

# *Wisconsin Lakes Convention*

**Coordinating and Evaluating a  
Successful AIS Control Project**  
*March 31, 2010*

**Tim Hoyman & Eddie Heath**

**Onterra, LLC**  
*Lake Management Planning*

# Presentation Outline

- AIS Monitoring & Treatment Planning
  - *Not for nuisance control projects*
  - *Intended for ecosystem restoration*
- Example Case Studies
  - *Eagle River Chain of Lakes, Vilas County*
  - *Mt. Morris Lake, Waushara County*



*EWM: mid July – mid Sept.  
CLP: mid June – early July*

**Annual Assessments:**  
*Qualitative - Density ratings  
Quantitative - Point-intercept  
sub-sampling*

*Treatment Results:  
Decreased density  
Decreased area*

*Tune treatment  
strategy*

*Verify & refine  
treatment areas*

*Treatment area creation  
& obtain conditional  
permit*

# Annual Monitoring & Treatment Cycle

**Treatment Occurs**

**Peak  
Biomass  
Survey**

**Create  
Treatment  
Strategy**

**Spring  
Pretreatment  
Survey**



# Eagle River Chain of Lakes

*Vilas County*

# ***Eagle River Chain of Lakes***

## **Project Overview**

- Completion of Lake Management Planning activities during 2007
- 3-year control plan of EWM using herbicides (2008-2010)
  - Volunteer EWM Surveys
  - Pre- & post treatment monitoring

# *Volunteer EWM Surveys*

- Initial training by Onterra staff – 2007
  - Identification
  - GPS & note taking
  - Data transfer
- Refresher course – 2008



# *Volunteer EWM Surveys*

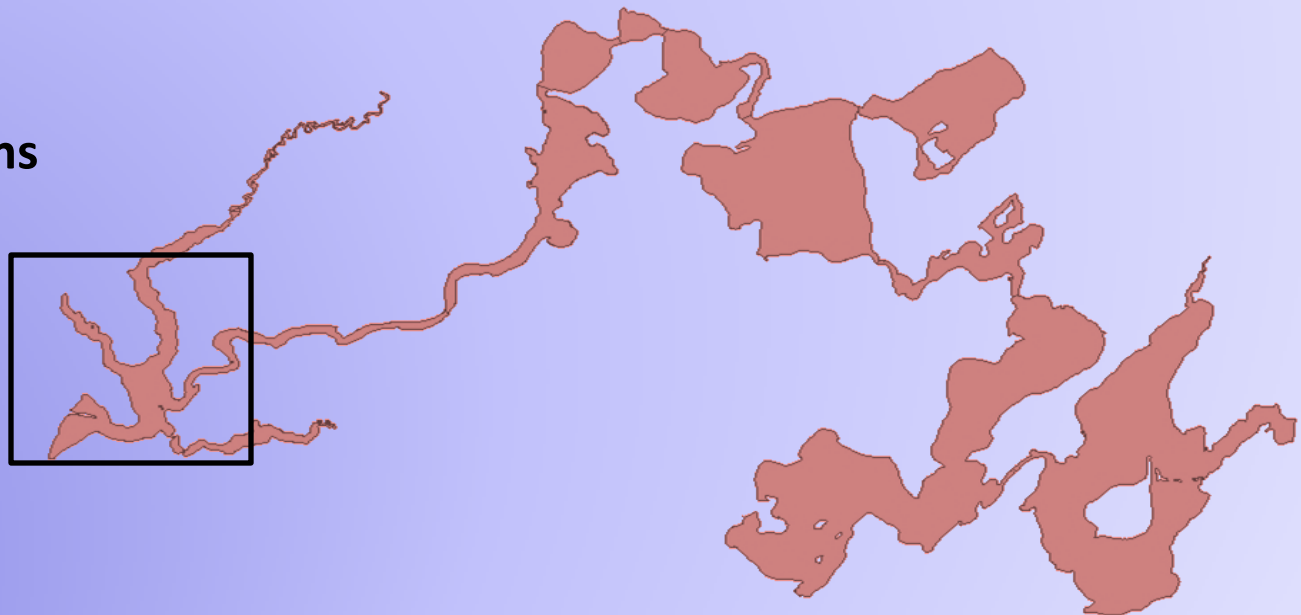
- Divide responsibility, mark EWM occurrences on chain
- Onterra visits locations and accurately maps areas to set up treatments

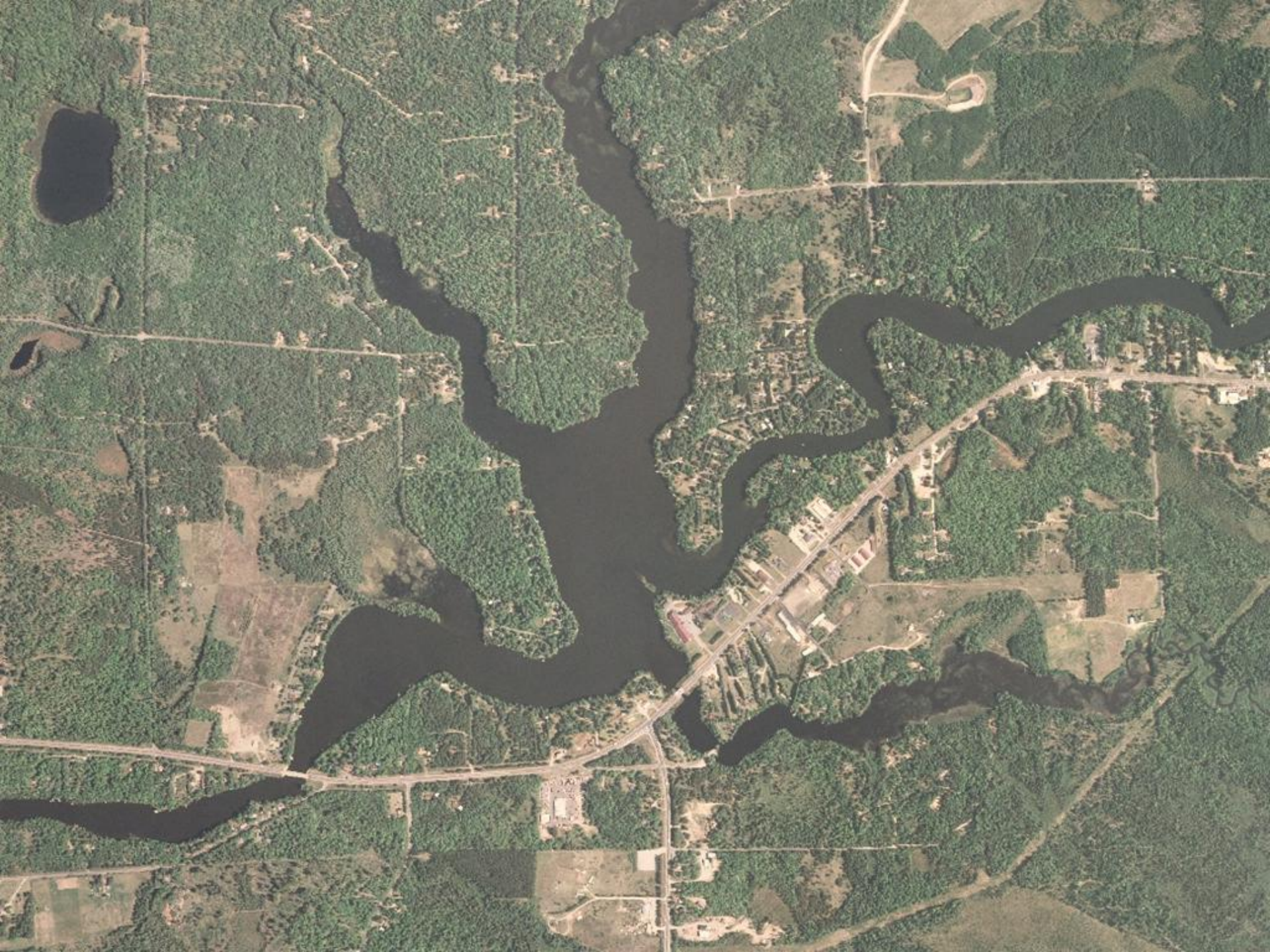
## Eagle River Chain

**10 Lakes, 2 River Sections**

**62 miles of Shoreline**

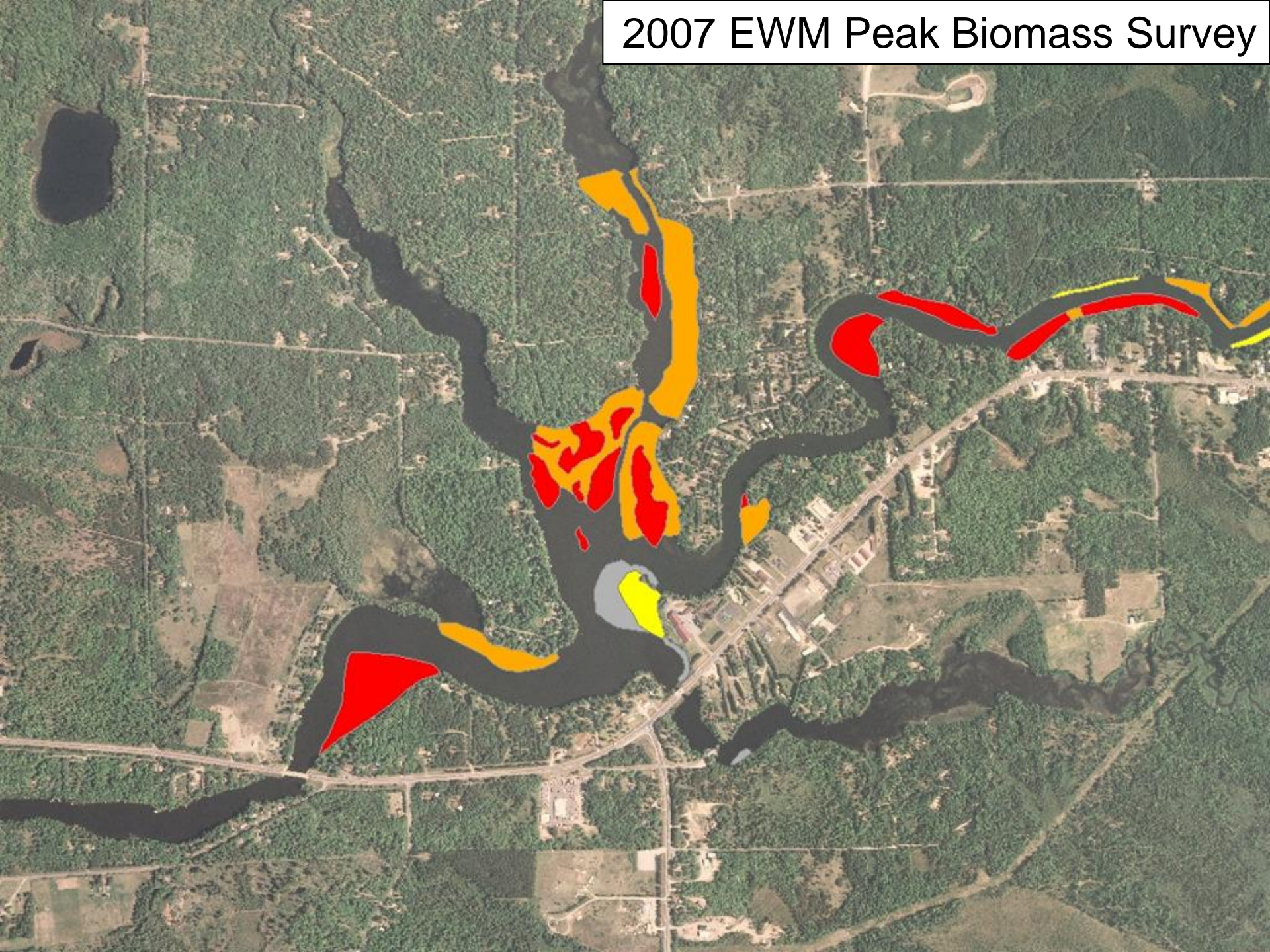
**3,500 acres**



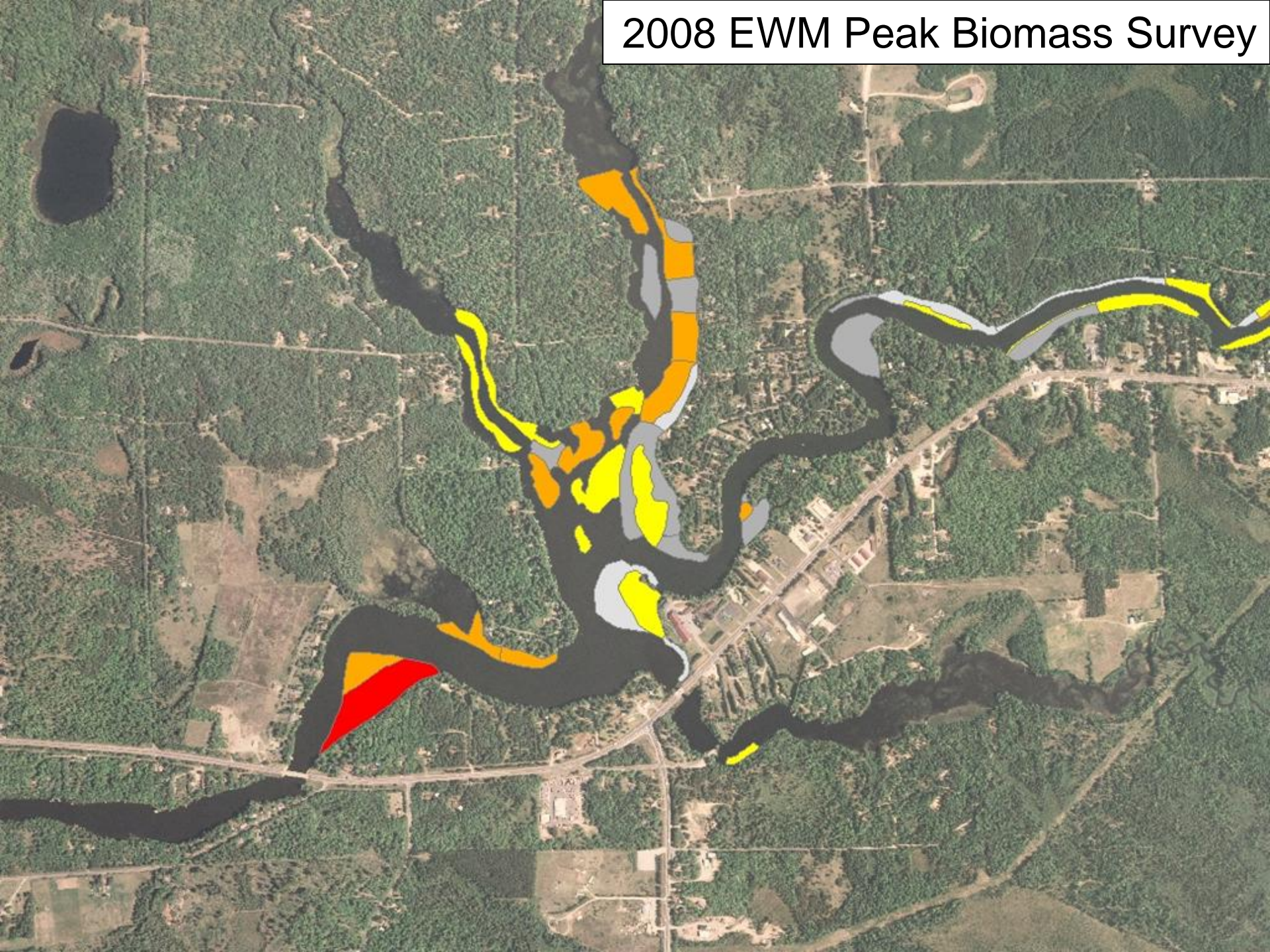




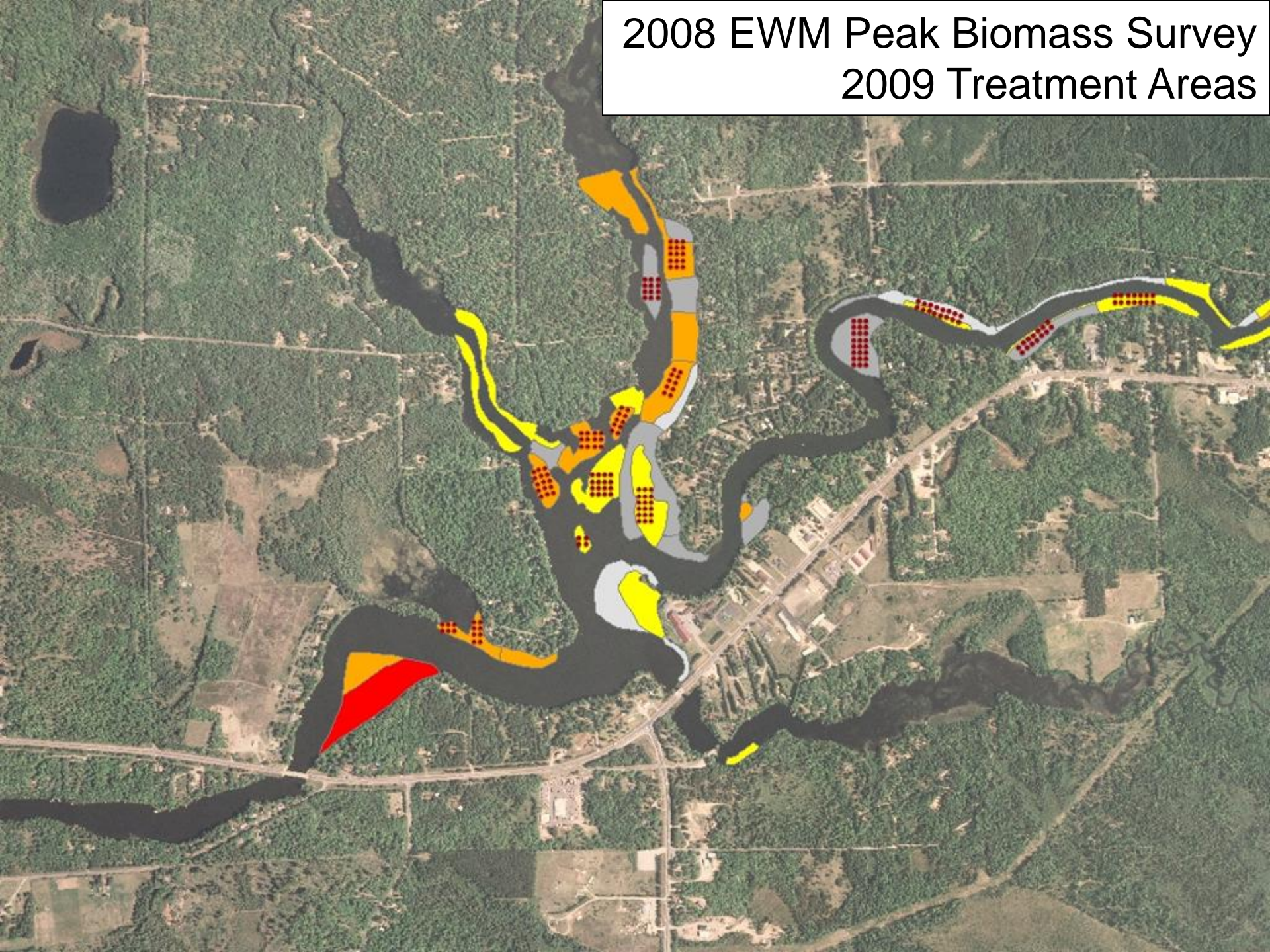
# 2007 EWM Peak Biomass Survey



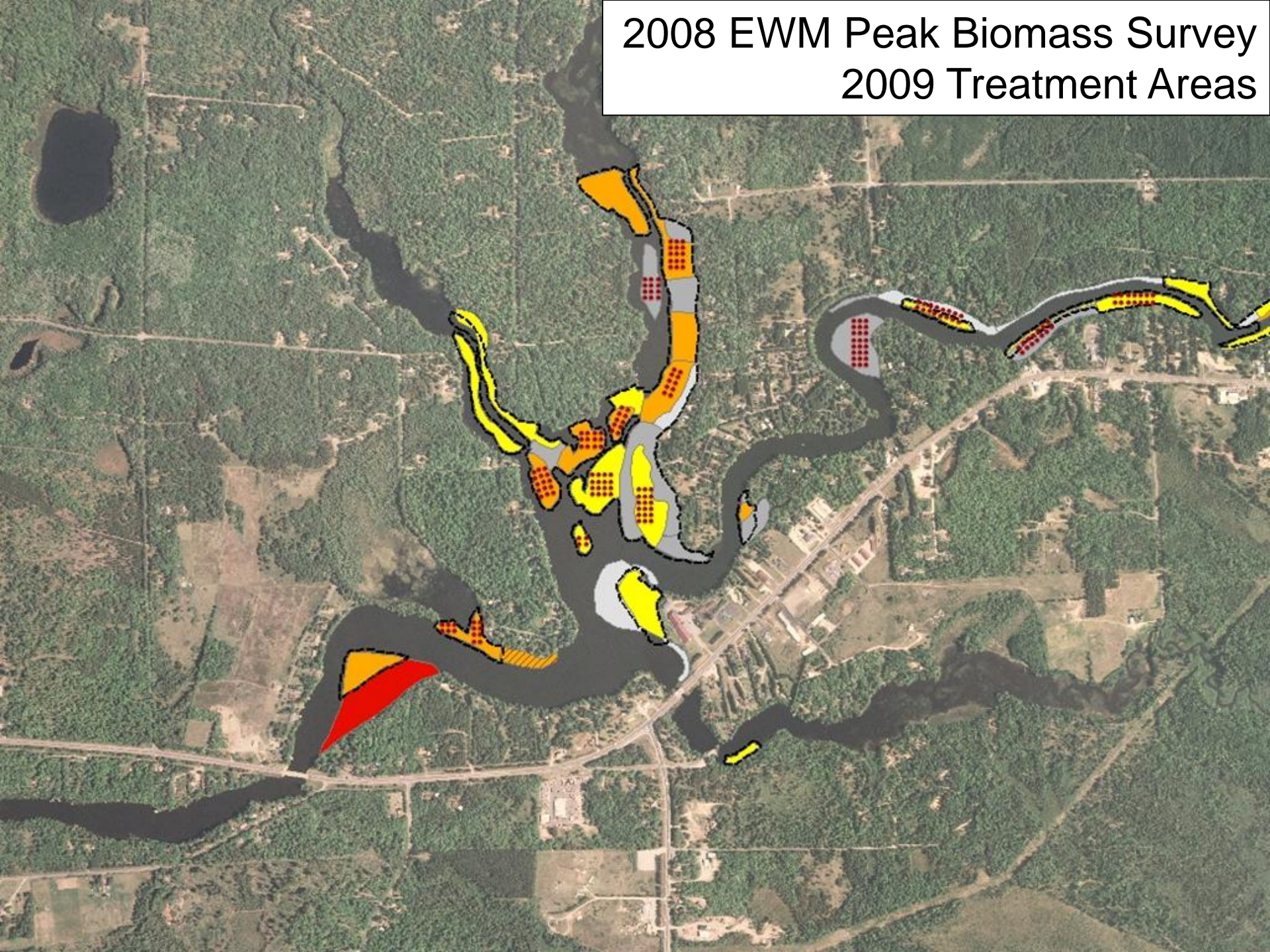
# 2008 EWM Peak Biomass Survey



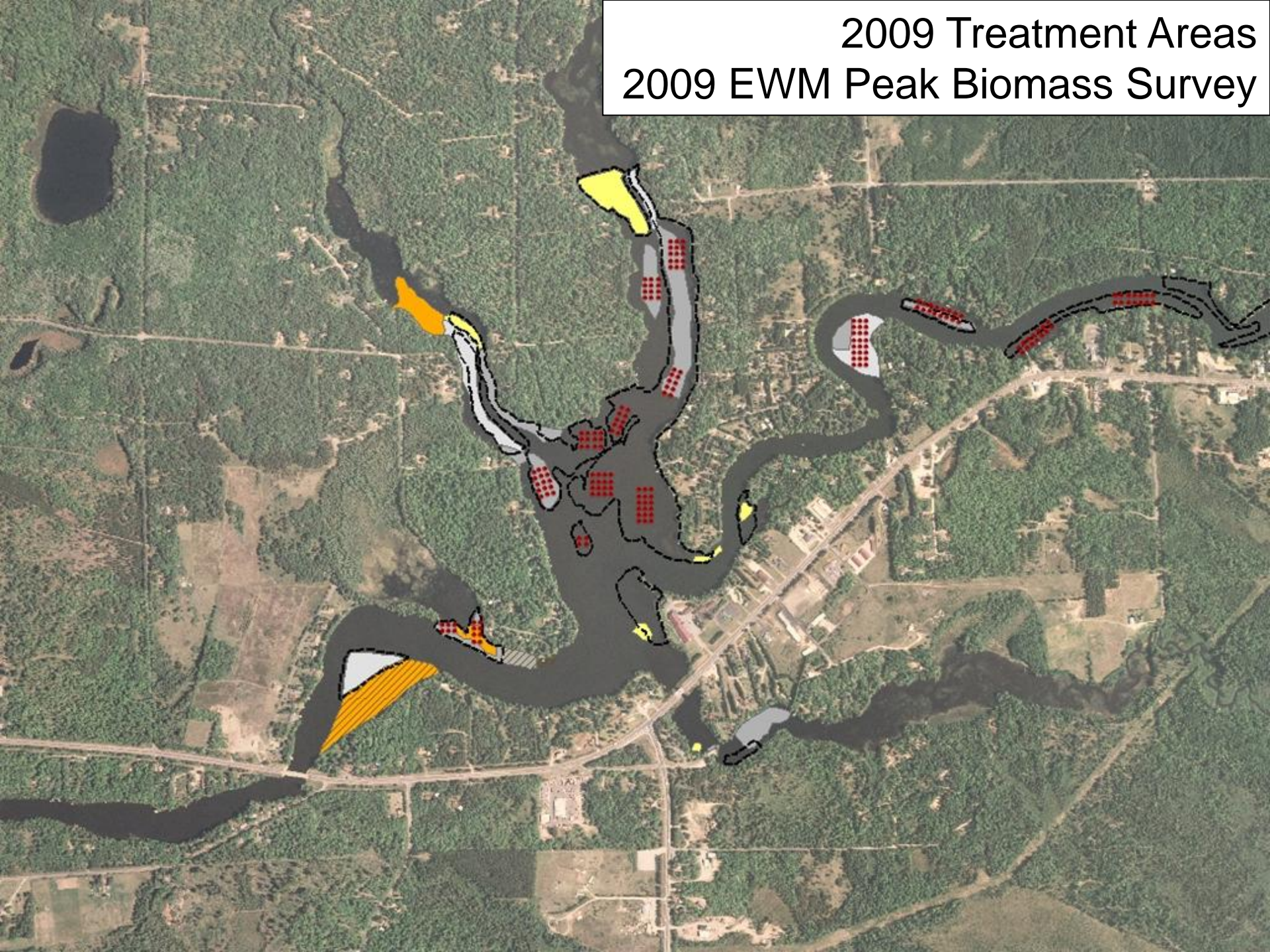
2008 EWM Peak Biomass Survey  
2009 Treatment Areas



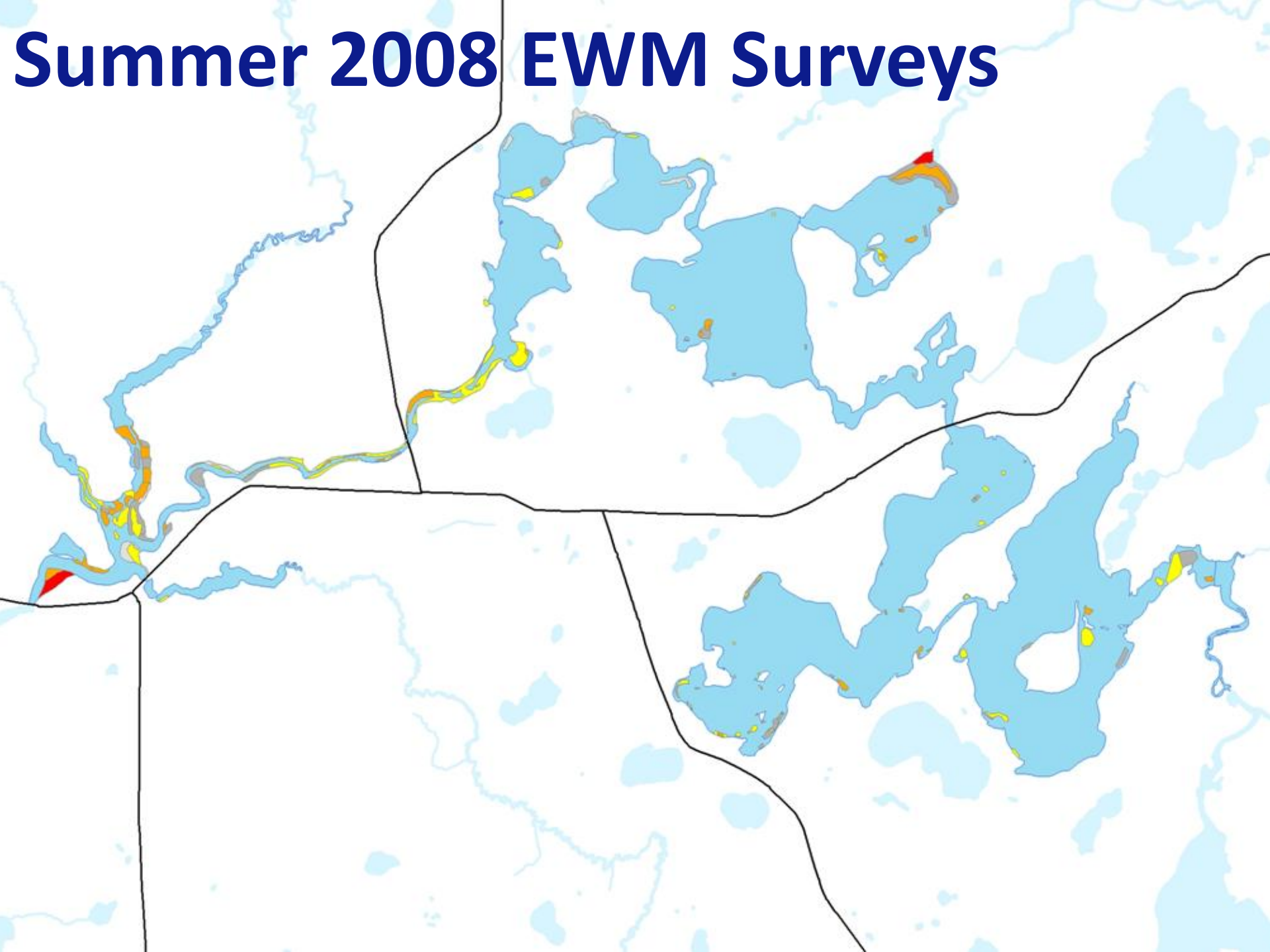
2008 EWM Peak Biomass Survey  
2009 Treatment Areas



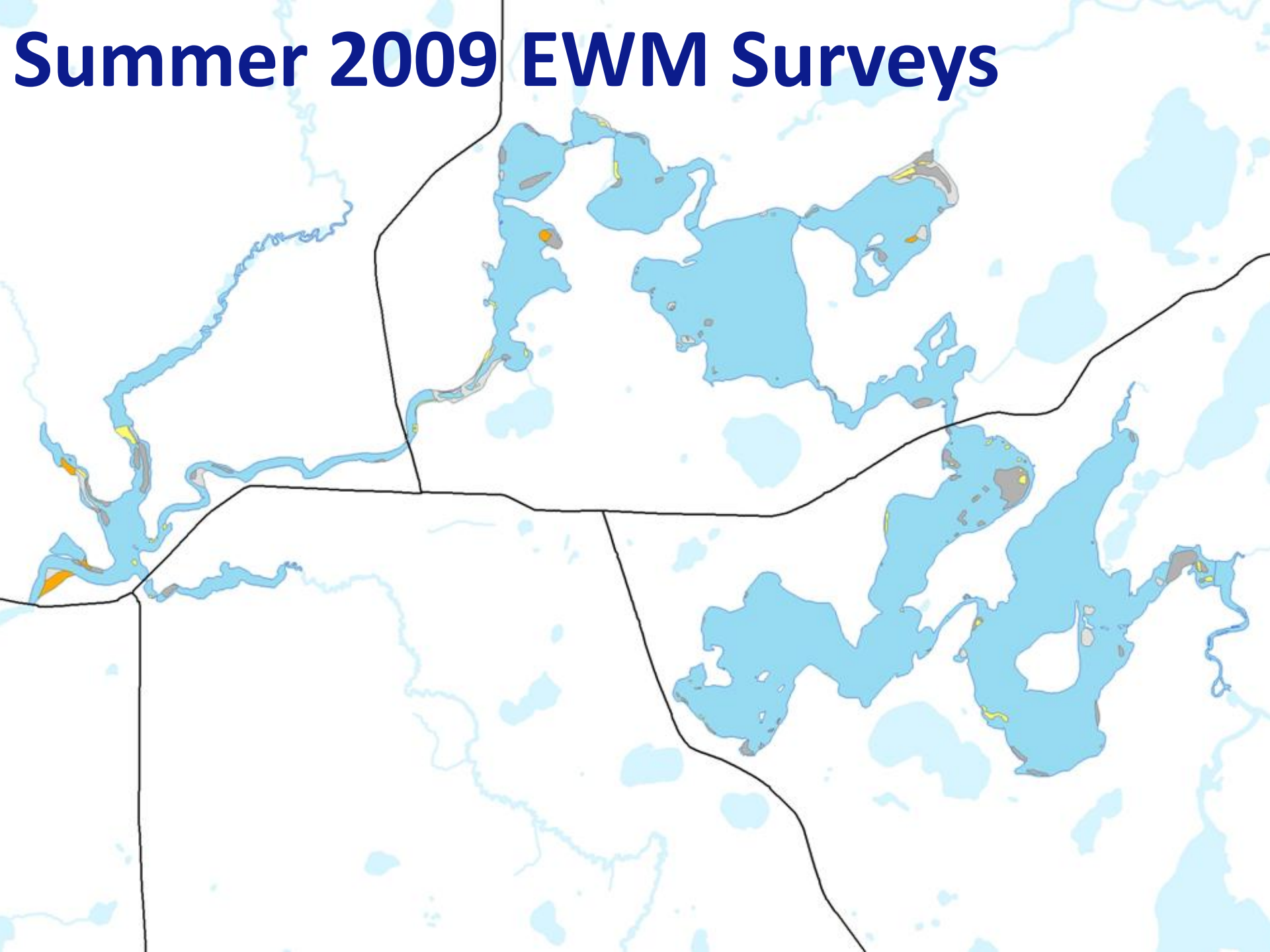
# 2009 Treatment Areas 2009 EWM Peak Biomass Survey



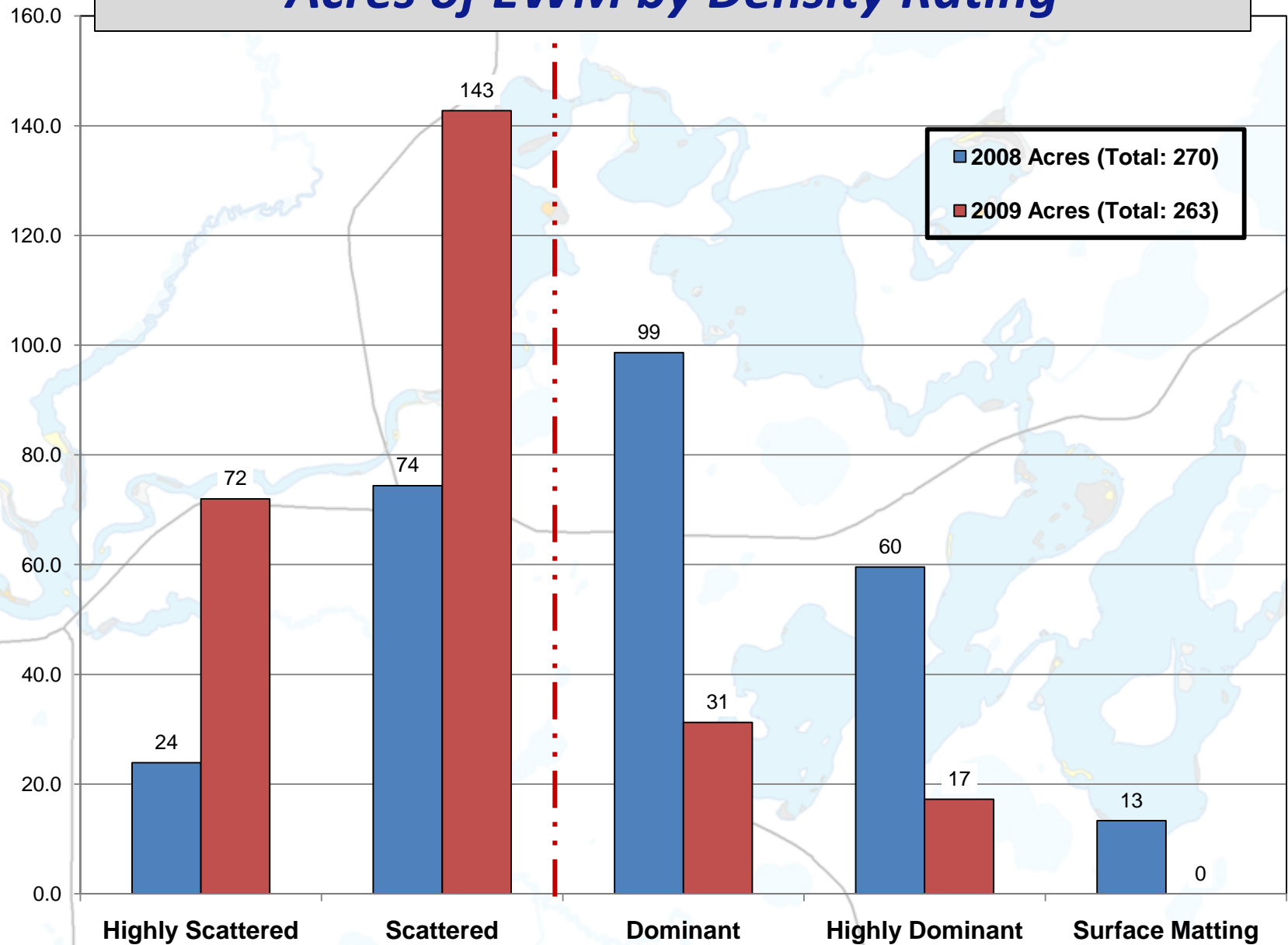
# Summer 2008 EWM Surveys



# Summer 2009 EWM Surveys

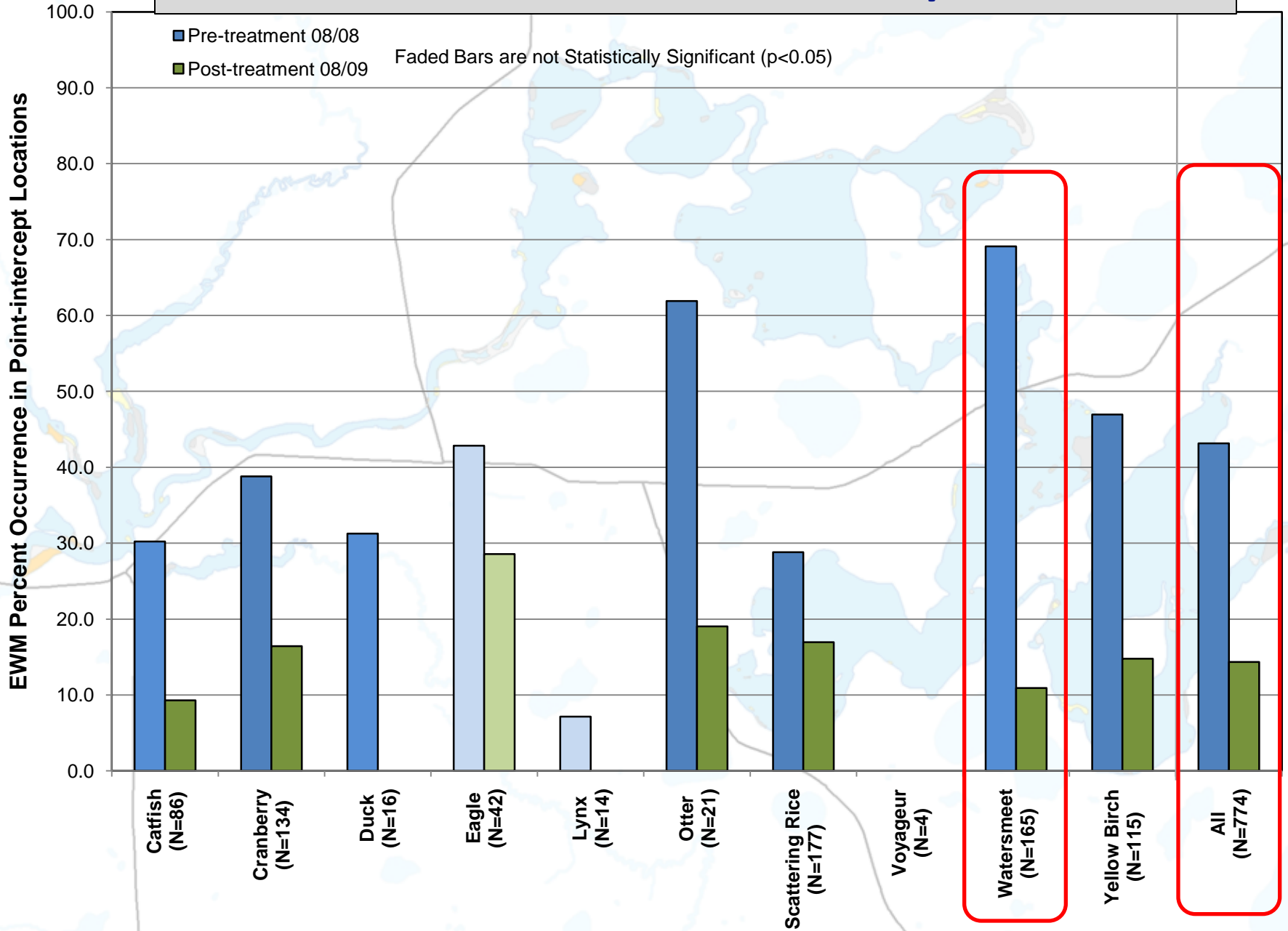


# Acres of EWM by Density Rating

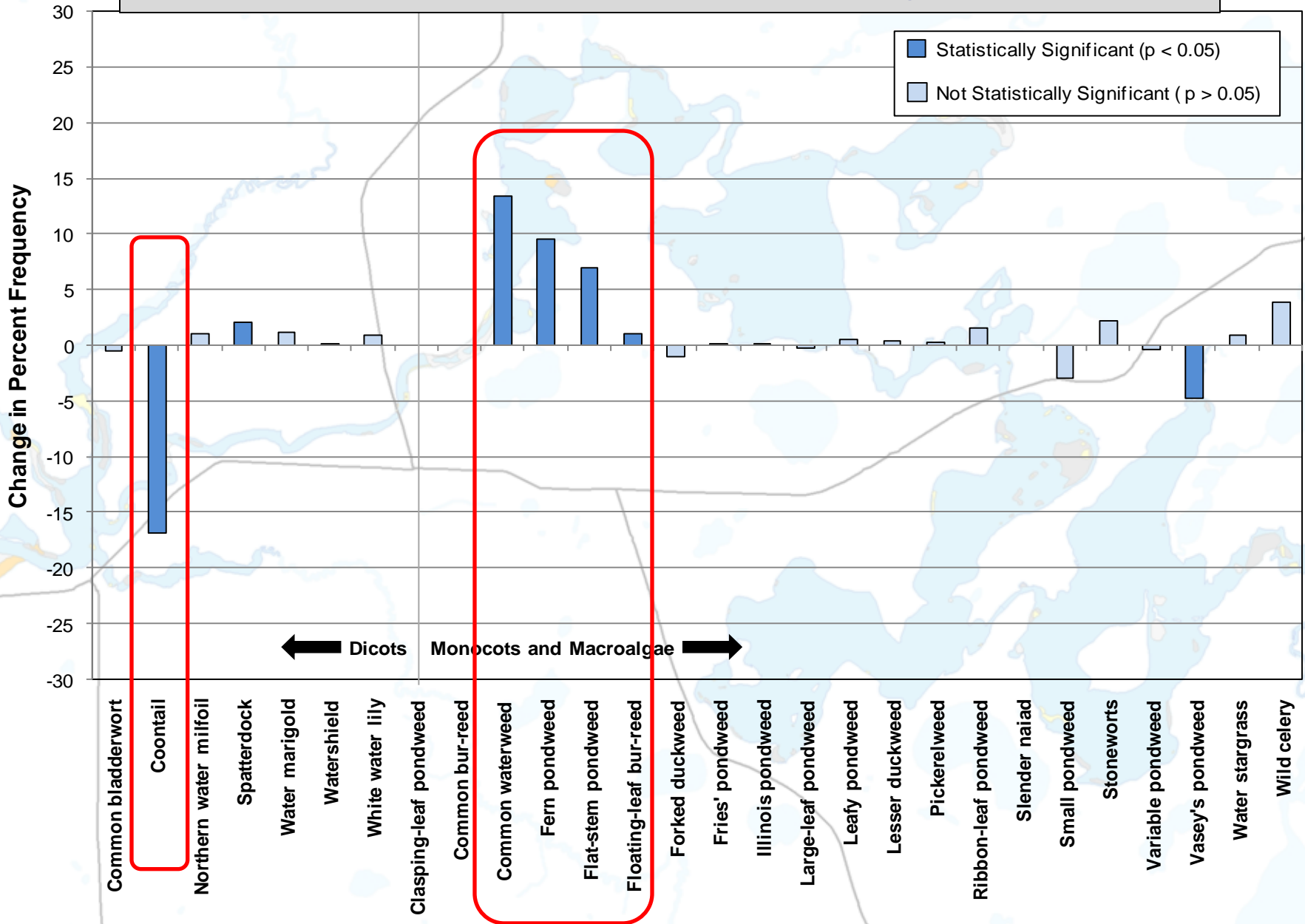




# EWM Occurrence in Point-intercept Locations



# EWM Occurrence in Point-intercept Locations



# ***ERC Control Project Results***

## ***Through 2009***

### **Treatment Monitoring (2009)**

- 65% decline in EWM occurrence (46.0% in 2008 to 16.3% in 2009)
- Similar acreage of EWM mapped, but shift towards reduced density

### **Volunteer Data**

- Most areas of chain were surveyed
- Data was very good and timely

### **Other ULERCLC Efforts**

- Hand Removal
- Vilas County website
- CBCW volunteer coordinator



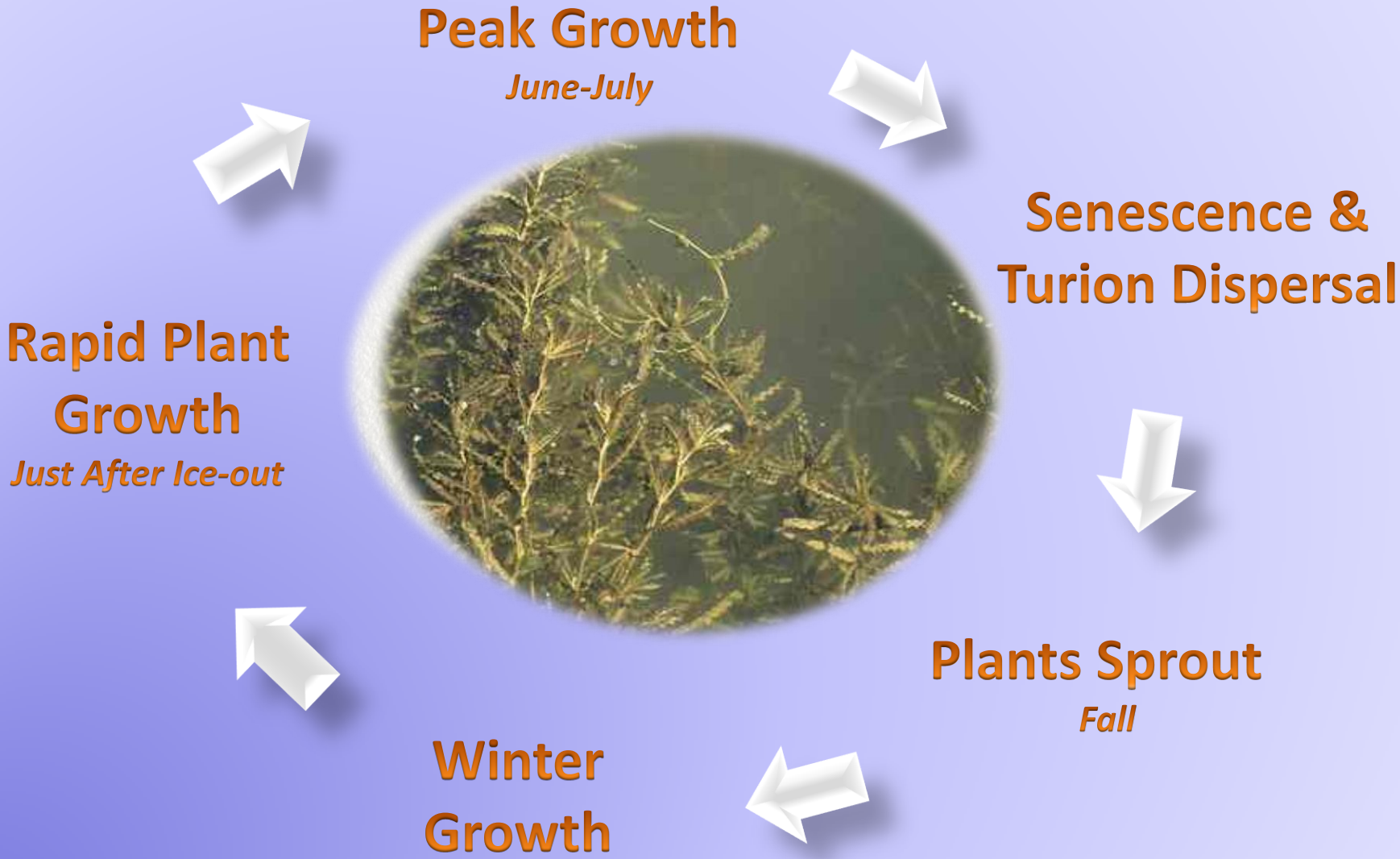
**Mount Morris Lake**  
*Waushara County*

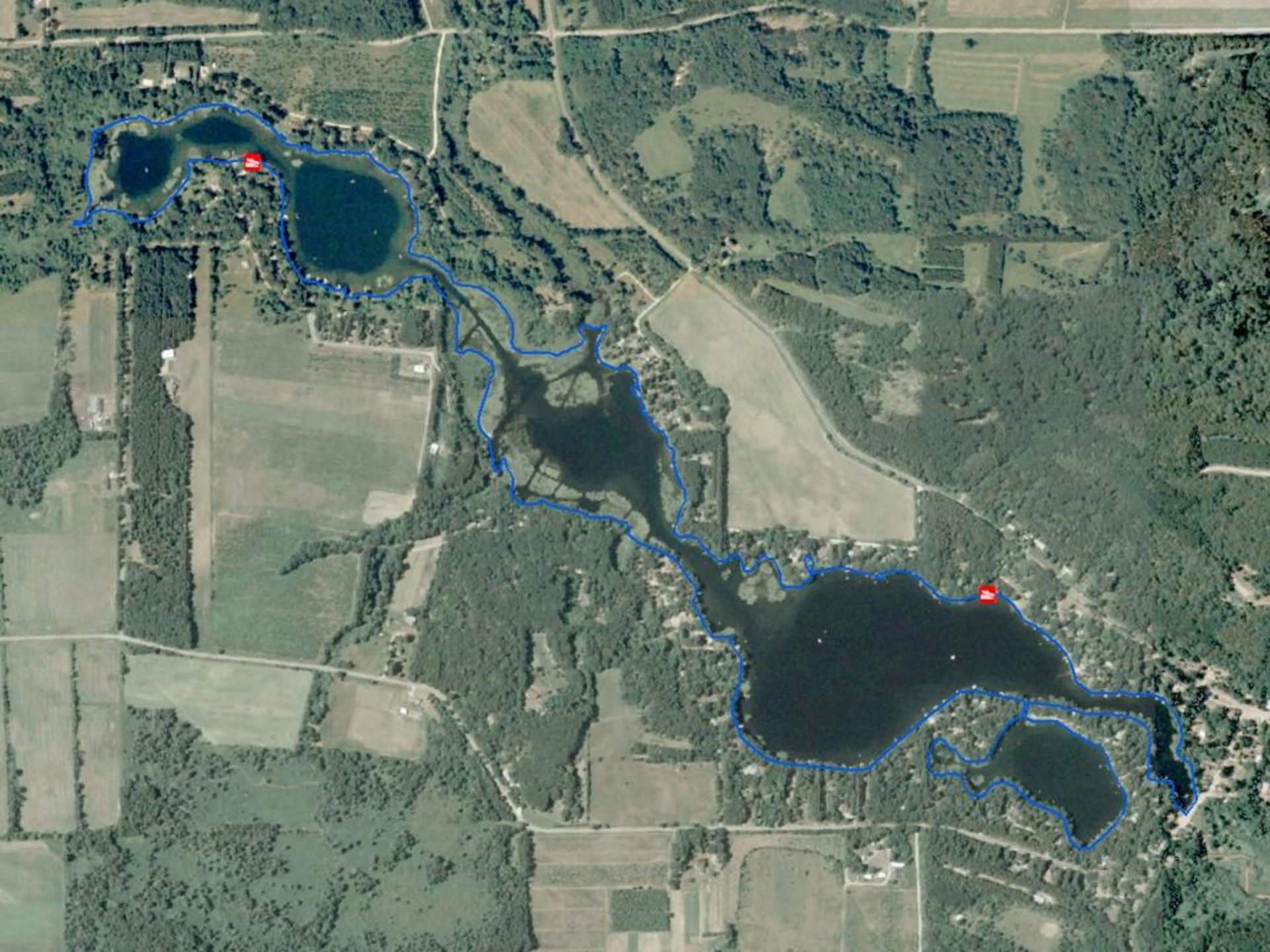
# ***Mt. Morris Lake***

## **Project Overview**

- Completion of Lake Management Planning activities during winter 2005-06
- 4-year control plan of CLP using herbicides (2006-2009)
  - Pre- & Post Treatment Monitoring
    - Point-intercept sub-sampling
    - Dredge sampling for turions

# Curly-leaf Pondweed Life Cycle

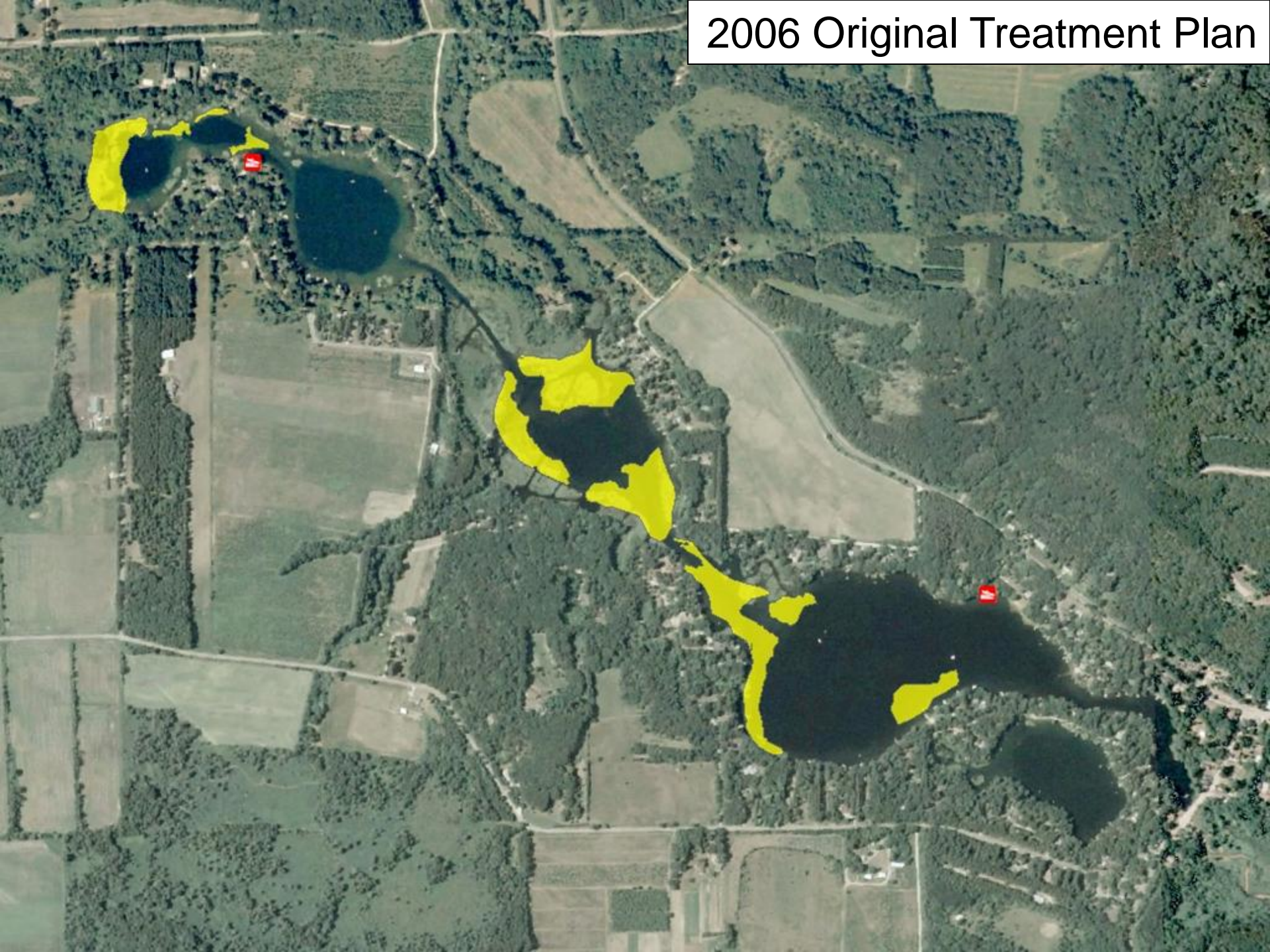




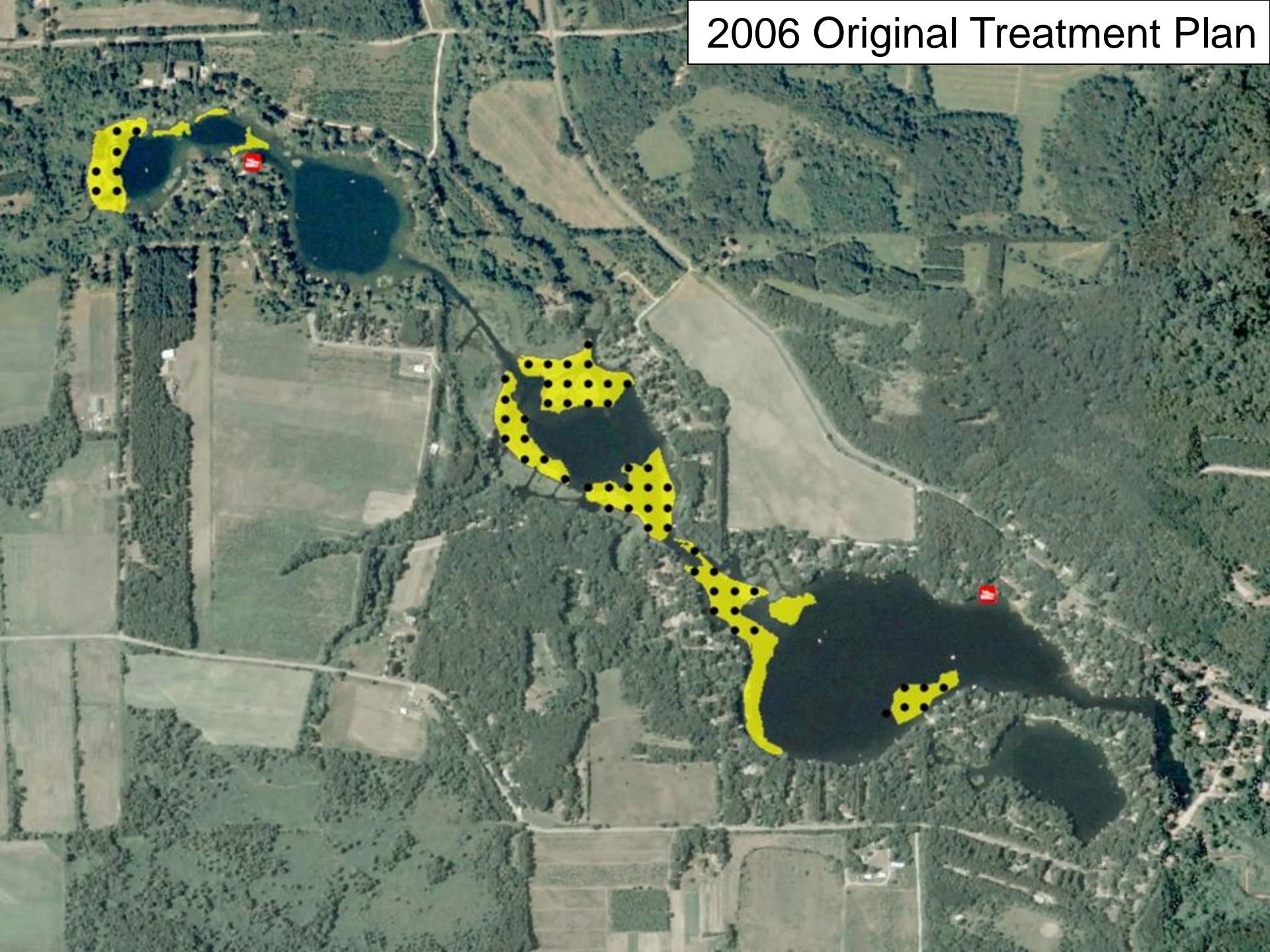




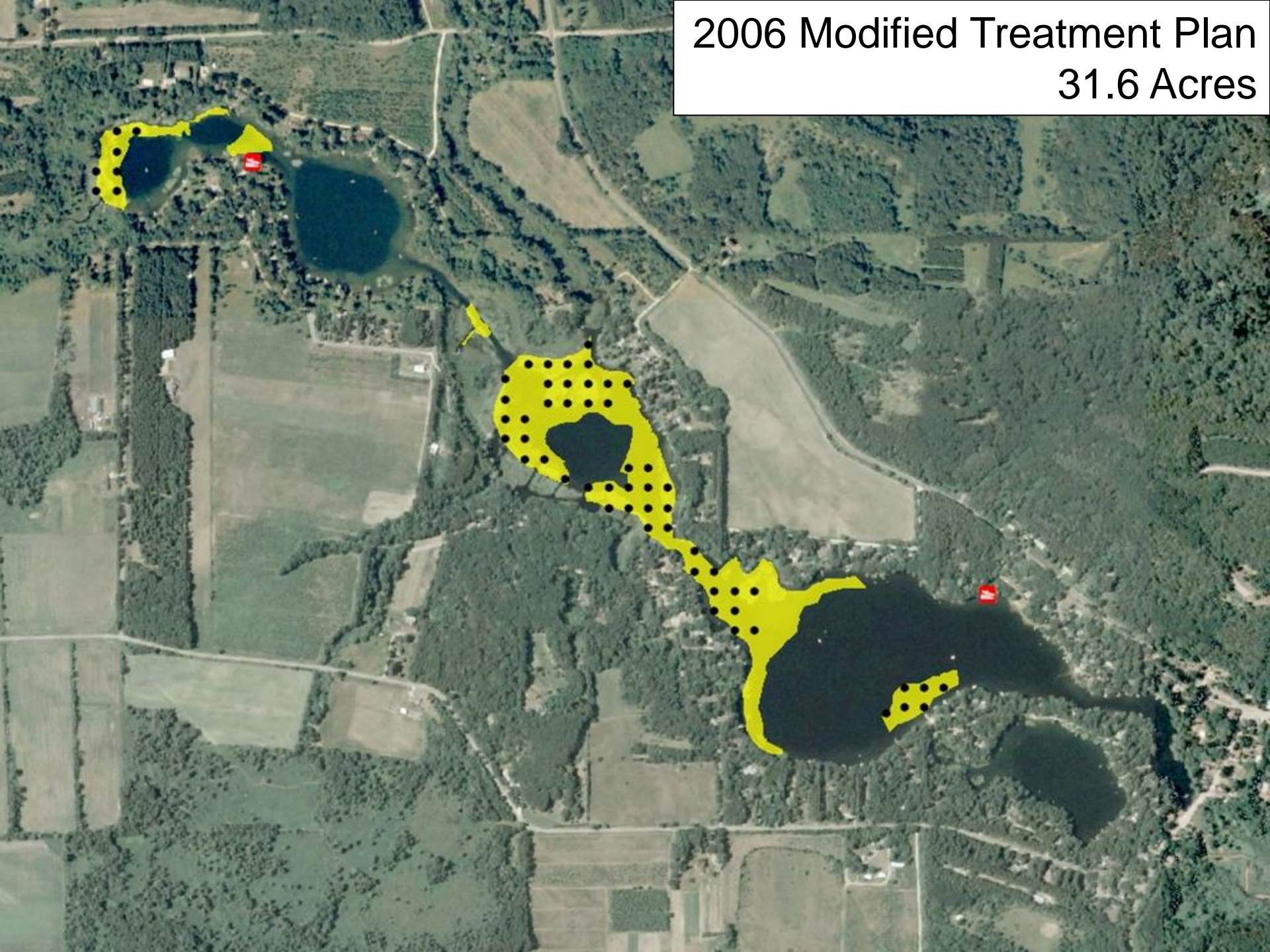
# 2006 Original Treatment Plan



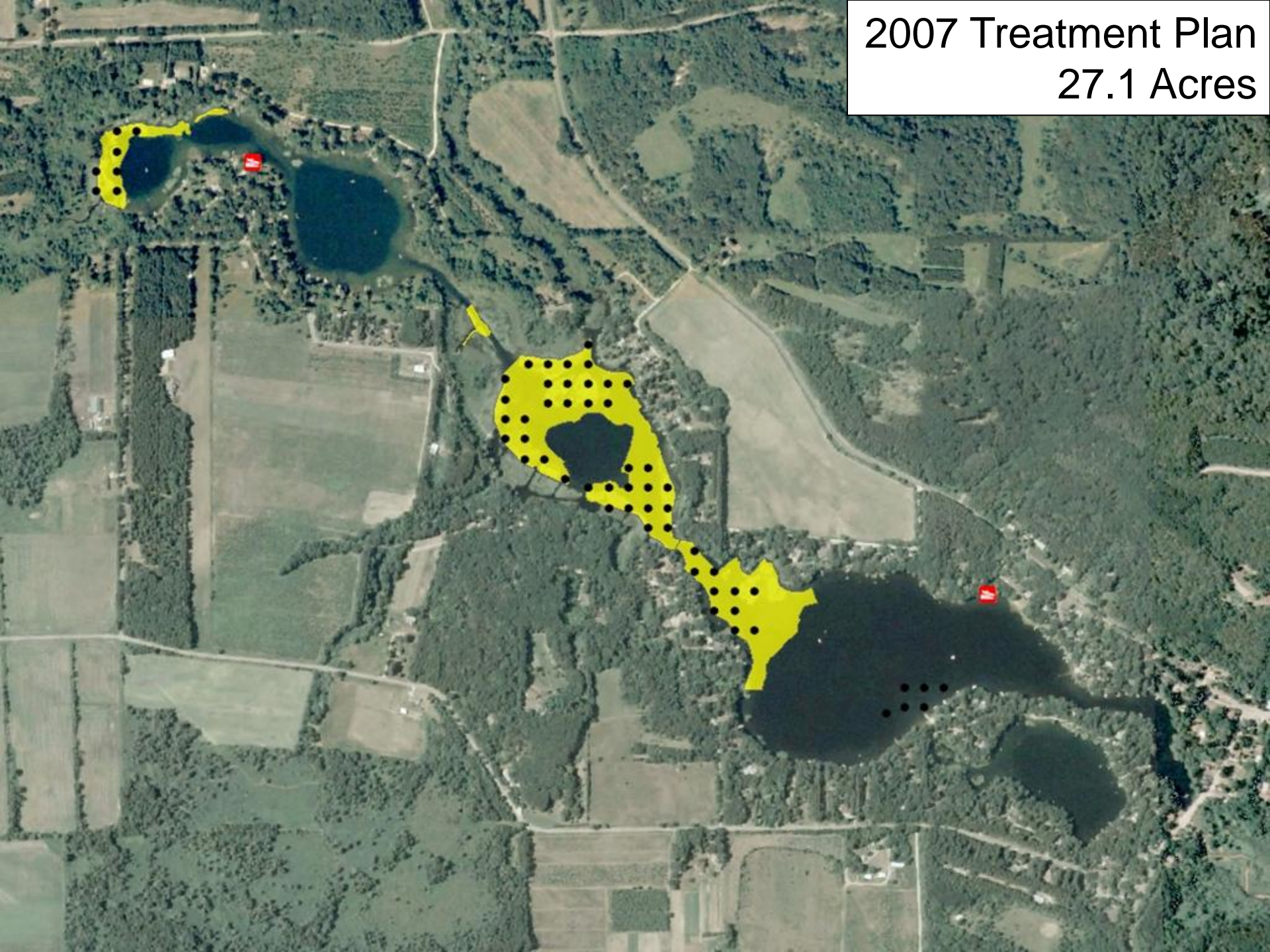
# 2006 Original Treatment Plan



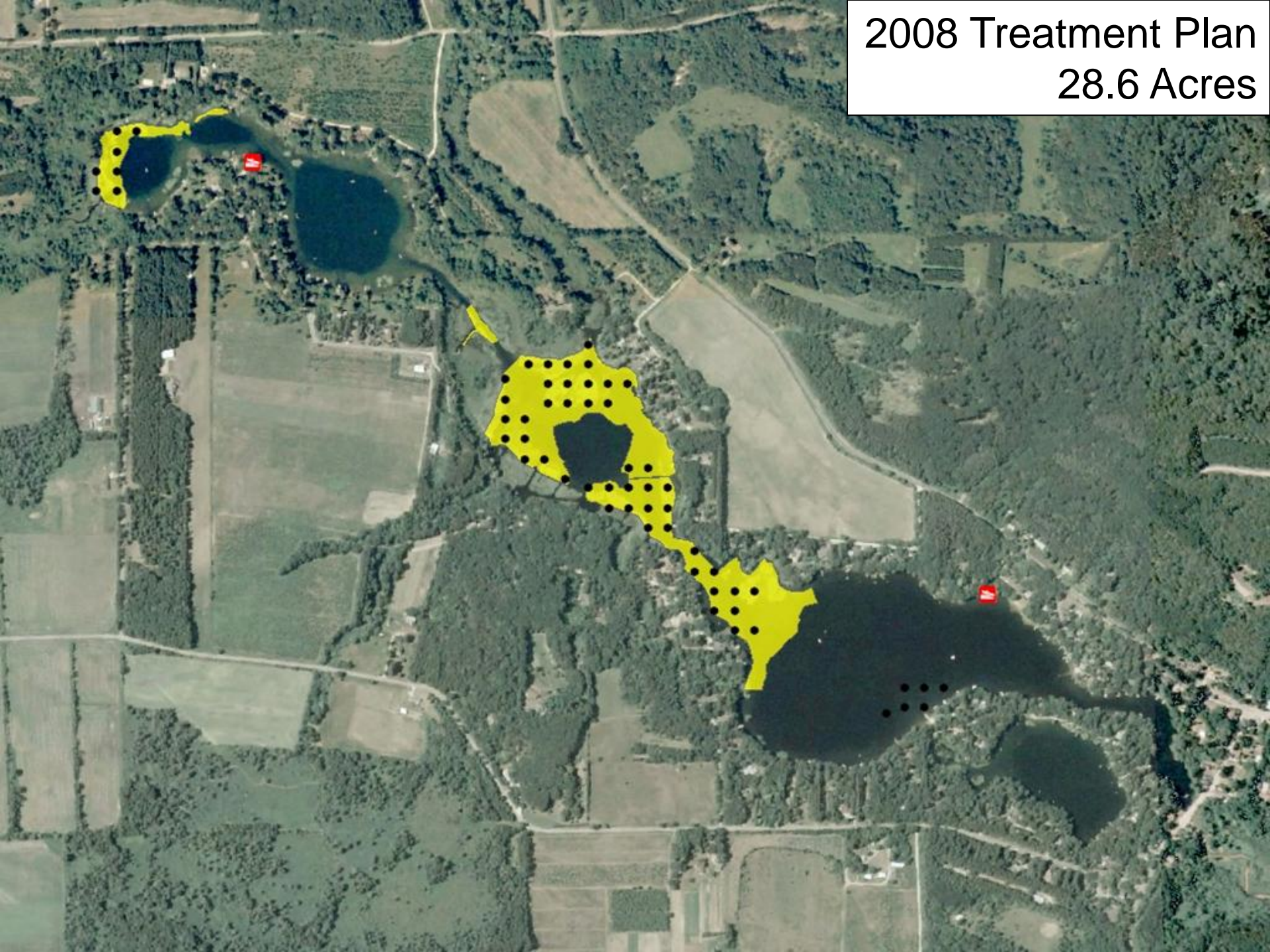
2006 Modified Treatment Plan  
31.6 Acres



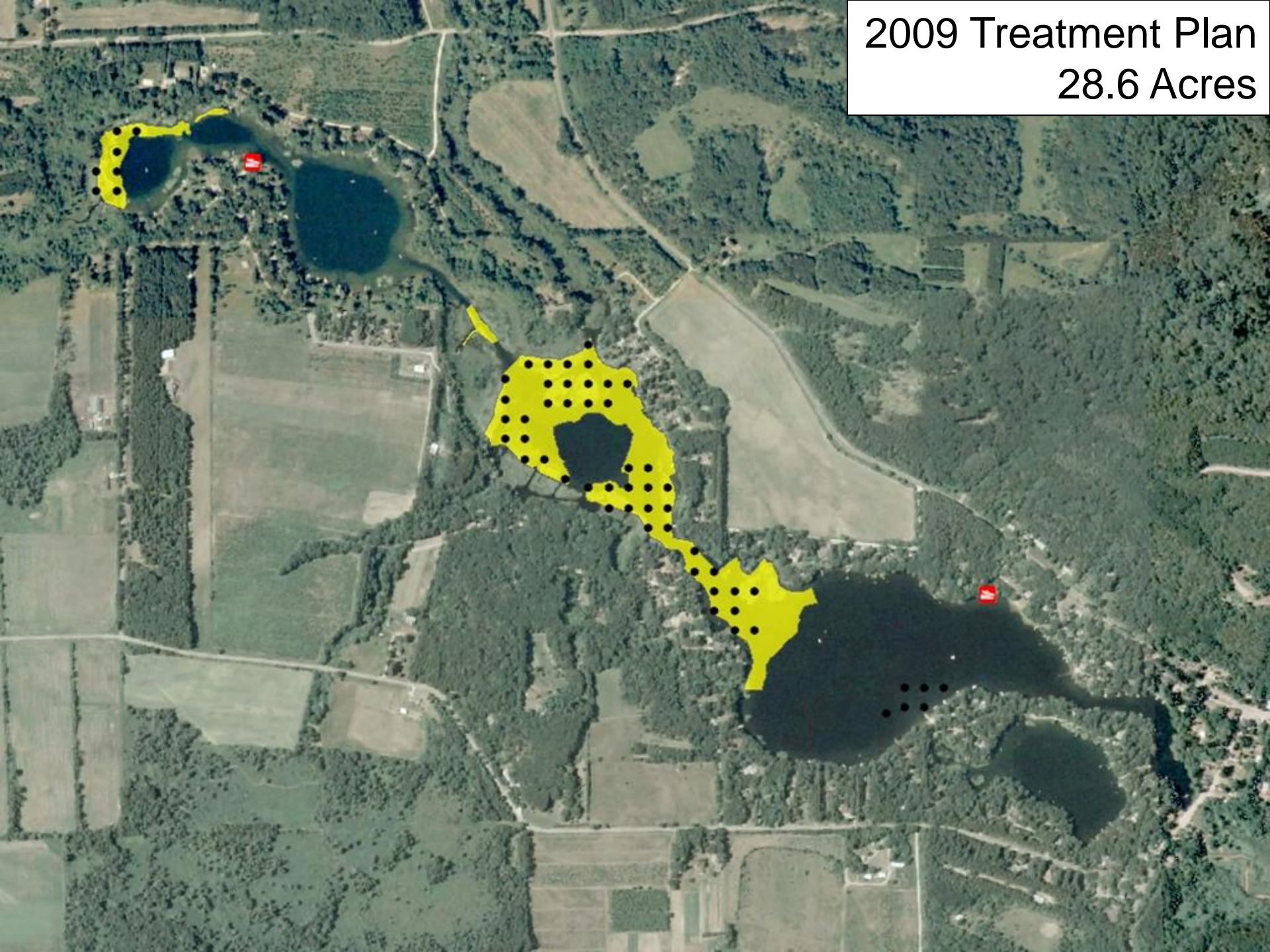
2007 Treatment Plan  
27.1 Acres



2008 Treatment Plan  
28.6 Acres



2009 Treatment Plan  
28.6 Acres



# *Monitoring Program*

## *Point-intercept sub-sampling*

- Collected previous to herbicide application (April-May)
- Compare to following spring

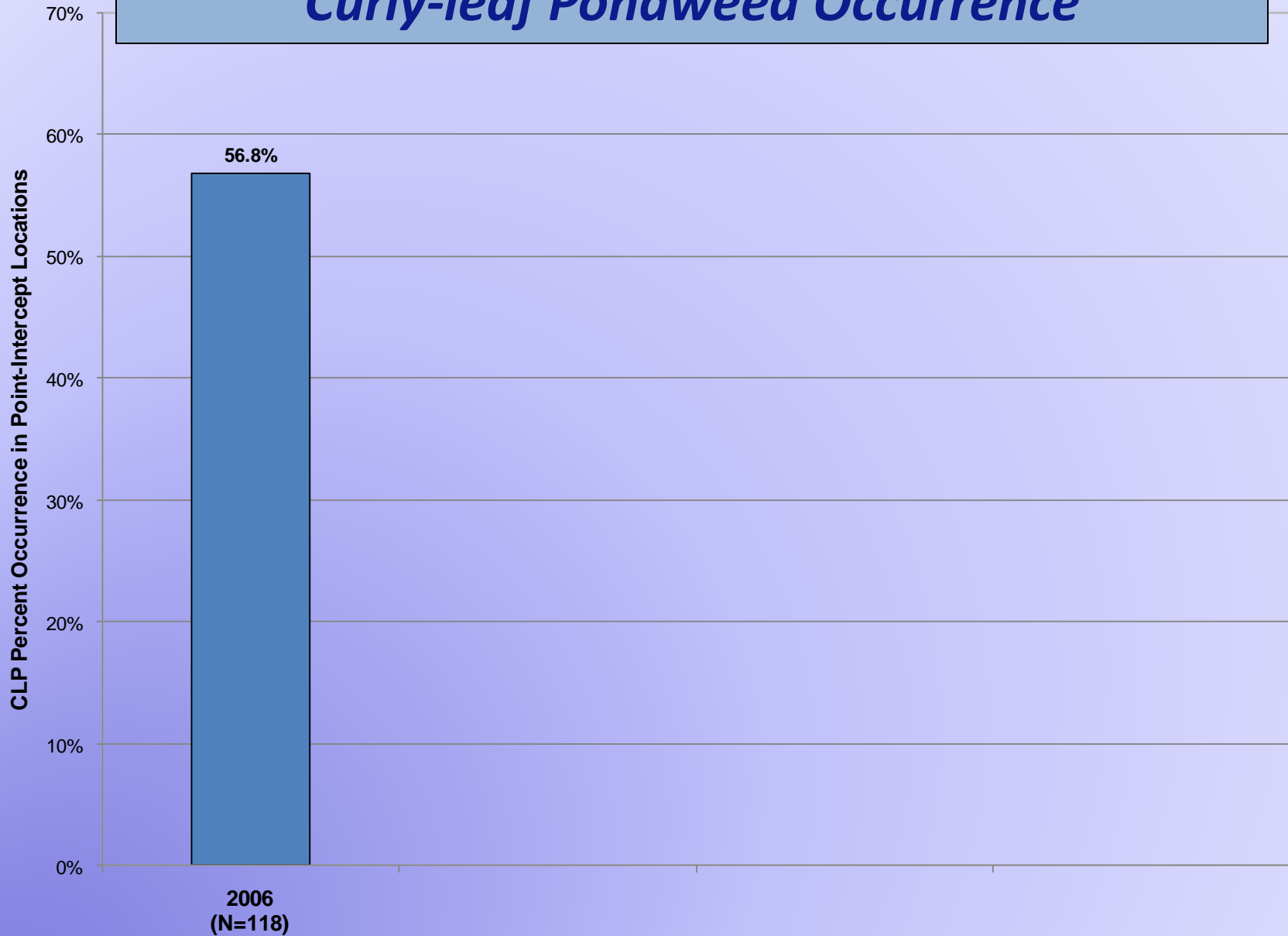


# *Curly-leaf Pondweed Occurrence*

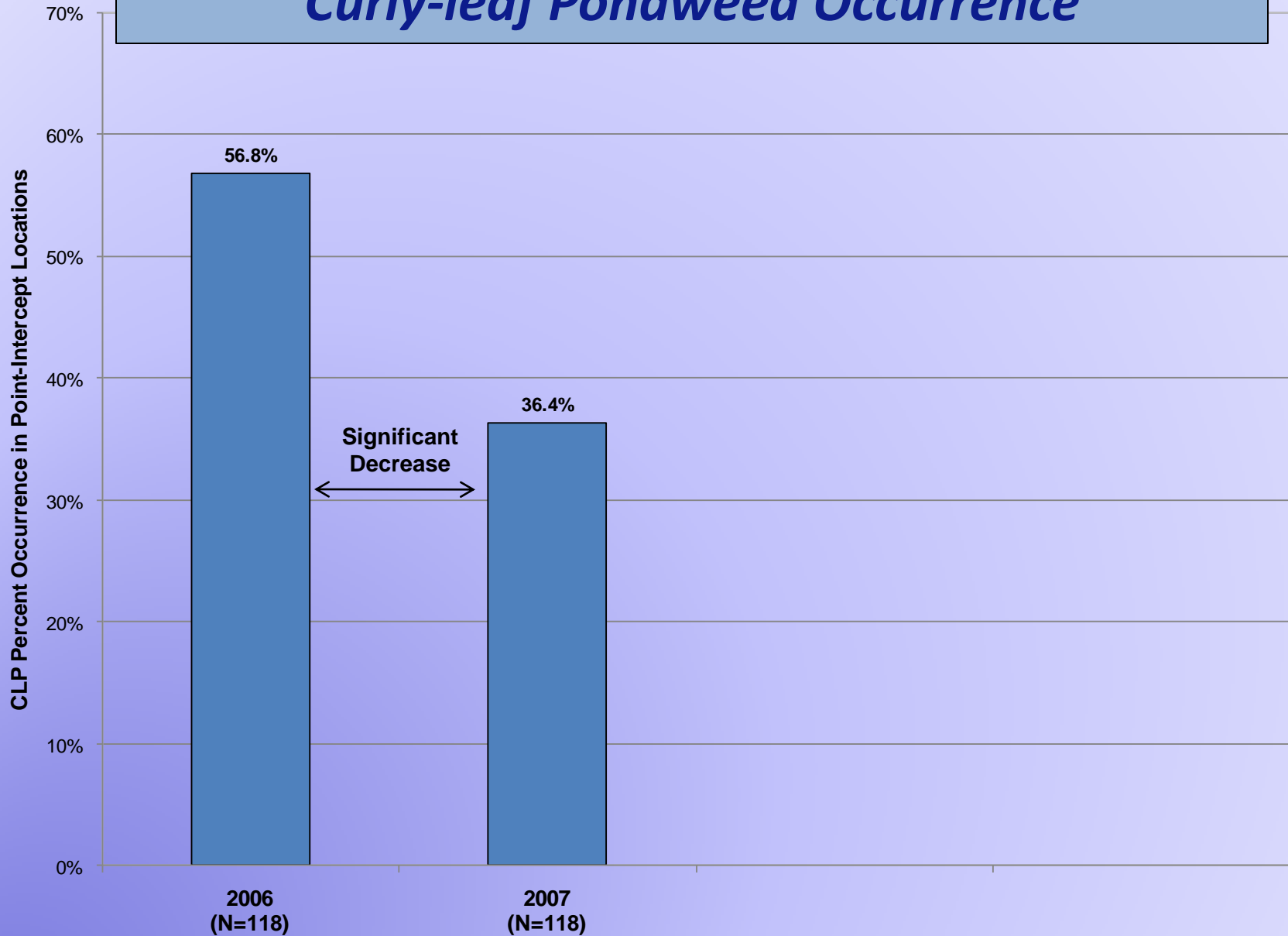




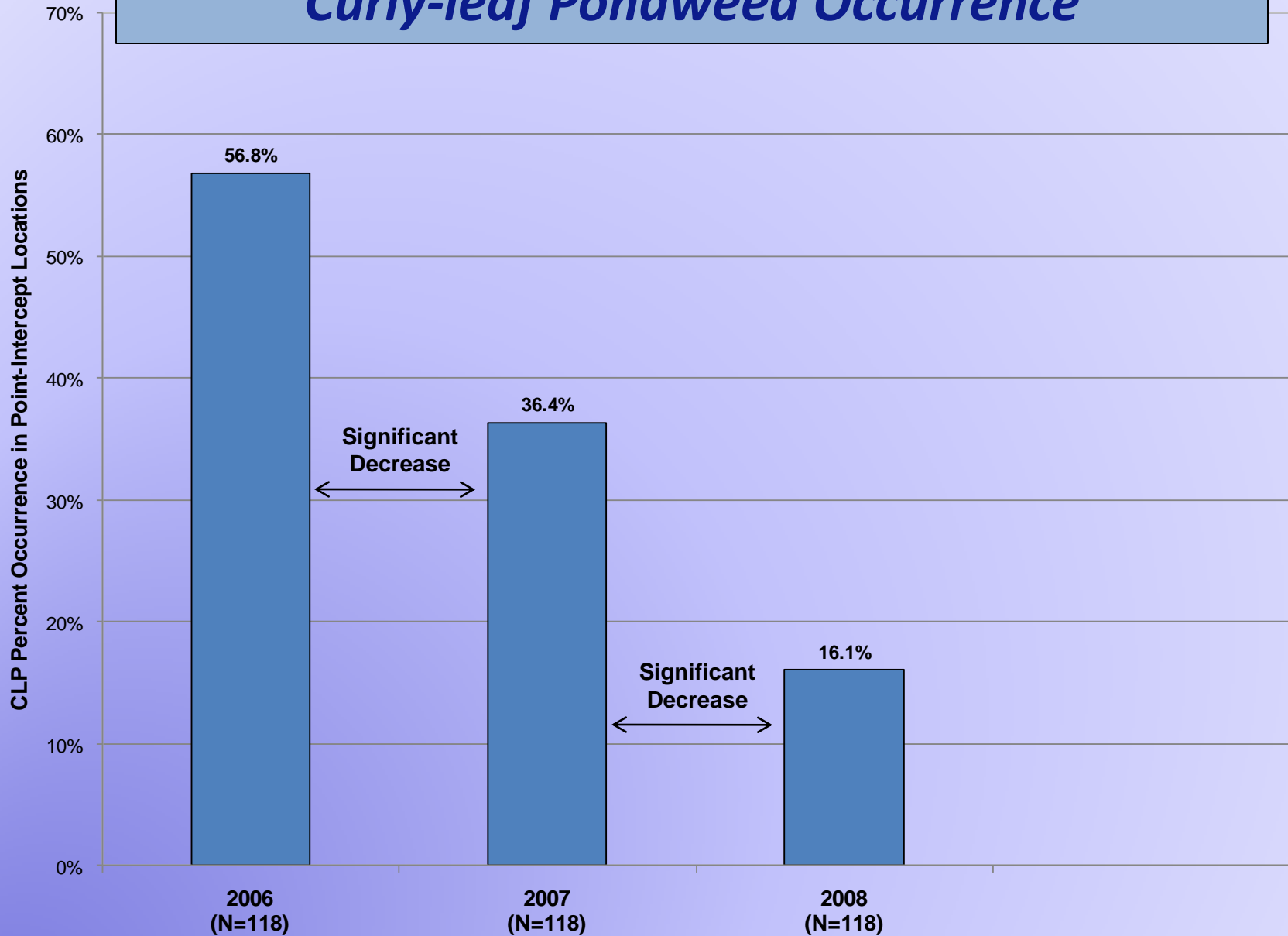
# *Curly-leaf Pondweed Occurrence*



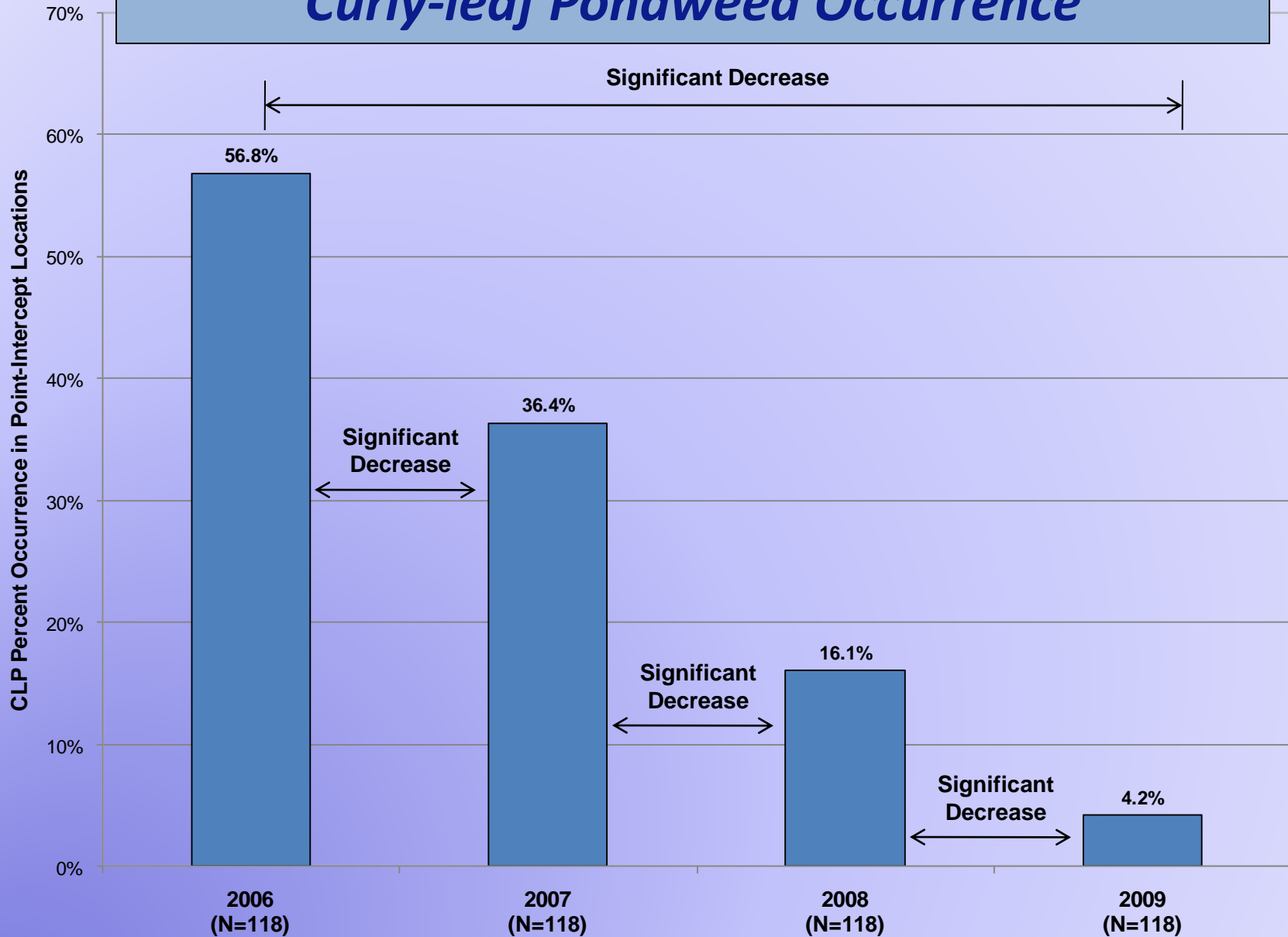
# *Curly-leaf Pondweed Occurrence*



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# Curly-leaf Pondweed Occurrence



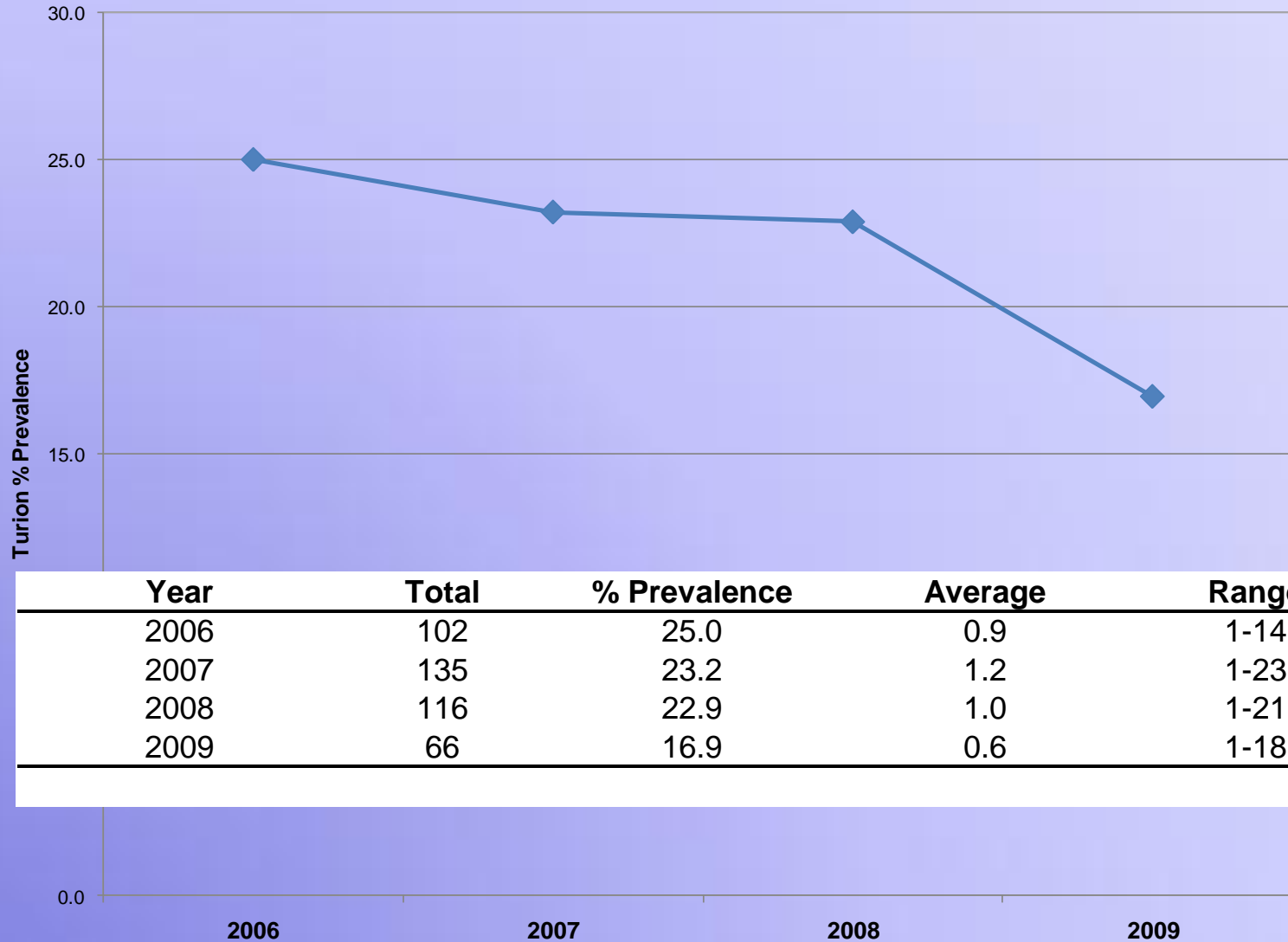
# *Monitoring Program*

## **Dredge sampling for turions**

- Following treatment (summer) using same sampling locations
- Compare to following summer



# Curly-leaf Turion Sampling



# ***Mt. Morris Control Project Results***

## **Point-intercept sub-sampling**

- 65% decline in CLP occurrence (*58.6% in 2006 to 4.2% in 2009*)

## **Turion dredge sampling**

- Reductions observed in 2009
- Limitations of technique?

## **Update Lake Management Plan**

- Successfully received WDNR Lake Planning Grants during February 2010 cycle
- Replicate 2006 surveys for comparisons

# *Thank You*

*Tim Hoyman & Eddie Heath – Onterra, LLC*

**Mount Morris Lake AIS Control & Prevention Project**

**Mount Morris Lake Management District**

**Wisconsin Department of Natural Resources**

**Eagle River Chain of Lake AIS Control Project**

**Unified Lower Eagle River Chain of Lakes Commission**

**Wisconsin Department of Natural Resources**