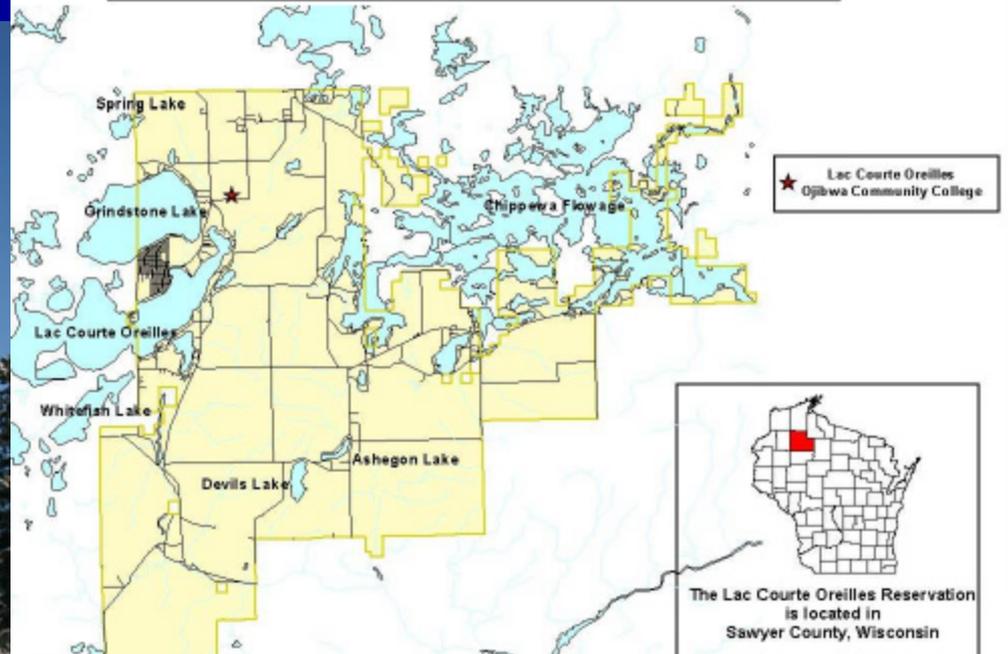


# Chippewa Flowage Invasive Species Education and Management Project

CSREES National Water Quality  
Conference 2007

Presenter: Erik Olson

# Lac Courte Oreilles Reservation



# Chippewa Flowage Invasive Species Education and Management Project

- Funded by: USDA CSREES National Water Program, Integrated Research, Education, and Extension Project
- 3 Year Grant
- Main Goals
  - Aquatic Invasive Species Education/Outreach within the community
  - Aquatic Invasive Species Research
  - Facilitate in the Development of Management Options for the Chippewa Flowage
- Steering Committee

# The Problem (The Short Version)

- Aquatic Invasive Species are a problem in the Midwest.
- Negative impacts on water quality/quantity, aquatic ecosystem processes, recreation, and the economy.
  - Tribal Subsistence hunting, fishing, and gathering
- Eurasian Watermilfoil
  - Submersed aquatic plant
- Purple Loosestrife
  - Emergent aquatic plant
- Location
  - Chippewa Flowage
    - 15,300 Acres
    - Environmental, Economical, and Cultural Significance
    - Within the Reservation (Tribal Waters)





# Education and Outreach

- The Greater Chippewa Flowage Community
  - Lac Courte Oreilles Reservation, Sawyer County, and bordering Counties
  - Outreach Sites (Other Reservations)
- Broad focus
  - Not just Eurasian watermilfoil and purple loosestrife

## Audience

- Tribal Community – Native Plants Protection & Ecological Impacts
- Lake Associations/Lakeshore Property Owners – Land Value & Recreation Impacts
- Businesses (resorts, boat dealers, fishing guides, etc) – Economical Impacts

# Education and Outreach



# Education and Outreach Means

- Presentations
- Guest Teachings
- Trainings
- Internships
- Workshops
- Boat Landing Signage
- Bulletin Boards, Educational Displays, Posters, and Project Display Board.
- **Sawyer County Lakes Forum AIS Education Campaign.**
  - Luncheons, Mailings, Presentations, Educational Materials
- **Media**
  - WOJB 88.9 FM Woodland Community Radio
- Created a web site.



# Research

Eurasian Watermilfoil- Point-intercept Survey

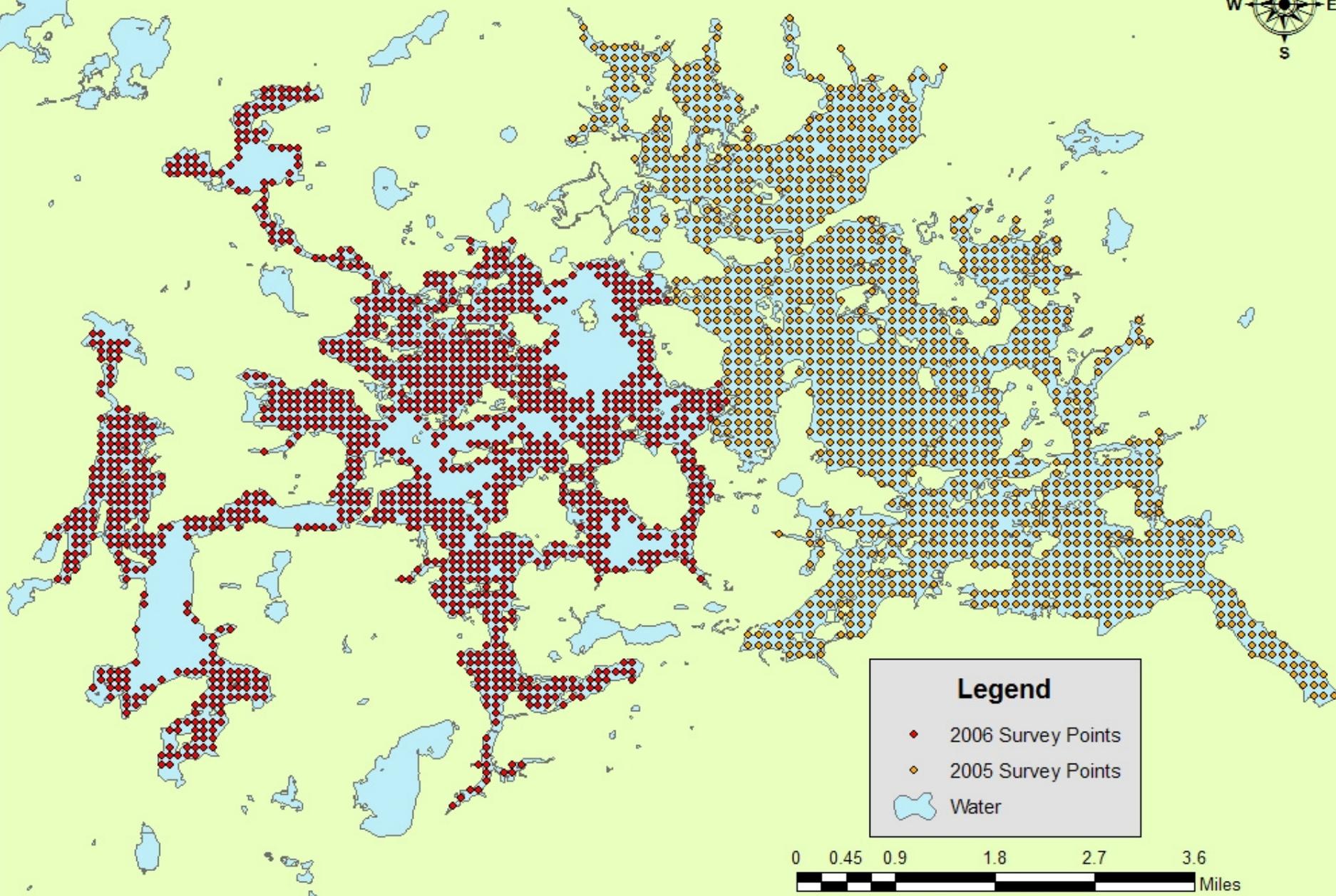
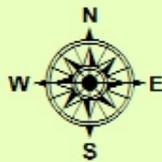
Purple Loosestrife- Shoreline Survey

# Research

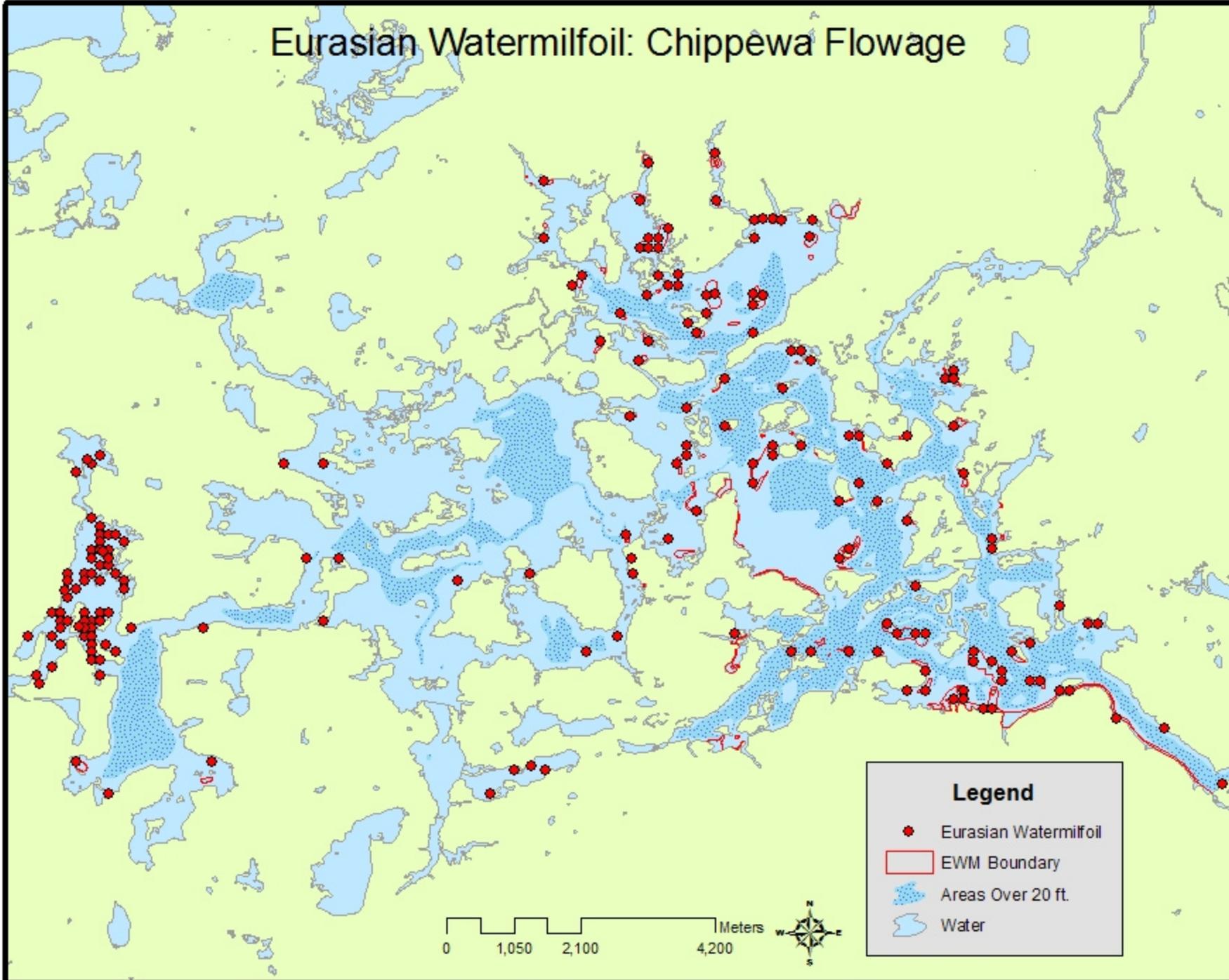
## Eurasian Watermilfoil

- Summers of 2005 and 2006
- Chippewa Flowage
- Point-intercept Methods: GIS/GPS
  - 2,854 random (point intercept) points surveyed
- Attributes
  - Water Depth, Water Clarity, Total Diversity, Species Present, Aquatic Plant Abundance, Eurasian Watermilfoil Abundance, etc.

# Survey Points for Aquatic Plants on the Chippewa Flowage



# Eurasian Watermilfoil: Chippewa Flowage



# Eurasian Watermilfoil Preliminary Data

- Estimated Roughly 981 acres of Eurasian Watermilfoil.
- Average Water Depth
  - 6.91 ft.
- Substrate
  - Muck (57%) & Sand (27.5%)
- Aquatic Plant FOC
  - 37.46% Eastside
  - 10.4% Westside
- 2<sup>nd</sup> Most Common Aquatic Plant on Eastside. 12<sup>th</sup> Most Common Plant on Westside.



# Coontail Distribution for the Chippewa Flowage



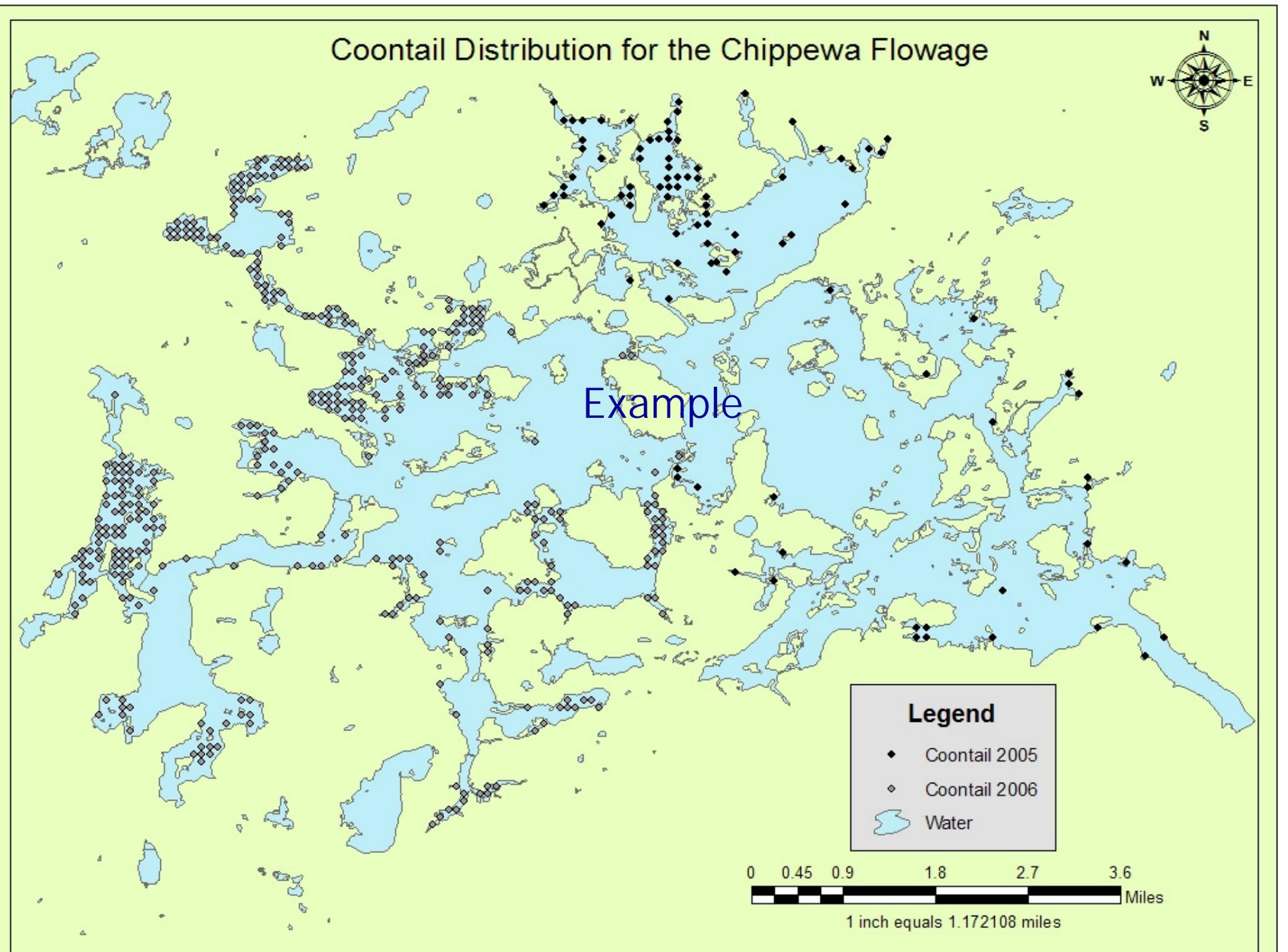
Example

**Legend**

- ◆ Coontail 2005
- ◇ Coontail 2006
- Water



1 inch equals 1.172108 miles



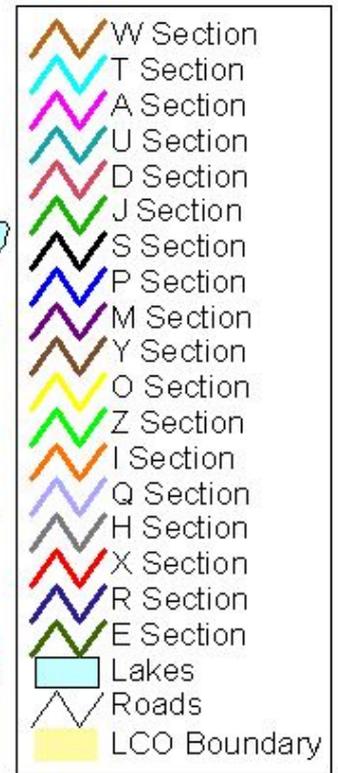
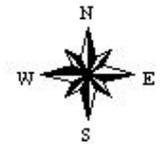
# Purple Loosestrife Shoreline Survey

- 20 Volunteers 2005
- 26 Volunteers 2006
- Volunteer Training/Cookout
  - Plant ID
  - Recording Data
  - Removal Techniques
- Data Sheets
  - Infestation Size
  - Shoreline Information
  - Location Description
  - Beetle Presence & Physical Removal



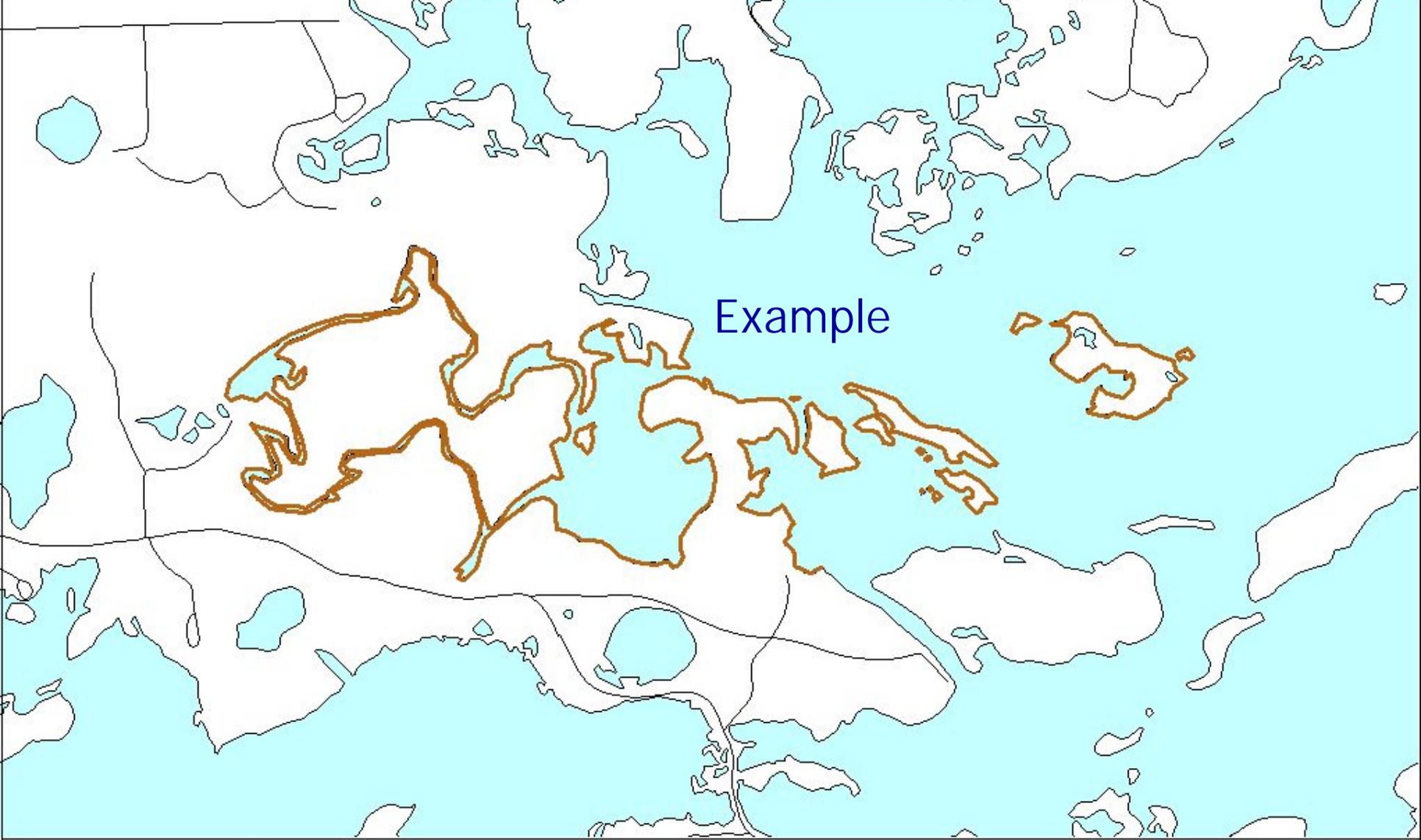
# Purple Loosestrife Survey Sections

Eastside

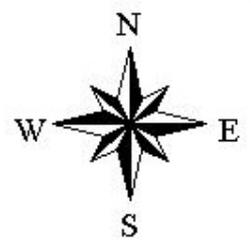


0.5 0 0.5 1 Miles





Example

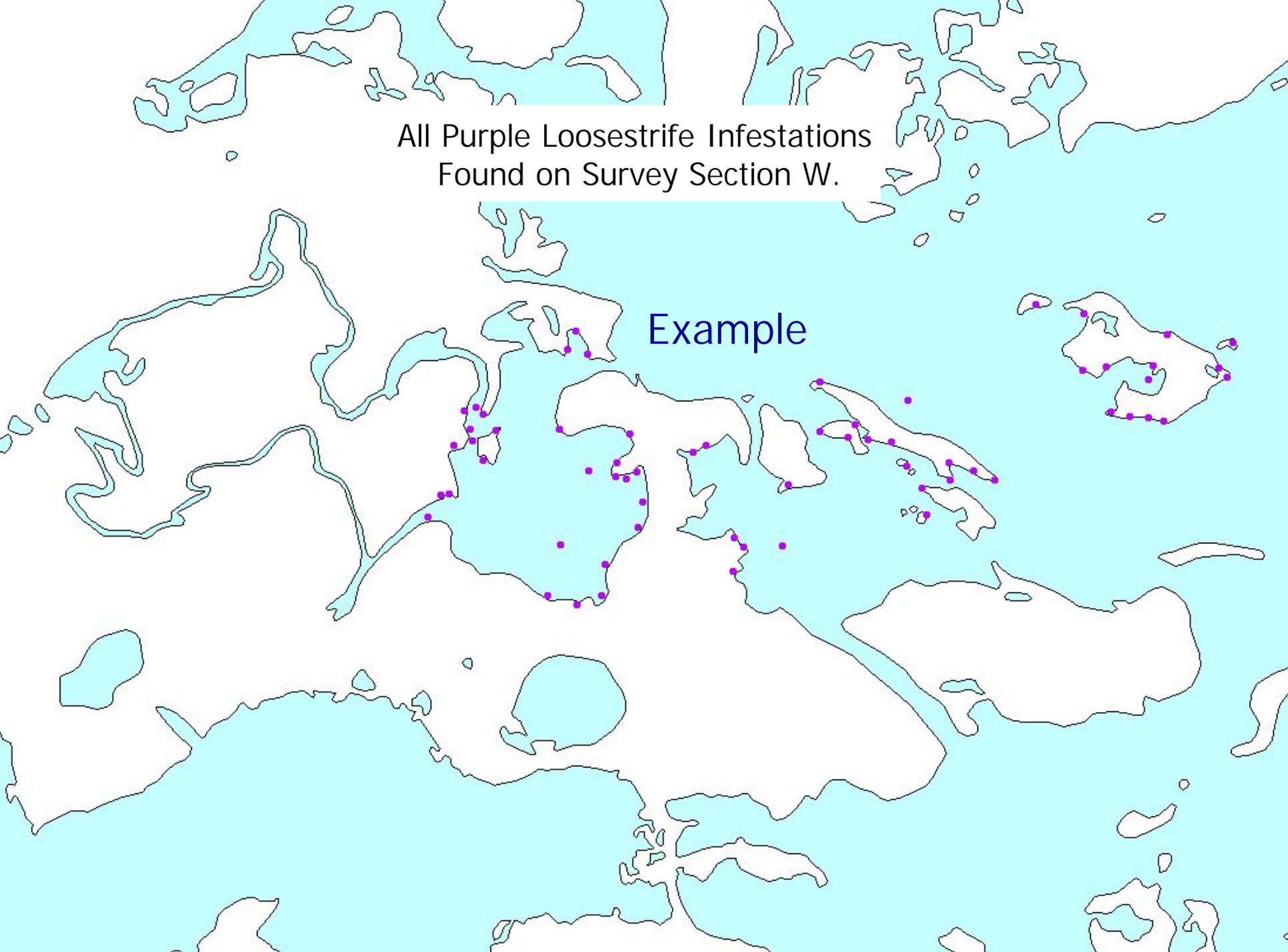


Survey Section W

-  W Section
-  Lakes
-  Roads
-  LCO Boundary

All Purple Loosestrife Infestations  
Found on Survey Section W.

Example



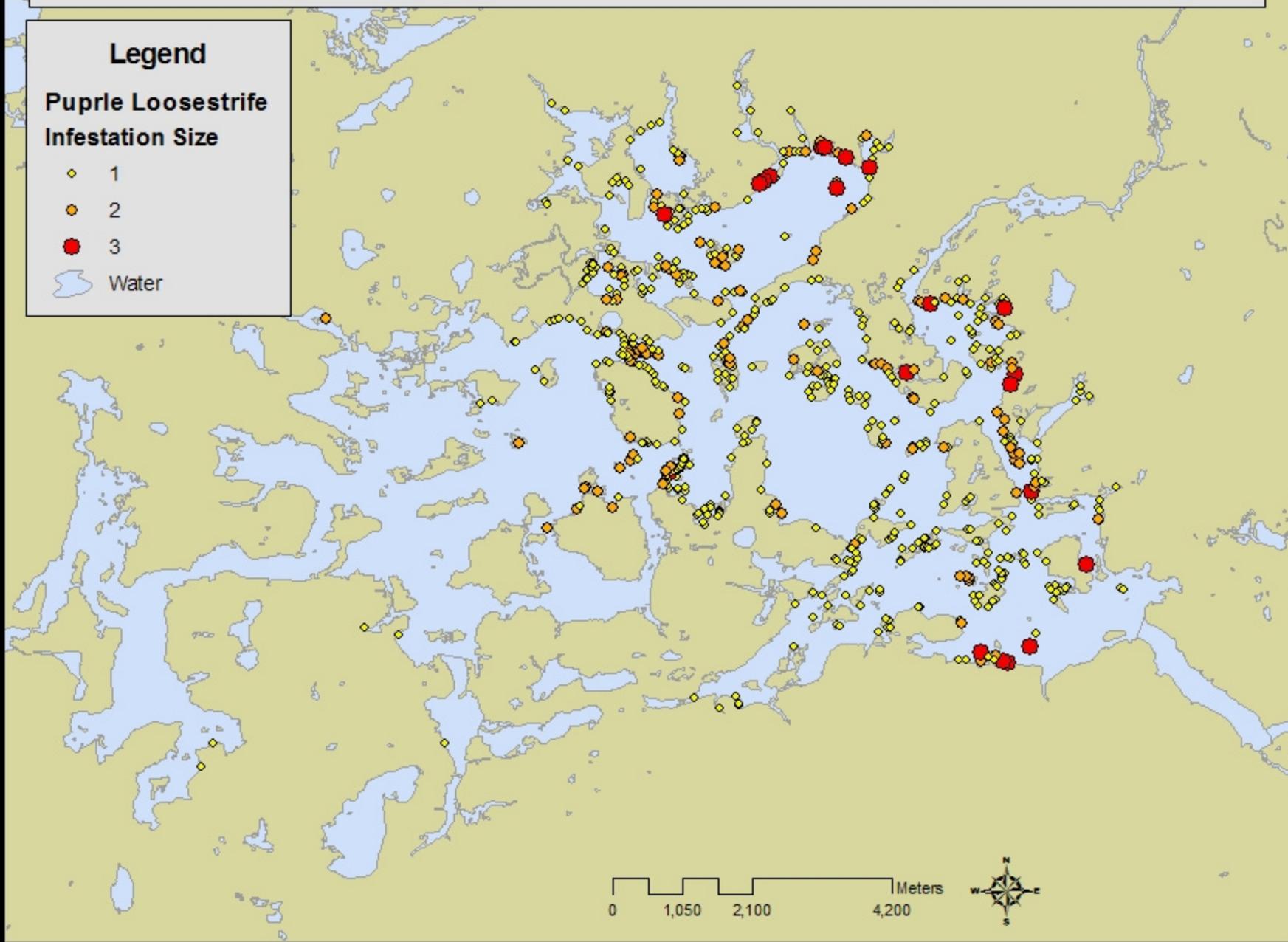
# Purple Loosestrife Infestations on the Chippewa Flowage

## Legend

### Purple Loosestrife Infestation Size

- 1
- 2
- 3

Water

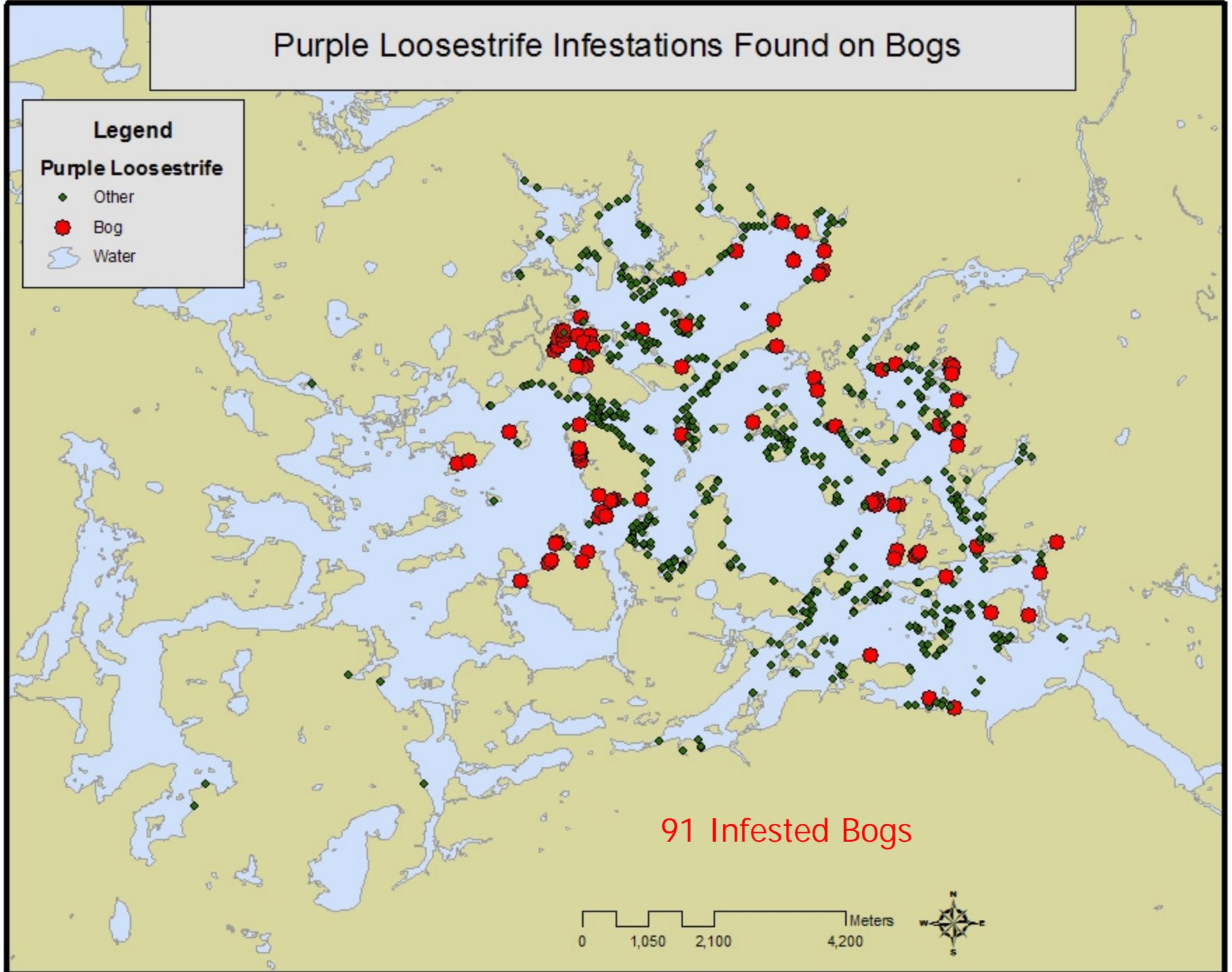


# Purple Loosestrife Infestations Found on Bogs

## Legend

### Purple Loosestrife

- ◆ Other
- Bog
- Water



# Purple Loosestrife Infestations: Shoreline Status - Developed vs. Natural

**Legend**

**Purple Loosestrife  
Shoreline Status**

- ◆ N
- ◆ D
- Water

72 Infestations on Developed Shoreline



# Management Activities

- Chippewa Flowage Aquatic Plant Management Plan
- Boat Landing Signage
- LCO Conservation Dept. & EWM chemical control
- Private property owners, WI DNR, SC Land and Water & PL bio-control
- Purple Loosestrife flower head removal staff and volunteers.

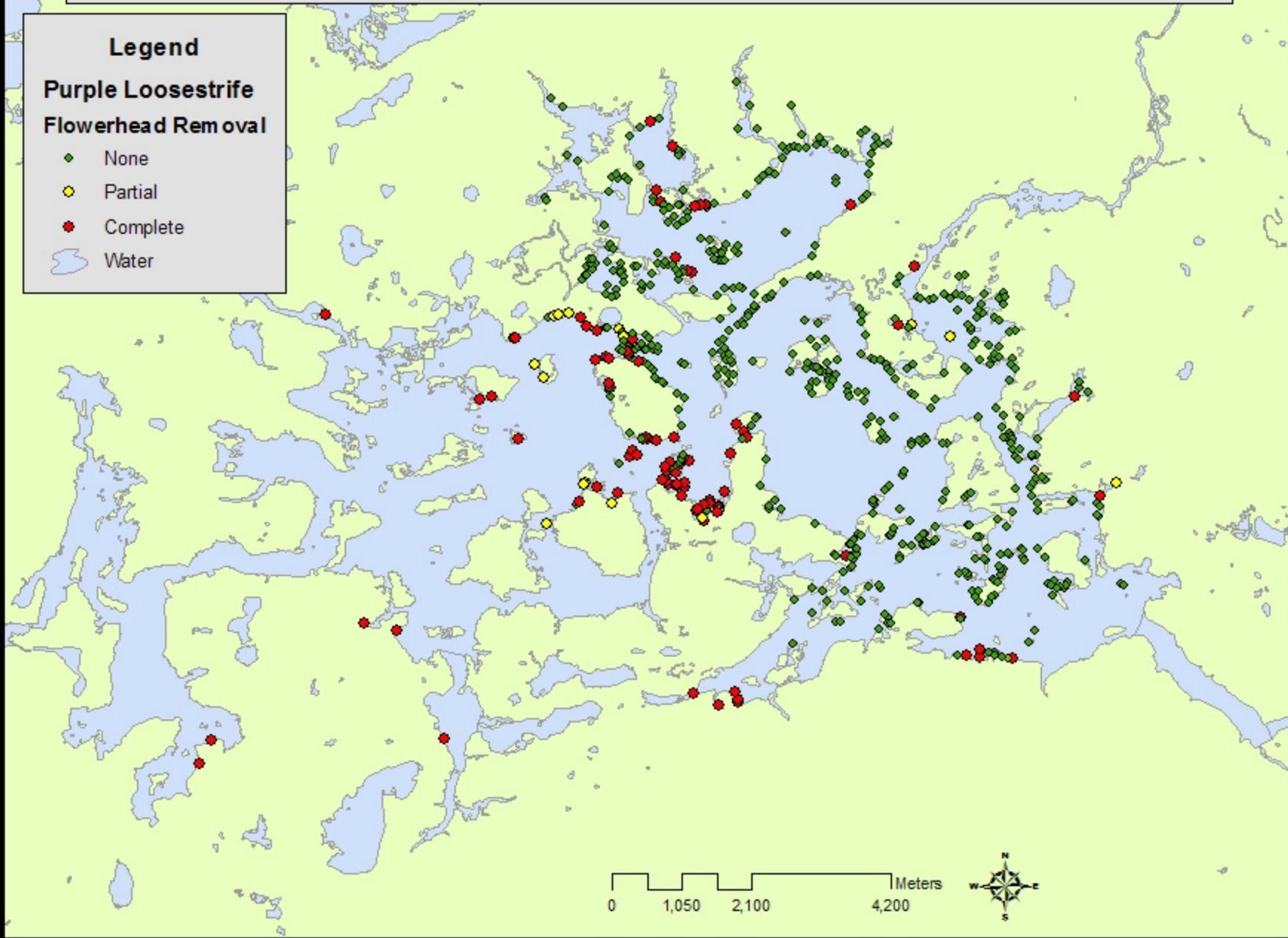


# Purple Loosestrife Flowerhead Removal 2005 & 2006

## Legend

### Purple Loosestrife Flowerhead Removal

- ◆ None
- Partial
- Complete
- Water



## 2006 Biocontrol

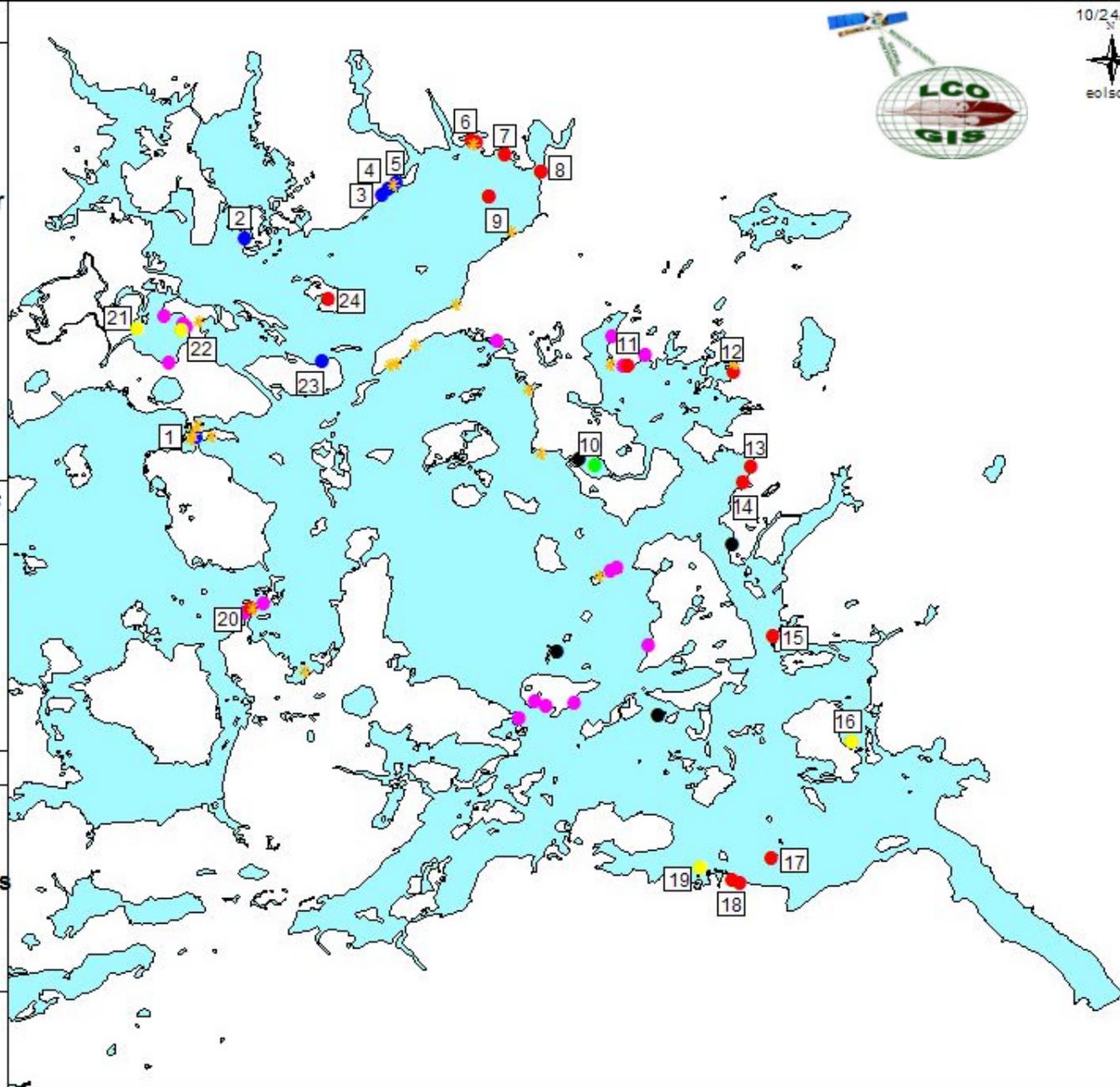
- **Private Property Owner**  
21= 2,000 beetles  
22= 3,000 beetles  
19= 3,000 beetles  
16= 5,000 beetles
- **Sawyer County Land & Water**  
3,4,5 = 3,000 (beetles present)  
2= 2,000 beetles  
24= 7,000 beetles  
1= 3,000 beetles
- **WDNR**  
10= 3,000 beetles
- **2006 Remaining Target Sites**
- **Water**

0.7 0 0.7 1.4 Miles

The numbered boxes represent infestations targeted for biocontrol in 2006. Approximately 63,500 beetles have been released on the Chippewa Flowage since 1998. The LCO Ojibwe Community College collaborated with GLIFWC on the initial 1997 purple loosestrife survey on the Chippewa Flowage, and in 2005 the college started a volunteer program to continue monitoring and controlling purple loosestrife within the flowage that still continues today.

## Historical Biocontrol Information

- **1998 GLIFWC Release Sites**  
3,500 beetles released total
- **2003-2005 WDNR Release Sites**  
29,000 beetles released total
- ★ **2005 Volunteer Survey**  
Beetle damage present at site.



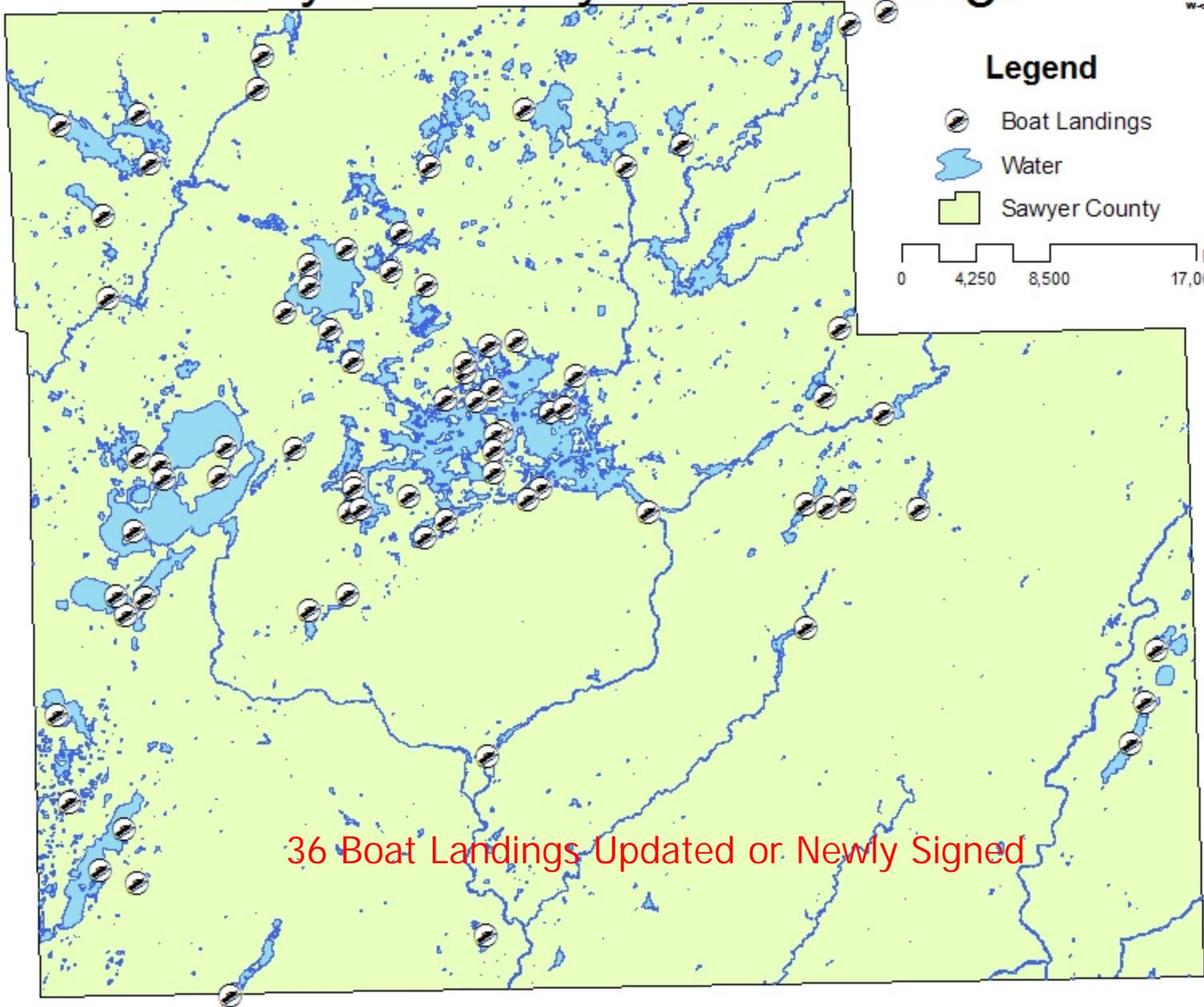
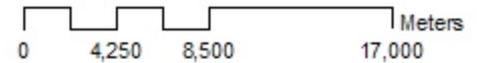
2006 Purple Loosestrife Biocontrol Efforts & Historical Biocontrol Information for the Chippewa Flowage.

# Sawyer County Boat Landings



## Legend

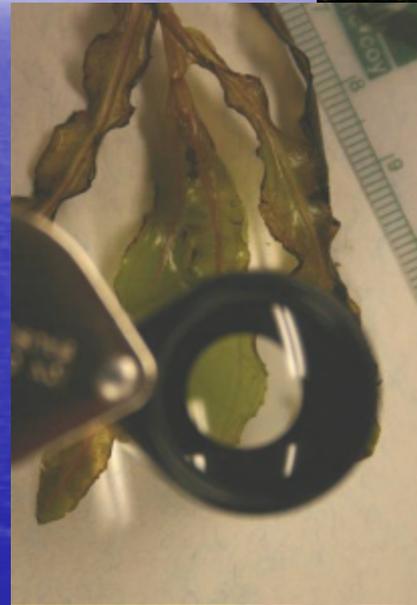
-  Boat Landings
-  Water
-  Sawyer County



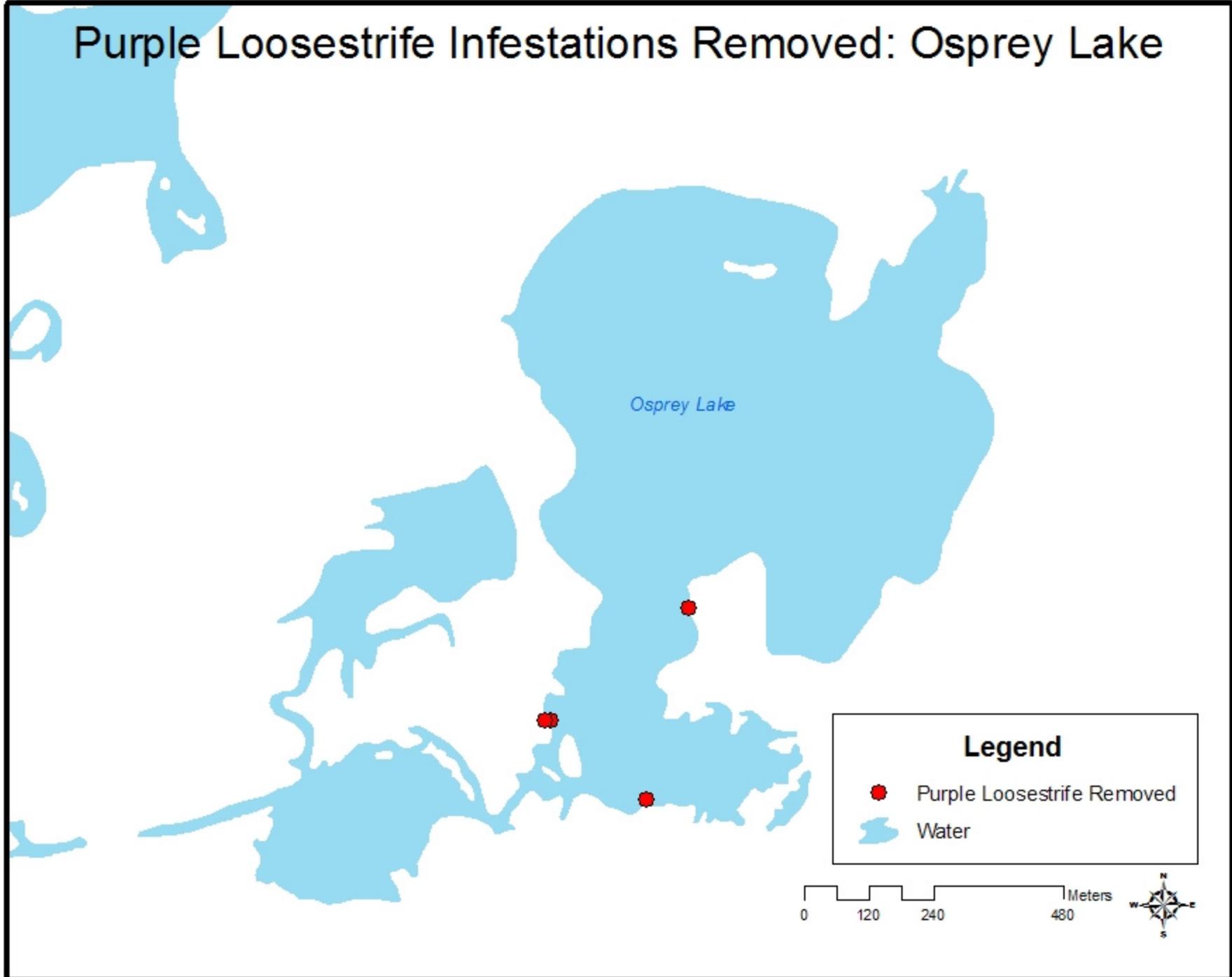
36 Boat Landings Updated or Newly Signed

# Other Invasive Species Work

- Curly-leaf Pondweed: Lac Courte Oreilles (Big LCO) & Lake Hayward (NPS, LCOCD, SCL&W).
- Japanese Knotweed control on the LCO Reservation.
- Monitoring & Physical Removal of Purple Loosestrife on Osprey Lake.



# Purple Loosestrife Infestations Removed: Osprey Lake



INTERNS 2005: Agnes Helsper, Autumn DeWall, & Don Miller  
INTERNS 2006: Dan Pearson, Michelle Miller, Shannon Wilber, Keith Groeler,  
& Shannon Krause  
2006 Research Assistants: Glenda Roman & Ben Spaier



# How are we achieving success?



- Issue
- Support
  - Steering Committee
  - College
- Hard Work
  - Project Staff
  - Student Interns
  - Volunteers
- Local Citizen Stewardship
- Collaboration
- Research Capacity