

The Great Lakes Basin Ecosystem



SOLEC 2000

Implementing Indicators



Great Lakes Ecosystem



Largest body of freshwater in the world

20 percent of the world's freshwater supply

95,000 square miles

Over 10,000 miles of shoreline

5,000 tributaries

288,000 square mile drainage area

More than 35 million people

Major ecosystem supporting fish and wildlife species of concern

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Great Lakes Ecosystem



Fishery



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Great Lakes Ecosystem



Birds

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Great Lakes Ecosystem



**Rare and
Threatened
Species**



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Great Lakes Ecosystem



**Invasive
Species**



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Great Lakes Ecosystem



Human Activities



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Great Lakes Water Quality Agreement



“ . . . To restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin Ecosystem.”



FWS Mission



**“Working with others,
to conserve, protect,
and enhance fish,
wildlife, and their**



**habitats for the
continuing benefit of
the American
people.”**

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SOLEC Indicators



- Provide an overview of environmental conditions in the Great Lakes
- Build upon the work of others
- Reflect broad spatial scales





SOLEC Indicators



Service activities related to SOLEC Indicators:

- Quality and quantity of aquatic habitat
- Fish population levels
- Effects of contaminants on aquatic species
- Wetlands functions and trends
- Endangered and threatened species



Photo by Joel Trick



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SOLEC Indicators



SOLEC Indicators stress three key elements of resource protection and habitat conservation:



Consensus Building

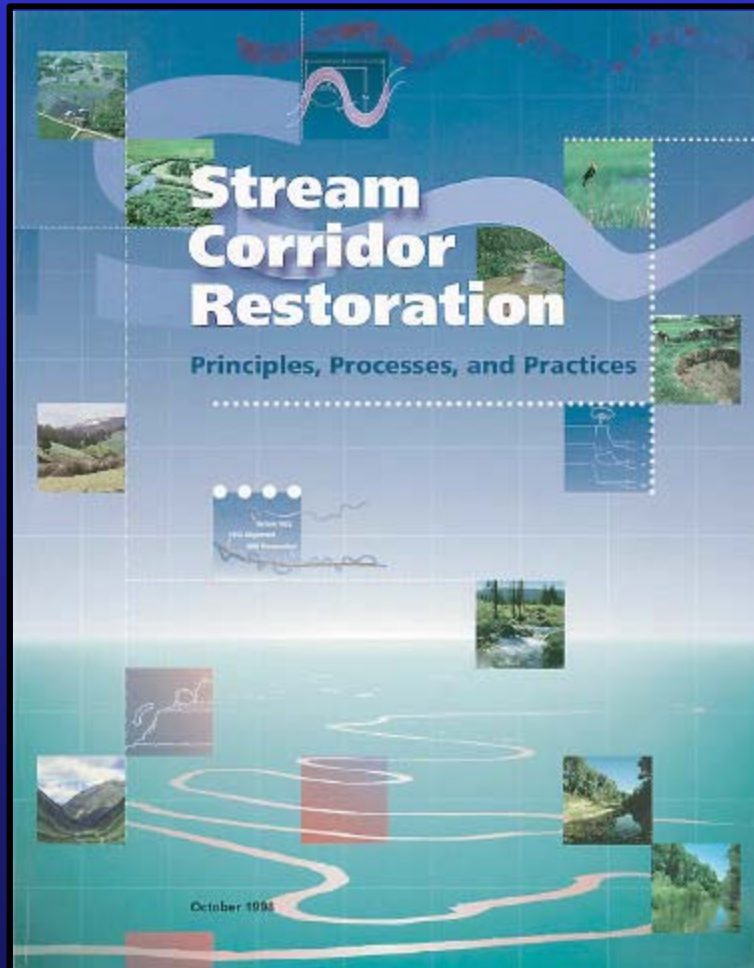
Ecosystem Approach

Partnerships

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Consensus Building



- ✓ Collaborative effort of 15 Federal agencies
- ✓ Provides stream corridor restoration technology
- ✓ Restore functions and values of stream corridors

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FWS Ecosystem Approach



**Ecosystems
include:**

- **living organisms**
- **physical surroundings**
- **natural cycles**

**Why work on
Ecosystems?**

- **Comprehensive**
- **health of all biota**
- **Watershed-based**





FWS Ecosystem Approach



Land Acquisition

Refuges

Fishery Resources

Hatcheries
Ecological Services

Endangered Species

Coastal
North American
Law Enforcement

Partners for Fish
and Wildlife

All Service's field units in a watershed combine forces to tackle projects, improving efficiency and effectiveness

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FWS Ecosystem Approach



A Major Key to Success is

PARTNERSHIPS



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FWS Ecosystem Approach



Partners

- ✓ Federal agencies
- ✓ International partners
- ✓ State, county, & city agencies
- ✓ Tribes/First Nations
- ✓ Conservation organizations
- ✓ Industry
- ✓ Local organizations and stakeholders

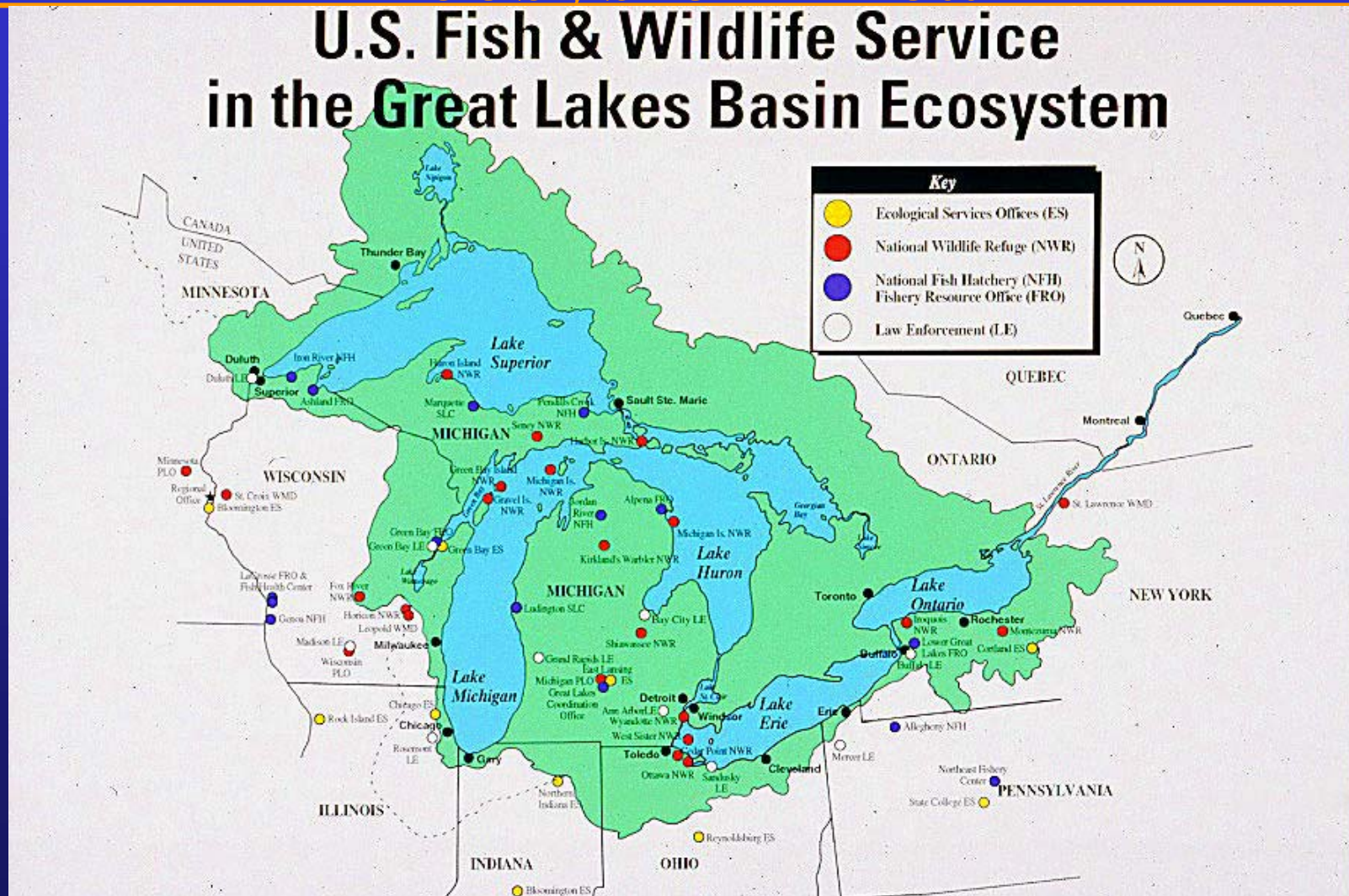




Great Lakes Basin Ecosystem Team



U.S. Fish & Wildlife Service in the Great Lakes Basin Ecosystem



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Great Lakes Basin Ecosystem Team



Fish and Wildlife Resource Issues Include:

- Lake sturgeon protection & restoration
 - Fish passage
 - Great Lakes islands
 - Invasive species
 - Colonial waterbird protection and recovery



Great Lakes Ecosystem Team Lake Sturgeon



**Fish Community Objective of the Lake
Committees of each of the Great Lakes**



**Great Lakes Ecosystem
Team established a
Lake Sturgeon
Committee to work with
internal and external
partners**

<http://midwest.fws.gov/sturgeon/>

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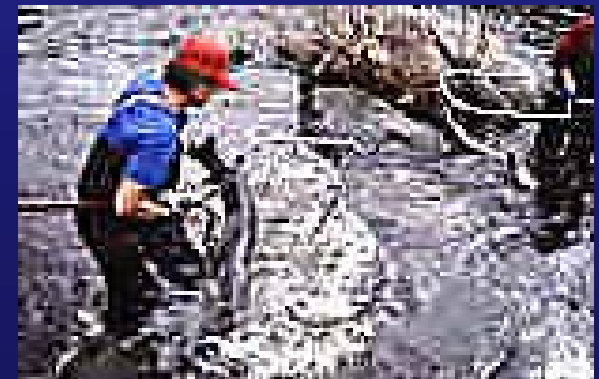
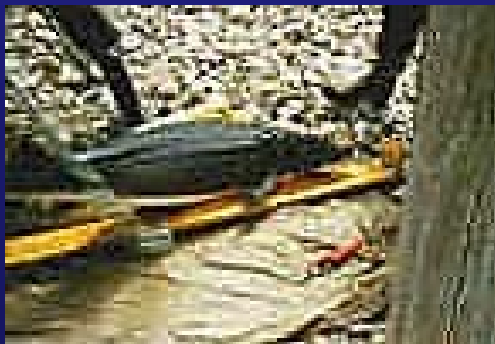
Great Lakes Ecosystem Team

Lake Sturgeon



Restoration efforts:

- Population assessment
- Genetic make-up of various stocks
- Recovery plans
- Fish passage technology



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Great Lakes Ecosystem Team Lake Sturgeon



Team needs include:



**Inventory of current
status/historic
habitat**

**Reintroduction or
expansion priorities**

**Identification of
impediments to
reintroduction or
expansion**

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Great Lakes Ecosystem Team

Great Lakes Islands



30,000 islands in the Great Lakes

Largest freshwater island system in the world

Important to wildlife



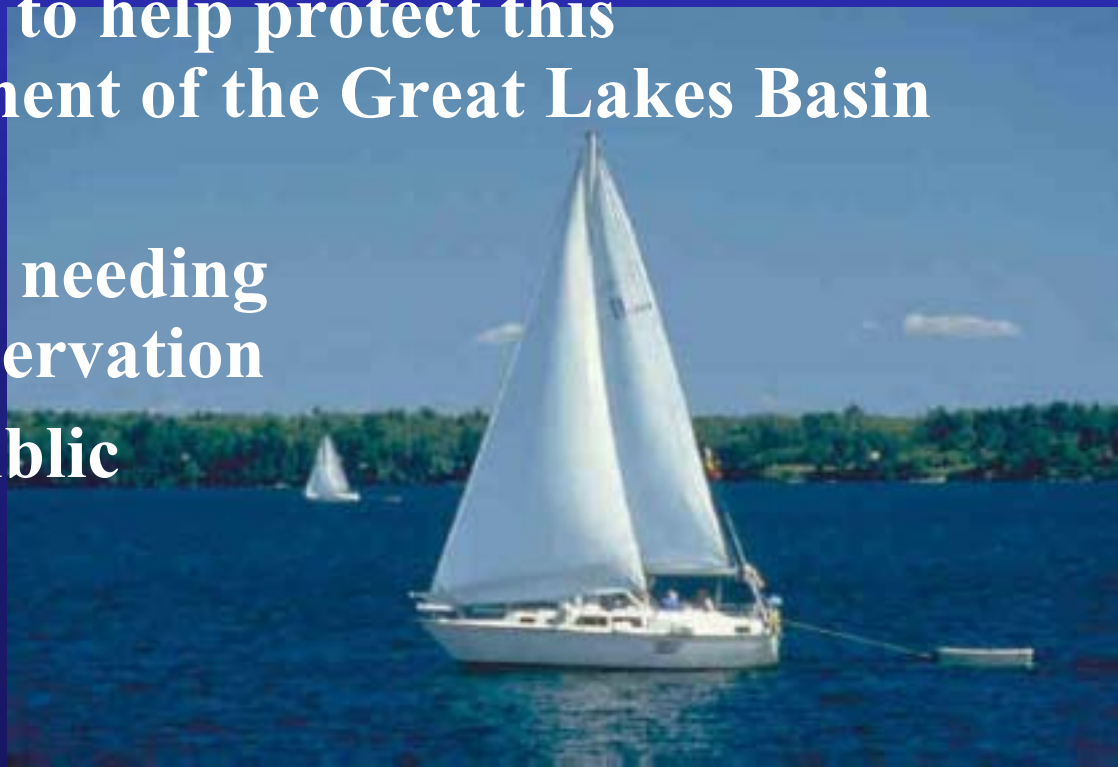


Great Lakes Ecosystem Team

Great Lakes Islands



- **Need to develop an assessment of Great Lakes Islands**
- **Results to be used to help protect this important component of the Great Lakes Basin Ecosystem**
- **Determine islands needing protection or conservation**
- **Includes active public outreach effort**





Great Lakes Basin Ecosystem Team



Additional Team Priorities:

- Migratory birds
- Double-crested cormorants
- Invasive species
- Outreach
- Geographic Information Systems/
Decision Support Systems





Great Lakes Basin Ecosystem Team



SOLEC Indicators Process

- Committee completed initial review
- Developing process to engage in SOLEC indicators process
- Approval and buy-in will be sought from Team and Regions 3 and 5 management



Coastal Program



- Focus on bays, estuaries, and watersheds
- Goal of conserving fish and wildlife and their habitats for healthy coastal ecosystems



- Funding of 15 priority ecosystems, including the Great Lakes



Coastal Program



- **Maintain diversity, functions and productivity**
- **Promote natural self-sustaining populations**



- **Provide for ecologically sound public use, economic benefits and enjoyment**

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Coastal Program on the Great Lakes



U.S. Fish & Wildlife Service Coastal Program Highlights Region 3, FY2000

- 
1. Mapping Groundwater Upwellings
Northern Shore, Lake Superior, MN
2. Fish Passage Restoration
Graveyard Creek
Ashland County, MI
3. Road Crossing Rehabilitation
Salmon Trout River
Marquette County, MI
4. Invasive Species Control
Grand Sable Dune
Pictured Rocks National Lakeshore, MI
5. Native Aquatic Species Habitat Restoration
Antrim County, MI
6. Lakeplain Prairie Restoration and Monitoring
Tuscola County, MI
7. Belle Isle Restoration
Belle Isle, Detroit, MI

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National Wetlands Inventory



“Providing Wetland Information to the American People”



**Generate information
on the characteristics,
extent and status of
U.S wetlands and
deepwater habitats**

**Adopted as Federal
standard for classification, mapping and reporting**

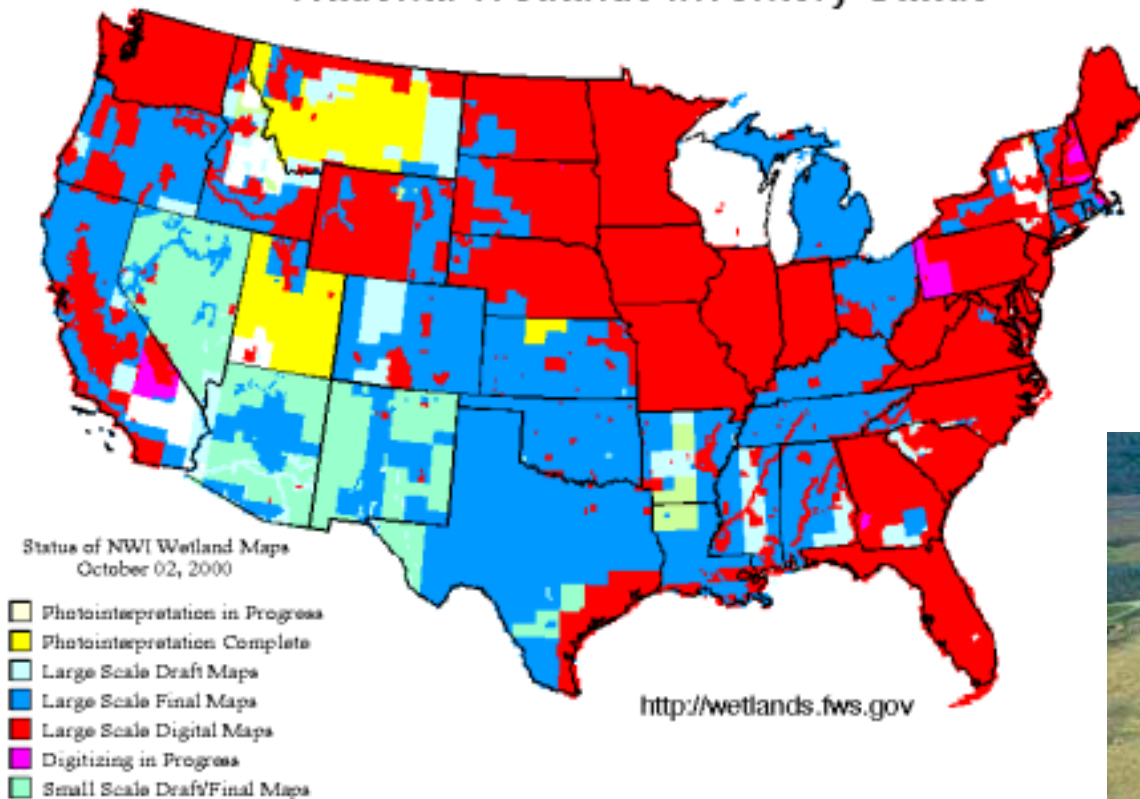
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National Wetlands Inventory



National Wetlands Inventory Status



NWI has mapped
90% of the
wetlands in the
lower 48 States



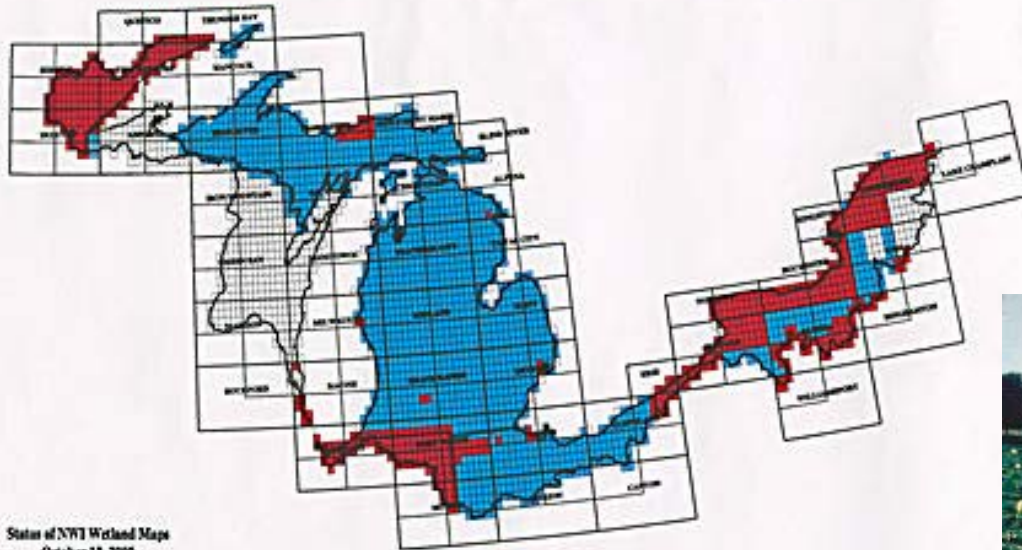
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National Wetlands Inventory



NATIONAL WETLANDS INVENTORY STATUS Great Lakes Watershed



Status of NWI Wetland Maps
October 18, 2000

- Large Scale Draft Maps
- Large Scale Final Maps
- Large Scale Digital Maps

NWI has mapped about 81% of the wetlands in the Great Lakes Watershed



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Great Lakes Wetlands



**SOLEC '98 Coastal Wetlands
Indicators Task Force**

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Great Lakes Wetlands



- Wetland trend studies/historical assessments
- Updated NWI large scale hard copy and digital maps

- Wetlands characterization
- Potential restoration sites
- Database for monitoring
- Coastal wetland buffer characterization





Great Lakes Wetlands



Great Lakes Wetlands Consortium

- Indicators of wetland condition
- Long-term monitoring program
- Binational database
- Multidisciplinary binational consortium to accomplish task
- FWS committed to be a partner



Midwest Natural Resources Group



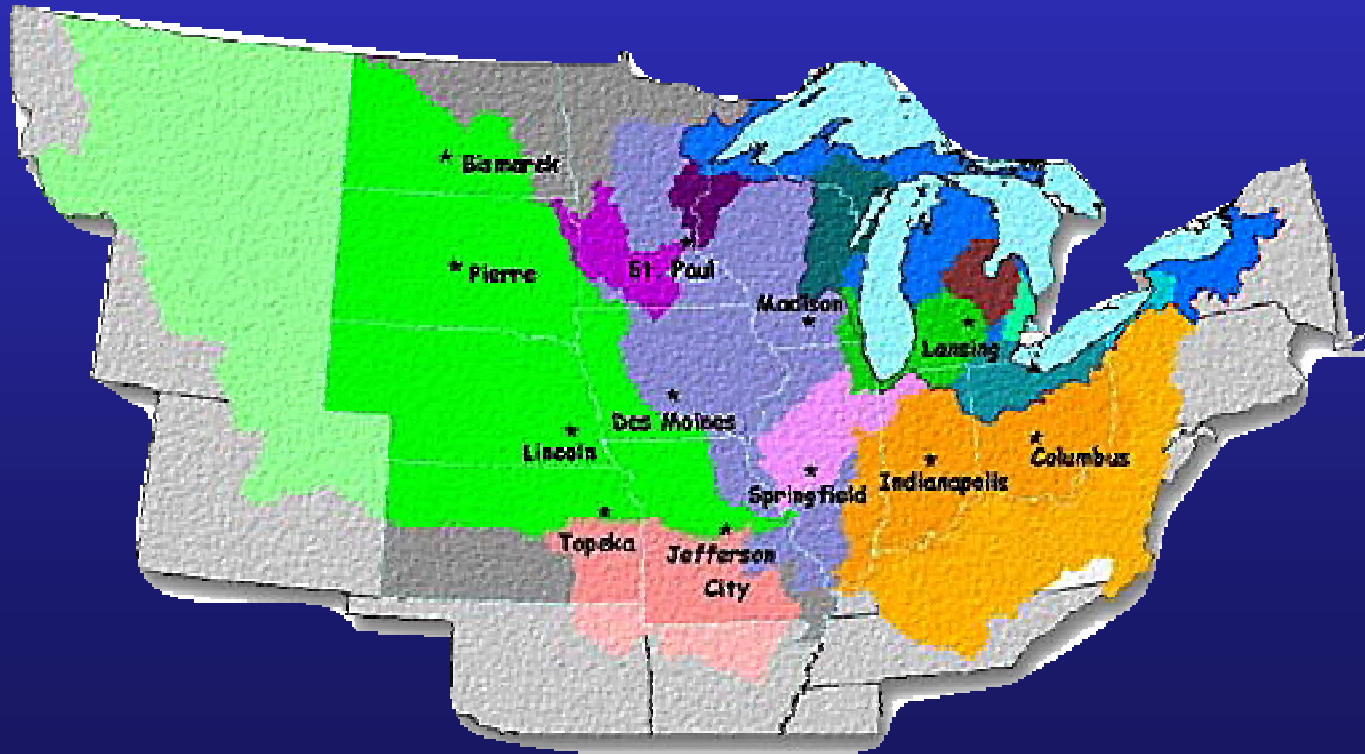
- 14 federal agencies including the FWS
- Ongoing partnership focusing on natural resources and the environment
- To identify common issues and improve efficiency



Midwest Natural Resources Group



12 geographic “focus” areas in Great Lakes and Big Rivers basins



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Midwest Natural Resources Group



**FWS is lead for four Focus Areas
including two in the Great Lakes Basin:**

Fox River/Green Bay, Wisconsin

Saginaw River and Bay, Michigan



Midwest Natural Resources Group



Team addressing:

- Non-point sources
- Contaminated sediment remediation
- Habitat degradation and loss
- Sustainable land use and development





City of Chicago Migratory Bird Treaty



- **Urban Conservation Treaty for Migratory Birds Pilot Program**
- **Importance of migratory birds and urban areas**
- **FWS provides challenge funding & technical assistance**
- **City develops and implements bird conservation projects**





City of Chicago Migratory Bird Treaty



“The treaty is an important addition to our ongoing efforts through Nature Chicago to create open space, enhance habitat, and give Chicagoans the opportunity to appreciate and be stewards of the natural environment.”

**Richard M. Daley,
Mayor of Chicago**



“Chicago has an outstanding record of building environmental partnerships with the Service. I’m proud that we can stand here today and cement our partnership in a way that will benefit not only birds, but also the quality of life of Chicago-area citizens.”

**Jamie Rappaport Clark,
Director, Fish and Wildlife
Service**

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Chicago Wilderness



- Started in 1996
- Partnership of over 100 public and private organizations
- Protect, restore and manage protected natural areas
- Over 150 collaborative projects



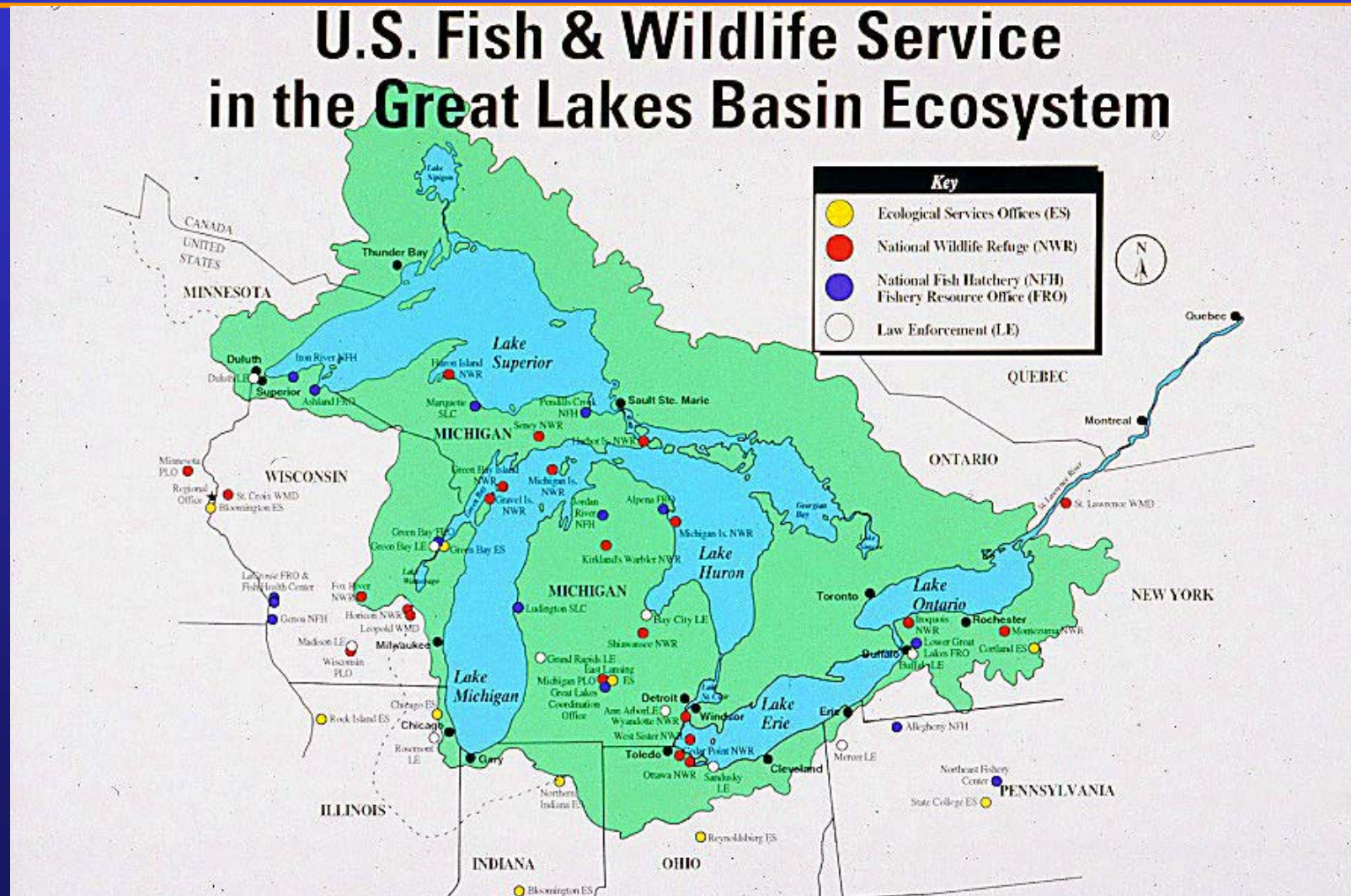
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Other Service Programs



U.S. Fish & Wildlife Service in the Great Lakes Basin Ecosystem



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In The New Millennium



- **Strengthening the Ecosystem Approach to Fish and Wildlife Conservation**
- **Lifting the Conservation of Migratory Birds to a Higher Level**
- **Leading Efforts to Prevent the Introduction and Spread of Invasive Species**



In The New Millennium



The Future of Success in Protecting and
Conserving Fish and Wildlife Resources
Depends on Effective Partnerships

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