively advance SMP process

# Great Lakes Commission

## Institutional capacity for regional governance

- Mission: Dedicated to the use, management and protection of the water, land and other natural resources of the Great Lakes-St. Lawrence system
- Established by the Great Lakes Basin Compact in 1955
  - Legislative action between the Great Lakes states that was given Congressional approval
- Develop policy across jurisdictional lines of Great Lakes states & Ontario and Quebec

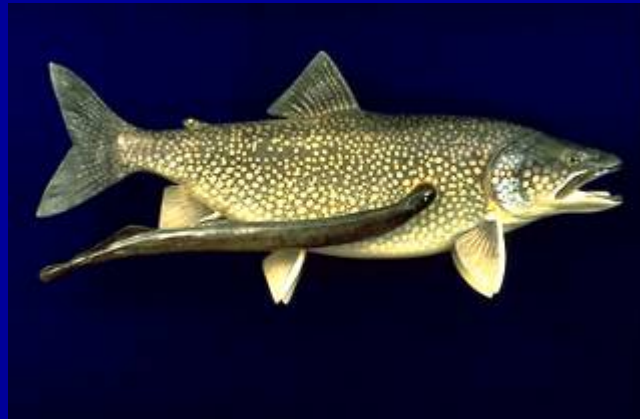


# ***Great Lakes Aquatic Invasions A Priority Issue for the Commission***

- Ecological and economic costs from aquatic invasive species (AIS) introductions mounting:
  - Ecological impacts
    - disruption of natural balance of food webs
    - degradation of habitat and biodiversity: placing 42% of threatened and endangered species at risk
  - 2005 economic losses on a national scale estimated at \$5 billion, resulting from impacts such as
    - fouled water intakes
    - reduced value of recreational and commercial fishing
    - decreased property value
- Human health risks



# *Aquatic Invasive Plants and Animals Plaguing the Great Lakes*





# ***Great Lakes Aquatic Invasions A Priority Issue for the Commission***

## **Nonindigenous Aquatic Nuisance Prevention and Control Act (1990)**

- Provides legislative framework to address ANS problems through the establishment of
  - Aquatic Nuisance Species Task Force (ANSTF) to coordinate programs on a national scale
  - Great Lakes Panel on Aquatic Nuisance Species to facilitate collaboration among the state and provinces in the region
- Authorizes federal funding for implementation of approved SMPs, requiring state match of 25 percent



# ***Great Lakes Aquatic Invasions A Priority Issue for the Commission***

## **NANPCA: Legislative platform for the Great Lakes Commission to launch several projects on ANS prevention & control**

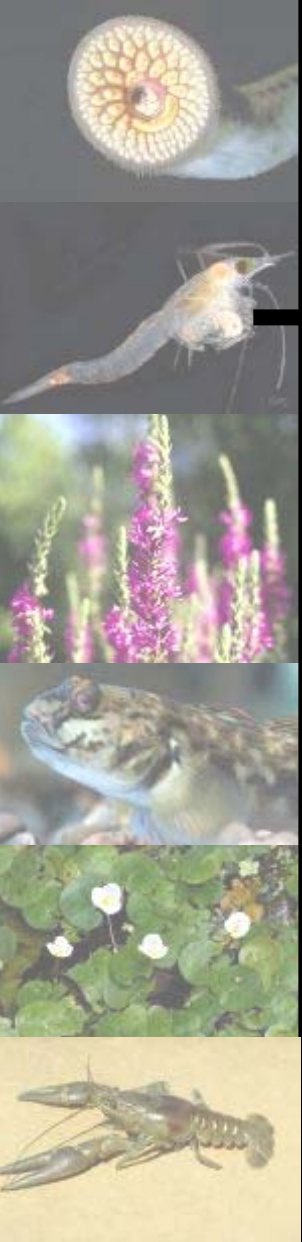
- Great Lakes Commission serves as staff for Great Lakes Panel as directed by federal legislation
- *A Model Comprehensive State Management Plan for the Prevention and Control of Nonindigenous Aquatic Nuisance Species*
- *Legislation, Regulation and Policy for the Prevention and Control Of Nonindigenous Aquatic Nuisance Species: Model Guidance for Great Lakes Jurisdictional*
- *A Collaborative Approach to Advance State Management Plans for Prevention and Control of Aquatic Nuisance Species*



# ***Great Lakes Aquatic Invasions A Priority Issue for the Commission***

## ***A Model Comprehensive State Management Plan for the Prevention and Control of Nonindigenous Aquatic Nuisance Species***

- Developed a model ANS plan (1996) with guidance from the Great Lakes Panel
- Provides guidance to the Great Lakes states based on the following 3 goals:
  - Prevent new ANS introductions
  - Limit the spread of established ANS populations
  - Abate harmful ecological, economic, social and public health impacts resulting from Great Lakes aquatic invasions
- Established regional foundation for SMPs



# ***State Management Plans for the Prevention and Control of Aquatic Nuisance Species***

## **State Management Plans (SMP): Value added for ANS prevention and control**

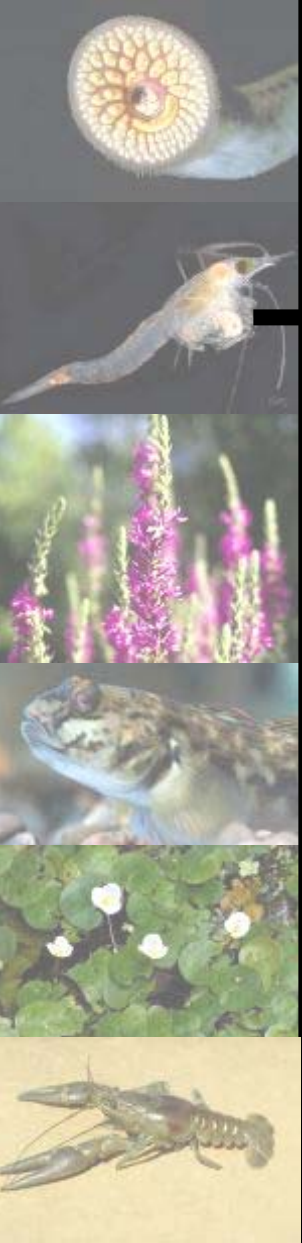
- Involves many jurisdictions, federal and state agencies, private entities and wide array of vested stakeholders
- Reinforces collaboration between national, regional, state and local efforts to prioritize and resolve ANS problems
- Facilitates information sharing, development of consistent messages, coordination and complementary plans, reduction of duplication of efforts
- Raises public and private awareness, facilitating support and taking action on ANS prevention and control



# ***State Management Plans for the Prevention and Control of Aquatic Nuisance Species***

## ***A Collaborative Approach to Advance State Management Plans for Prevention and Control of Aquatic Nuisance Species***

- A regional approach to state management planning on aquatic nuisance species (ANS) prevention and control
- Funded through NOAA National Sea Grant Program
- Administered by the Great Lakes Commission in cooperation state Sea Grant programs & natural resource agencies



# ***State Management Plans for the Prevention and Control of Aquatic Nuisance Species***

## ***A Collaborative Approach to Advance State Management Plans for Prevention and Control of Aquatic Nuisance Species***

- State-specific workshops conducted in Great Lakes region
- Focus varies depending on the status of the State Management Plan (SMP) process
  - Development, implementation, revision
  - Solely aquatic invasive species OR combined aquatic and terrestrial invasive species



# ***A Collaborative Approach to Advance State Management Plans for Prevention and Control of Aquatic Nuisance Species***

## **State Specific Workshop Themes**

- Pennsylvania: *Setting the Road Map for Developing Pennsylvania's Invasive Species Management Plan* (Oct. 26-27, 2005)

John Booser (PA DEP)

Sarah Whitney (PA Sea Grant)

Eric Obert (PA Sea Grant)

- Michigan: *Invasive Species Regulation in Michigan: Stakeholders Workshop* (Sept. 21, 2006)



# ***A Collaborative Approach to Advance State Management Plans for Prevention and Control of Aquatic Nuisance Species***

## **State Specific Workshop Themes**

- **Indiana: *Workshop: Invasive Aquatic Plants in Indiana*** (Jan. 10, 2007)  
**Doug Keller (IN DNR)**
- **Ohio: *Aquatic Invasive Species Workshop: Developing a Rapid Response Plan in Ohio*** (April 18, 2007)  
**Doug Keller (IN DNR)**  
**John Navarro (OH DNR)**



# ***A Collaborative Approach to Advance State Management Plans for Prevention and Control of Aquatic Nuisance Species***

## **Workshop Outcomes**

- Public awareness on ANS issues raised among stakeholder groups
- Consensus building on SMP strategies for successful development and implementation
- Partnerships established across jurisdictional lines

**Jim Stimmel, Dept. of Agriculture**

**Randy Westbrook, USGS**

**Jim Grazio, PA DEP**



# ***A Collaborative Approach to Advance State Management Plans for Prevention and Control of Aquatic Nuisance Species***

## **Workshops Outcomes**

- SMP priorities identified  
(Ohio's Rapid Response Workshop)  
Lt. Regan Blomshield (USCG)
- Funding opportunities explored
- Feasibility of management strategies discussed, such as rapid response  
Fred Snyder (OH Sea Grant)



# ***A Collaborative Approach to Advance State Management Plans for Prevention and Control of Aquatic Nuisance Species***

## **Workshops Outcomes**

- Strengthened working relationships on state management planning between
    - State Sea Grant Programs
    - State Natural Resource Agencies
    - Great Lakes Commission
- Erika Jensen (GLC Sea Grant Fellow for 2006-07)**





# ***Great Lakes Aquatic Invasions A Priority Issue for the Region***

## **Great Lakes Regional Collaboration (GLRC)**

- *A collective effort to define a strategy for restoring and protecting the Great Lakes on 8 different restoration issues, including aquatic invasive species*
- **Goals of AIS Strategy Team**
  - Prevent all new AIS introductions into the Great Lakes
  - Stop the spread of AIS within the basin, extirpate harmful AIS, or if impossible, then control to levels that ensure sustainable ecosystems and the social, economic and cultural uses they support

# ***Aquatic Invasive Species: A Priority Environmental Issue in the Great Lakes Region***

GLRC recognizes that Great Lakes ecosystems, are vulnerable to aquatic invasions through the following priority vectors

- Maritime commerce (ballast water discharges)
- Aquaculture
- Canals and waterways
- Recreational activities
- Trade and use of live organisms



# *Round Goby*

## Pathway

- Transported in ballast water of oceanic vessels from Eurasia

## Impacts

- Feeds on lake trout, perch, and sturgeon eggs
- Degrades fish habitat
- Devalues recreational fishery



# Eurasian Watermilfoil (*Myriophyllum spicatum*)

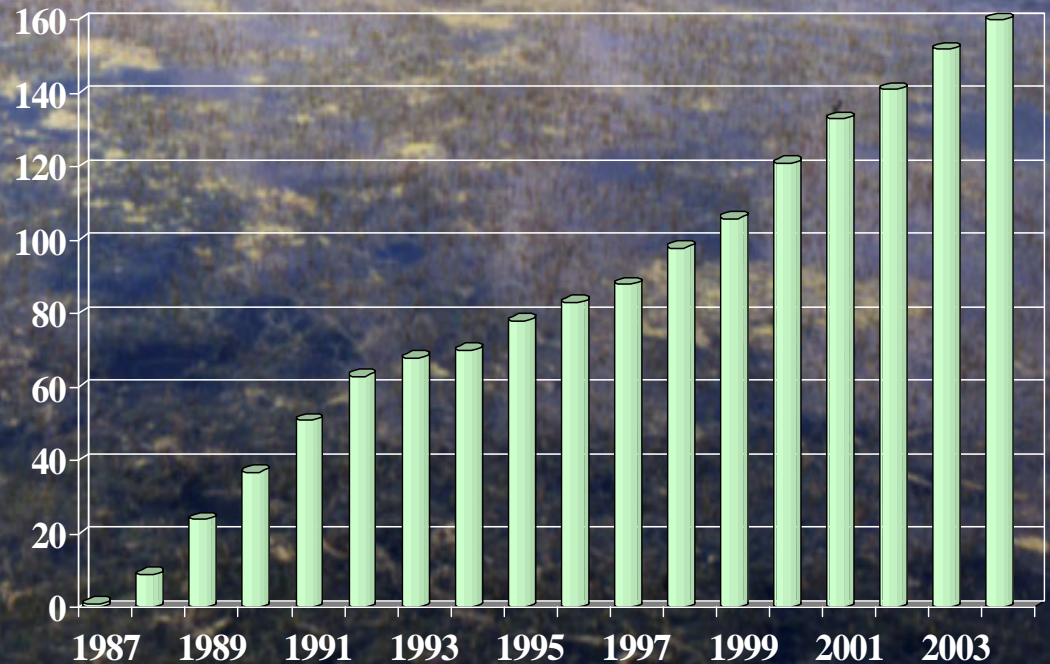
## Pathways

- Trailered boats
- Horticultural

## Impacts of Minnesota

### Infestations

- Native aquatic plant communities
- Recreational Uses



# *Aquatic Plant Introductions*

## *Horticultural Trade*

### Risk Assessment

- Orders placed to 34 aquatic plant vendors nationwide
- Federal and State prohibited species were acquired 92% of the time
- 93% orders had species not specifically requested
  - 10% were Federal or State Prohibited species

(Maki and Galatowitsch, 2004)



# Asian Carp

## Pathway

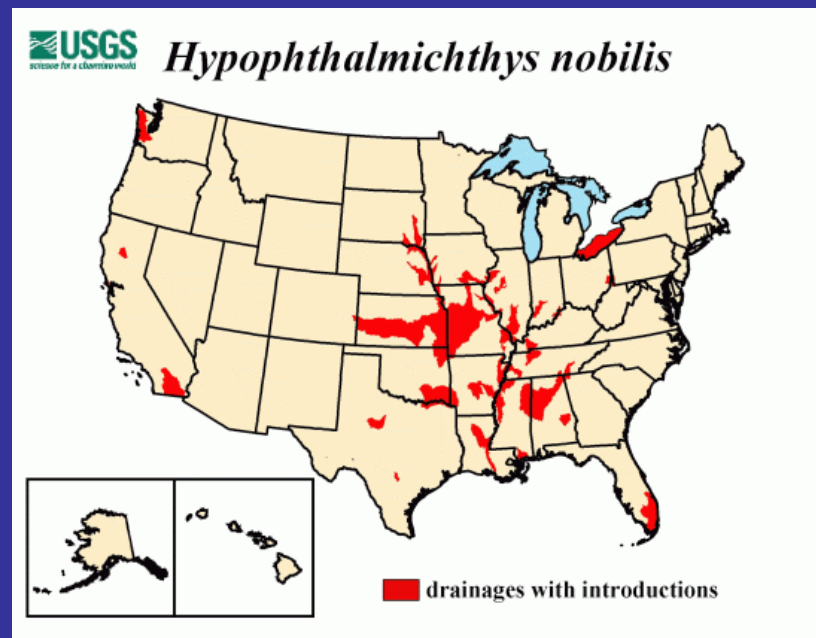
Introduced from Asia to fish farms in southern states, escaped into Mississippi River during flooding

## High Risk Threat

- Native fisheries, wildlife resources, and water recreation.
- Over \$6.6 billion in revenue from 12 million visitor days for hunting, fishing, boating, and sightseeing



One Asian carp caught in 2003  
(Lake Pepin, Minnesota)



Asian Carp are considered a high risk invasive fish in the Lower Missouri River with populations migrating through the Illinois River system towards Lake Michigan



# *Zebra Mussel*

## Pathways

- Shipping industry
- Barges
- Trailered watercraft
- Water (i.e. live wells)
- Natural water flow

## Impacts

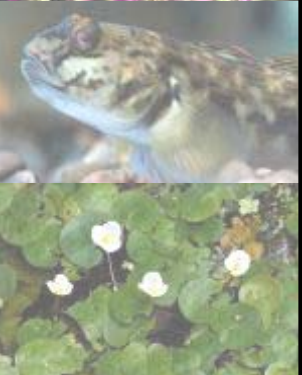
- Habitat and fisheries, nutrient cycling, wildlife resources, and water recreation
- Industrial operations



# Great Lakes Regional Collaboration Recommendations

## Regional based vector management

- Ship and barge-mediated introduction and spread of AIS in the Great Lakes should be eliminated through immediate promulgation of environmentally protective standards for ballast water, and the implementation of effective ship board treatments and management measures
- Federal, state and/or local governments must enact measures that ensure the region's canals and waterway are not a vector for AIS including full federal funding of the Chicago San-Ship Canal barrier and the sea lamprey control program





# ***Great Lakes Regional Collaboration Recommendations***

## **Regional based vector management**

- Federal and state governments must take immediate steps to prevent the introduction and spread of AIS through the trade and potential release of live organisms
- Federal, state and tribal agencies, academic institutions and other organizations should receive adequate support conduct and evaluate cost effective AIS vector specific outreach and education programs to change behavior and response

# Great Lakes Regional Collaboration

## Future Directions for ANS management planning in the Great Lakes region

- Vector based management provides a systematic basis for developing strategies to prevent and control aquatic invasions in the Great Lakes
- As accomplished by the GLRC, high risk ANS vectors and associated species must be identified, based on stakeholder consensus
- Assessment needed of current management efforts and options addressing high risk vectors and evaluate effectiveness of management
- Develop tools to strengthen vector based management based on vector assessment



# Take Home Message

- We live in an era where cooperation, coordination and collaboration are critical given the reality of limited resources
- Make use of our session today to build partnerships and ideas on a local, state, regional and national level to leverage action on ANS state management planning
- Keep an eye towards the horizon where your challenges are shared on a regional scale along with the solutions to those challenges and remember we are doing this for generations to come!



# *Think Collectively!*

- **Contact for further information**

Kathe Glassner-Shwayder [shwayder@glc.org](mailto:shwayder@glc.org)

Erika Jensen ([ejensen@glc.org](mailto:ejensen@glc.org))

- **Project Website**

[www.glc.org/ans/initiatives#advance](http://www.glc.org/ans/initiatives#advance)

