



Little Lake Wissota Stewardship Project

Clean Water. Bright Future.

December 2, 2013



AGENDA

- 5:30 p.m. •Welcome & Introductions
•Purpose of Meeting
-Jake Leinenkugel
- 5:40 •Little Lake Wissota Water Quality Management; A Science Refresher
-J.T. Jensen
- 6:00 •Overview Project Status & 2014 Focus
- Dan Masterpole
- 6:15 •Landowner Recognition
- 6:30 •Adjourn



Little Lake Wissota





Purpose of the Project

- Encourage water conservation and stewardship
- Improve the water quality of Little Lake Wissota





Environmental Goals

- Reduce phosphorus loads to target levels
- Keep the lake fishable and swimmable
- Increase the number of recreational user days





Community Goals

- **Sponsor and evaluate a new voluntary business model for lake & watershed management**
- **Provide opportunities for community involvement:**
 - business/corporations
 - community organizations
 - citizens



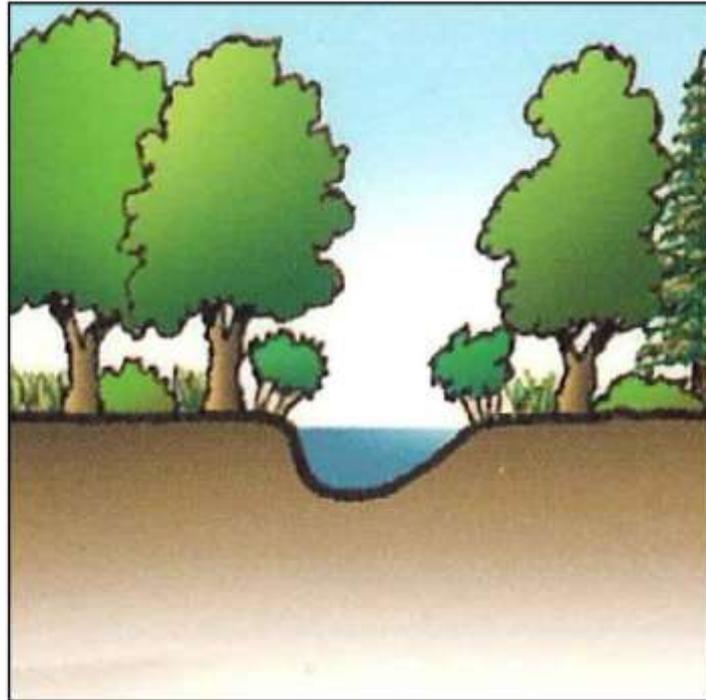
Why is Focus on Little Lake Wissota?

- **Algae blooms have begun to impact the lake & limit recreational use**
- **The watershed is small enough for targeted efforts**
- **An ideal opportunity to explore new community based watershed model**

(public/private partnership)



Science Refresher





Science Refresher

- **Lake Wissota is a flowage**
- **Little Lake Wissota is an embayment on Lake Wissota**
- **There is little mixing between the two lakes**





Science Refresher

Land use practices in the watershed determine the amount of surface runoff and nonpoint pollution to Little Lake Wissota





Science Refresher

- **Runoff from the watershed contains nutrients (N, P, K)**
- **Nutrients feed aquatic plants (algae)**
- **Algae and plant growth are a function of:**
 - nutrient load (vol., freq.)
 - internal cycling
 - residency time
 - temp./light



Science Refresher

- All flowages become more fertile or eutrophic through time (a natural process)
- Lake water quality can be managed by:
 - restoring basin hydrology
 - reducing nutrient loads

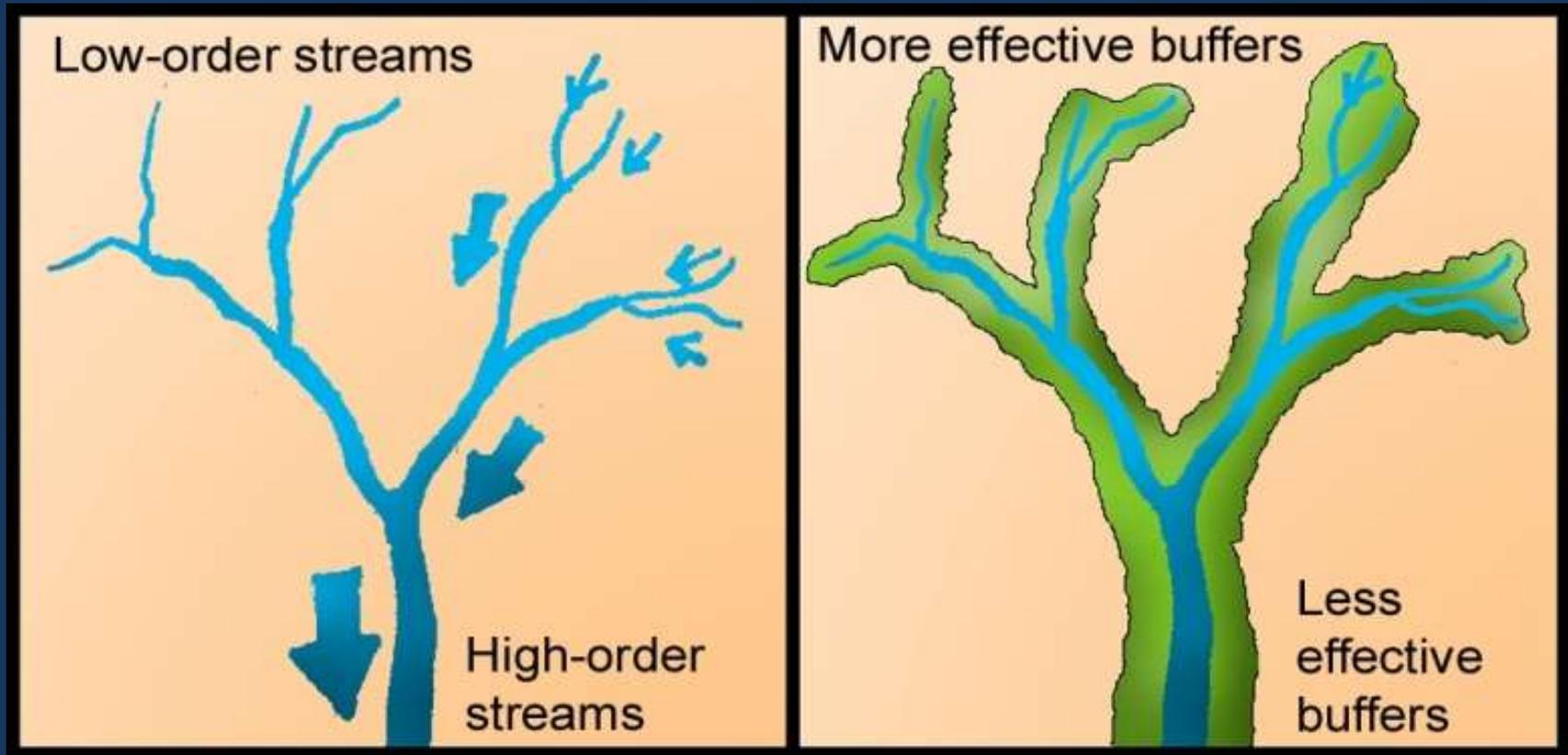


Science Refresher

Stream buffers, wetlands, & conservation practices in the watershed improve:

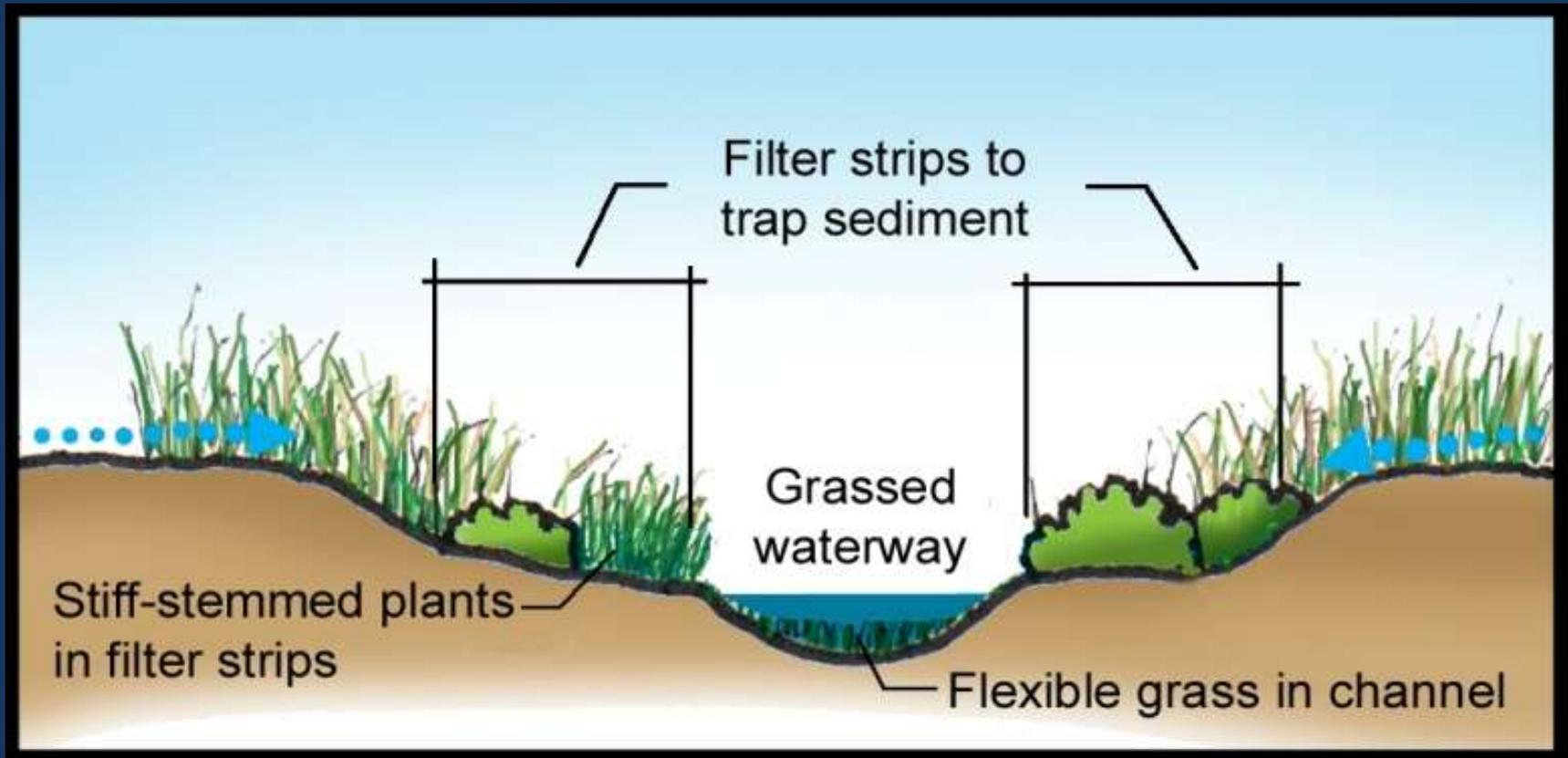
- **Water Quality**
 - surface water
 - groundwater
- **Water Quantity**
 - flood storage
 - groundwater recharge
- **Environmental Biodiversity**

Little Lake Wissota Stewardship Project



The reference is: Bentrup, G. 2008. Conservation buffers: design guidelines for buffers, corridors, and greenways. Gen. Tech. Rep. SRS-109. Asheville, NC: USDA, Forest Service, Southern Research Station

Little Lake Wissota Stewardship Project



The reference is: Bentrup, G. 2008. Conservation buffers: design guidelines for buffers, corridors, and greenways. Gen. Tech. Rep. SRS-109. Asheville, NC: USDA, Forest Service, Southern Research Station

Krumenauer Demonstration Project Wetland Restoration



0 175 350 700
Feet



0 175 350 700
Feet

Environmental Benefits of the Krumenauer Wetland Project

- **Captures 100% of the runoff & nutrients from a typical 2” rainfall from a 100 acre watershed**
- **Infiltrates 3.9 acre/feet or 1.3 mil. gal./yr.**
- **Permanently reduces (P) load by 10 lbs. p/yr.**
- **Permanently reduces algae and plant growth in Little Lake Wissota by 5000 lbs. p/yr.**

Little Lake Wissota Stewardship Project





Project Implementation

2010-2015

JLBC & Chippewa Co. sponsor Little Lake Wissota Stewardship Project to:

- Improve water quality**
- Organize community efforts**
- Serve as bridge to long term implementation & maintenance efforts**



Community Partners

Leinenkugel Brewing Company

Xcel Energy

Area Businesses & Corporations

Lake Wissota Improvement & Protection Assoc.

Boy Scouts of America

Community Foundation of Chippewa County

Dept. of Land Conservation & Forest Mgt.

WI Dept. of Natural Resources

WI Dept. of Ag, Trade, & Consumer Protection

University of Wisconsin – Extension



Community Contributors

Corporations:

- Leinenkugel's
- General Beer Distributors
- Xcel Energy
- Market & Johnson

Businesses:

- Area Beverage Retailers
- Huebsch
- Rooney Printing
- Area Contractors
- Paint Creek Nursery
- Others

Individuals & Foundations:

- Community Leaders
- Citizens at Large
- Casper Foundation



Project Update by Component

- **Community Outreach**
- **“Conservation on the Land”**
- **Resource Monitoring**





Community Outreach

2013 Highlights:

- Presented at multiple community events to inform public of project
- Contracted Watershed Specialist to accelerate landowner contacts & installation of conservation practices
- Introduced project model & results to state/federal agencies
 - presented at state lakes conference



Community Outreach

Lessons Learned:

- **Community events can be used to “raise awareness”**
- **Public agencies now have recognized the project as a new community based watershed model & are prepared to provide further support (corp. sponsored public/private partnership)**



Community Outreach

Planned Adjustments:

- **Sponsor lake/watershed activity event to expand opportunity for volunteers
(Canoes for a Cause)**
- **Continue community meetings to assure accountability to contributors & expand support**
- **Focus new targeted outreach to shoreland owners & businesses (direct mailing)**
 - survey
 - project brochure



Conservation on the Land

2013 Highlights:

- **Constructed 9 “groundwater scrapes” and buffers at targeted locations to limit runoff & reduce P delivery**
- **Initiated work with high discharge ag livestock facilities**
- **Completed watershed inventories of cropping rotation/tillage practices to verify extent of ag pollutant load**

Little Lake Wissota Stewardship Project

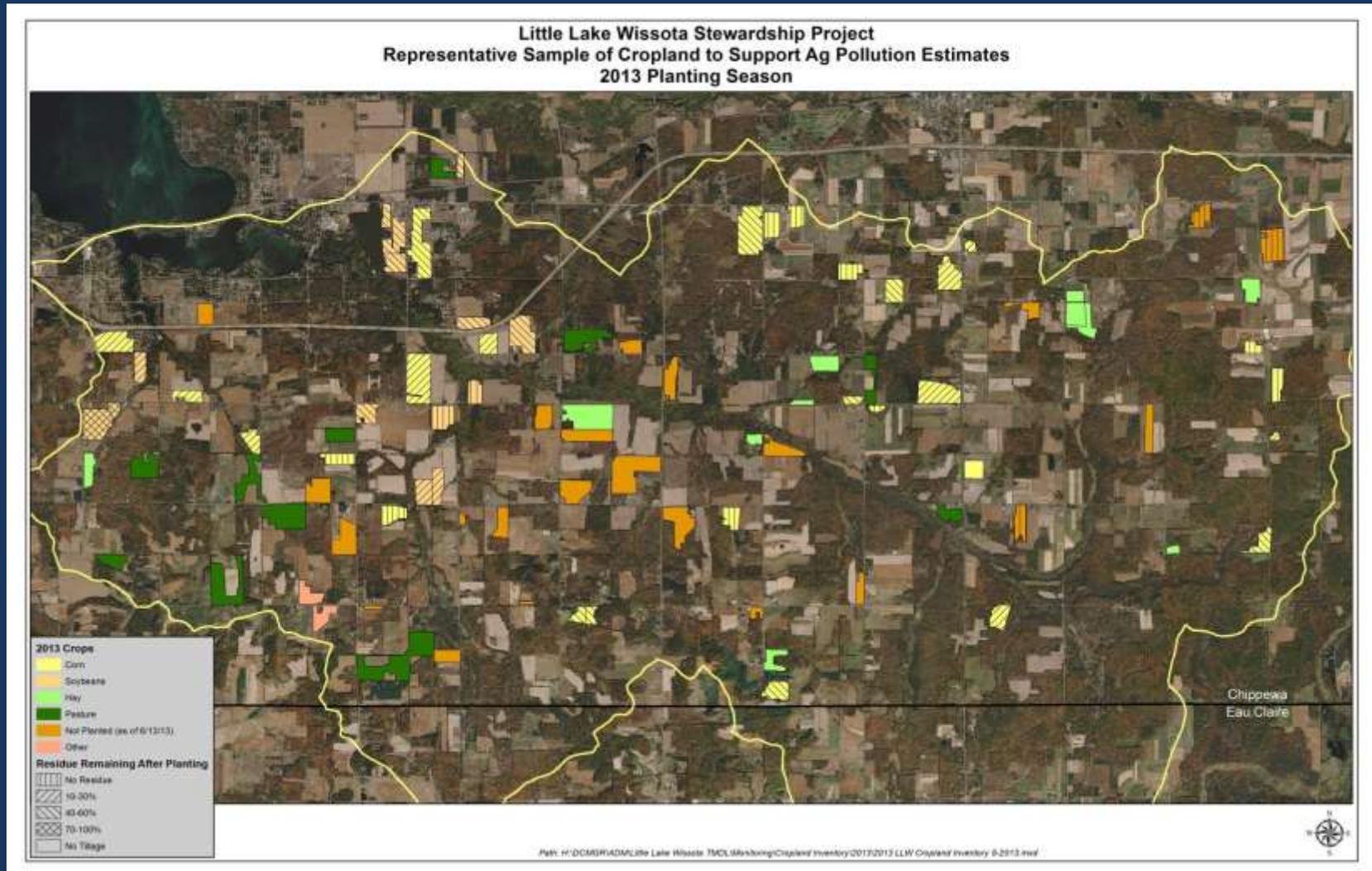


2013 Buffers & Groundwater Scrapes

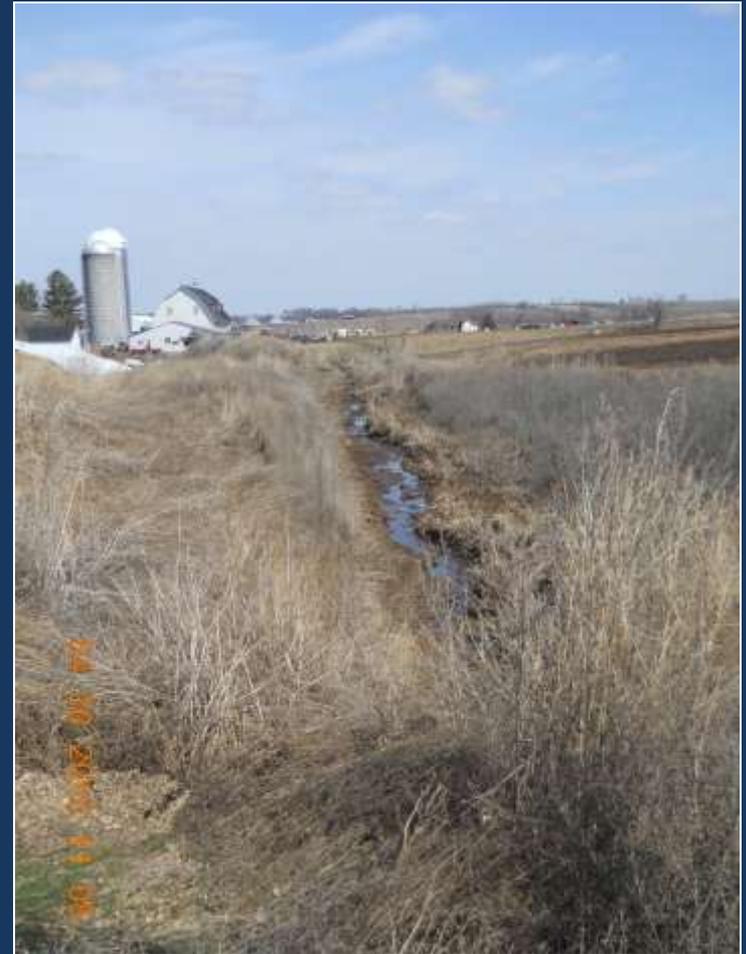




2013 Cropland Inventory



Little Lake Wissota Stewardship Project





Conservation on the Land

Lessons Learned:

- **Most landowners are ready, willing and able to:**
 - plant more trees & pond more water
 - install scrapes & stream buffers
- **Use of direct and targeted contacts have significantly increased participation**
- **The use of donated funds & services has:**
 - made more buffer sites eligible
 - cut red tape & increased efficiency



Conservation on the Land

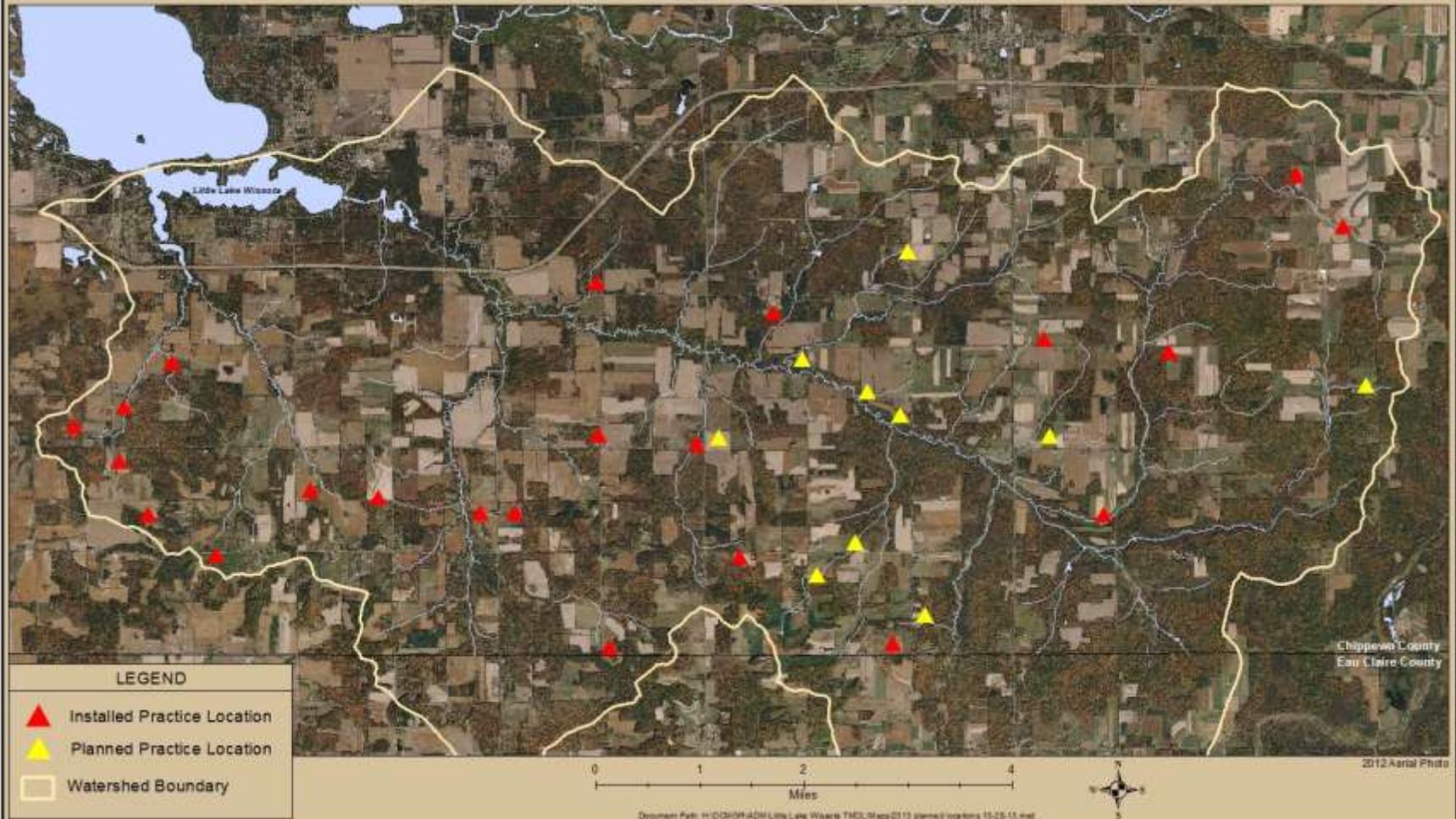
Lessons Learned:

- **The conservation practices installed have begun to reduce runoff and pollutant loads to Little Lake Wissota**
- **In 2013:**
 - 3.3 acres of ponded water**
 - 7.9 mil. gal. of water infiltrated**
 - 16 lbs. P reduced**
 - 8,000 lbs. of algae reduced**

Little Lake Wissota Stewardship Project



Little Lake Wissota Stewardship Project Installed and Planned Practices 2009-2014





Conservation on the Land

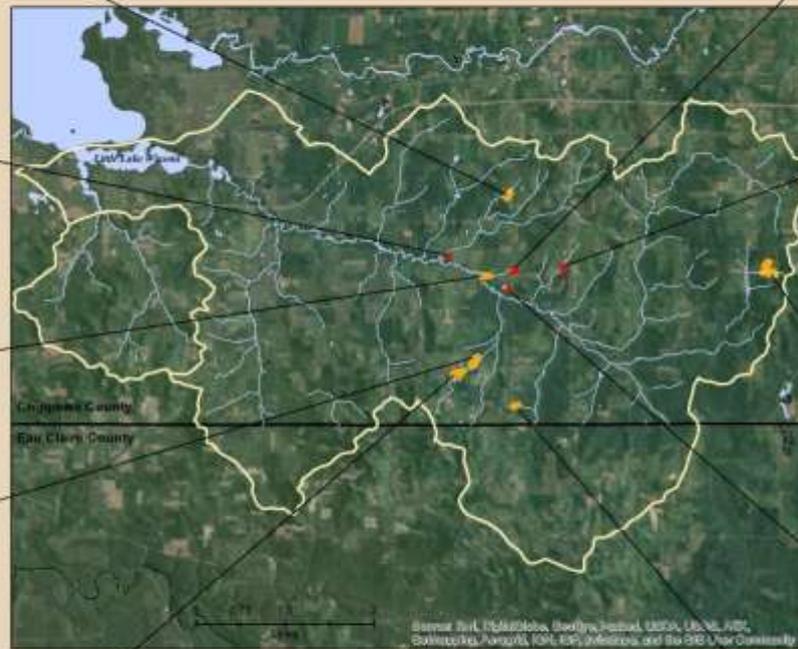
Planned Adjustments:

- **Expand efforts to plant trees**
- **Continue to install buffers & scrapes**
- **Begin to target major agricultural producers to:**
 - Explain opportunities for project participation (manure storage, nutrient mgt., field buffers)**

Little Lake Wissota Stewardship Project



Little Lake Wissota Stewardship Project Location of Planned Projects in 2014



LEGEND	
	Wetland Restoration
	Stream Buffer



Resource Monitoring

2013 Highlights:

- **Developed & implemented long term agreement with area Boy Scout Troops to monitor Little Lake Wissota**
- **Compiled water quality monitoring record**
- **Met with WDNR to evaluate long term lake monitoring needs & options**

Little Lake Wissota Stewardship Project



Lake Water Quality Monitoring Sites

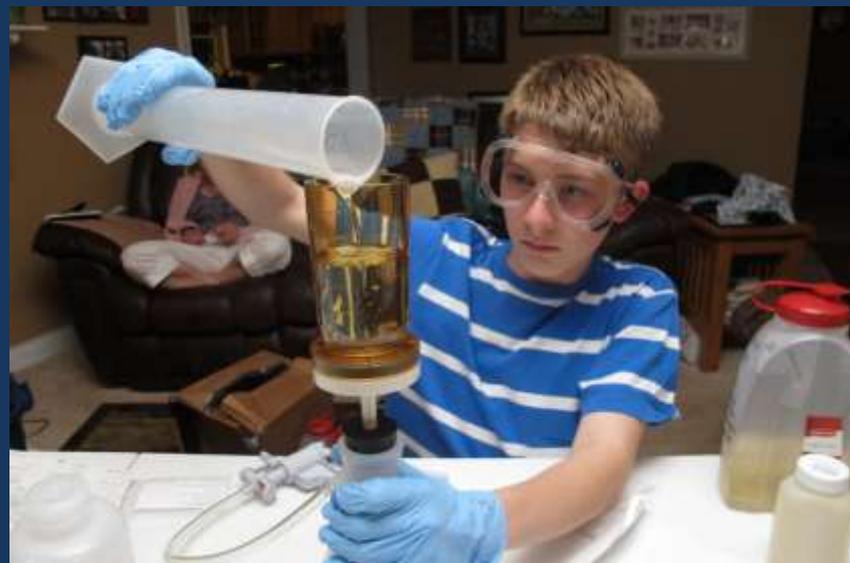


Monitoring sites are approximate locations.

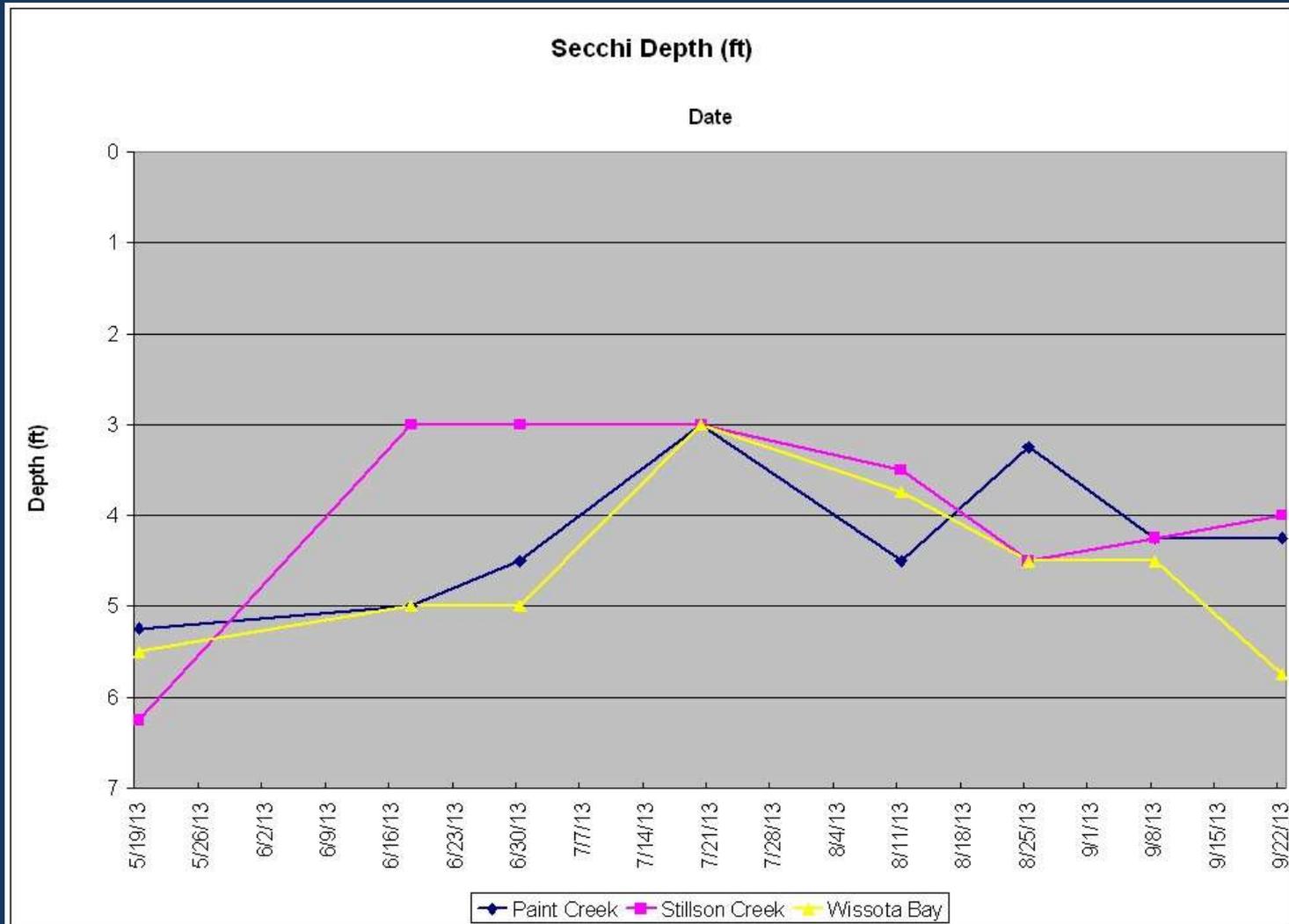


0 0.125 0.25 0.5 Miles

Little Lake Wissota Stewardship Project



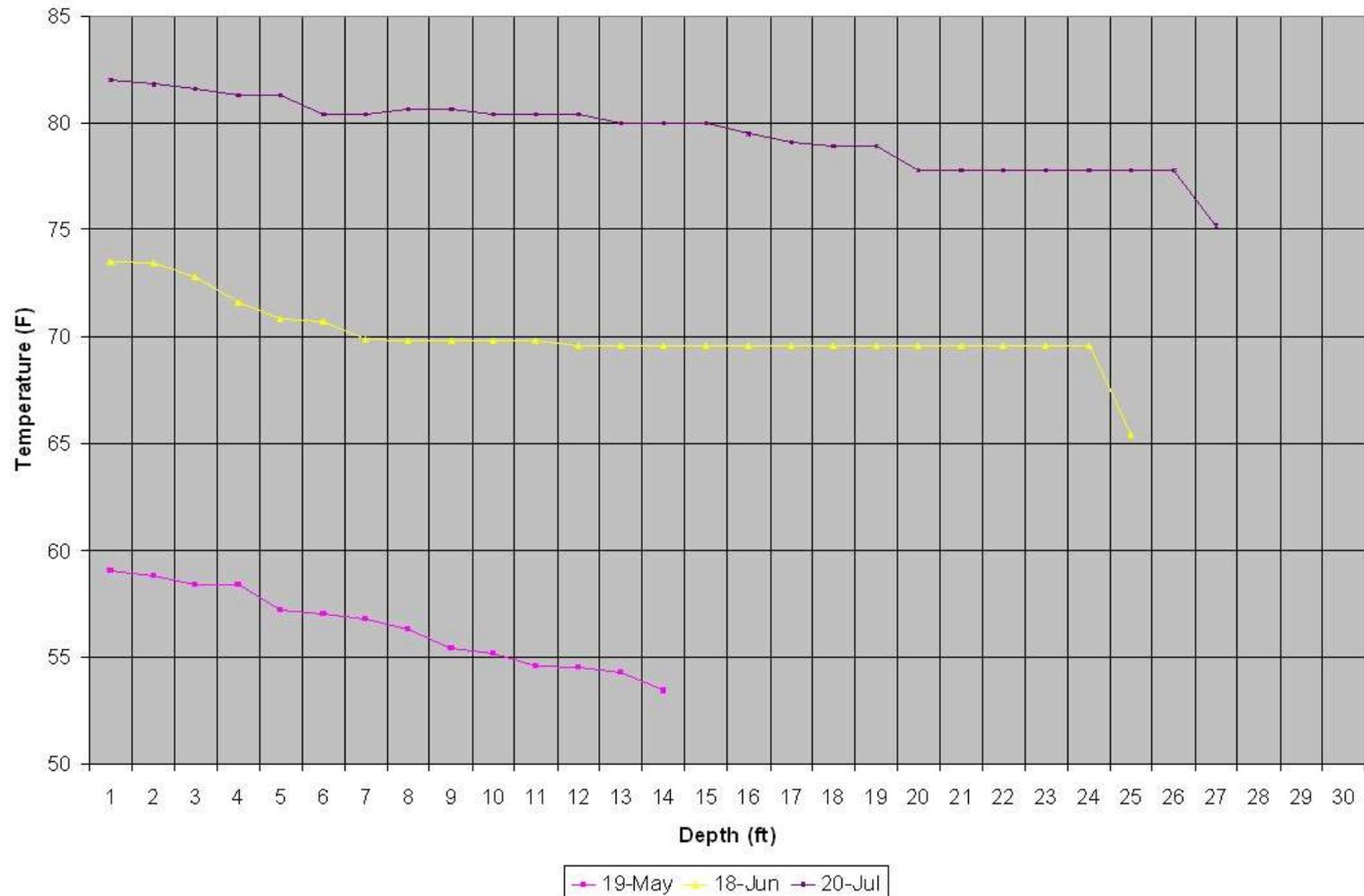
Little Lake Wissota Stewardship Project



Little Lake Wissota Stewardship Project



Little Lake Wissota - Wissota Bay Temperature





Resource Monitoring

Lessons Learned:

- **Project commitment by BSA has:**
 - involved youth and provided opportunity for volunteerism
 - expanded scope of community involvement through “citizen science monitoring”
 - improved the scope & frequency of lake monitoring



Resource Monitoring

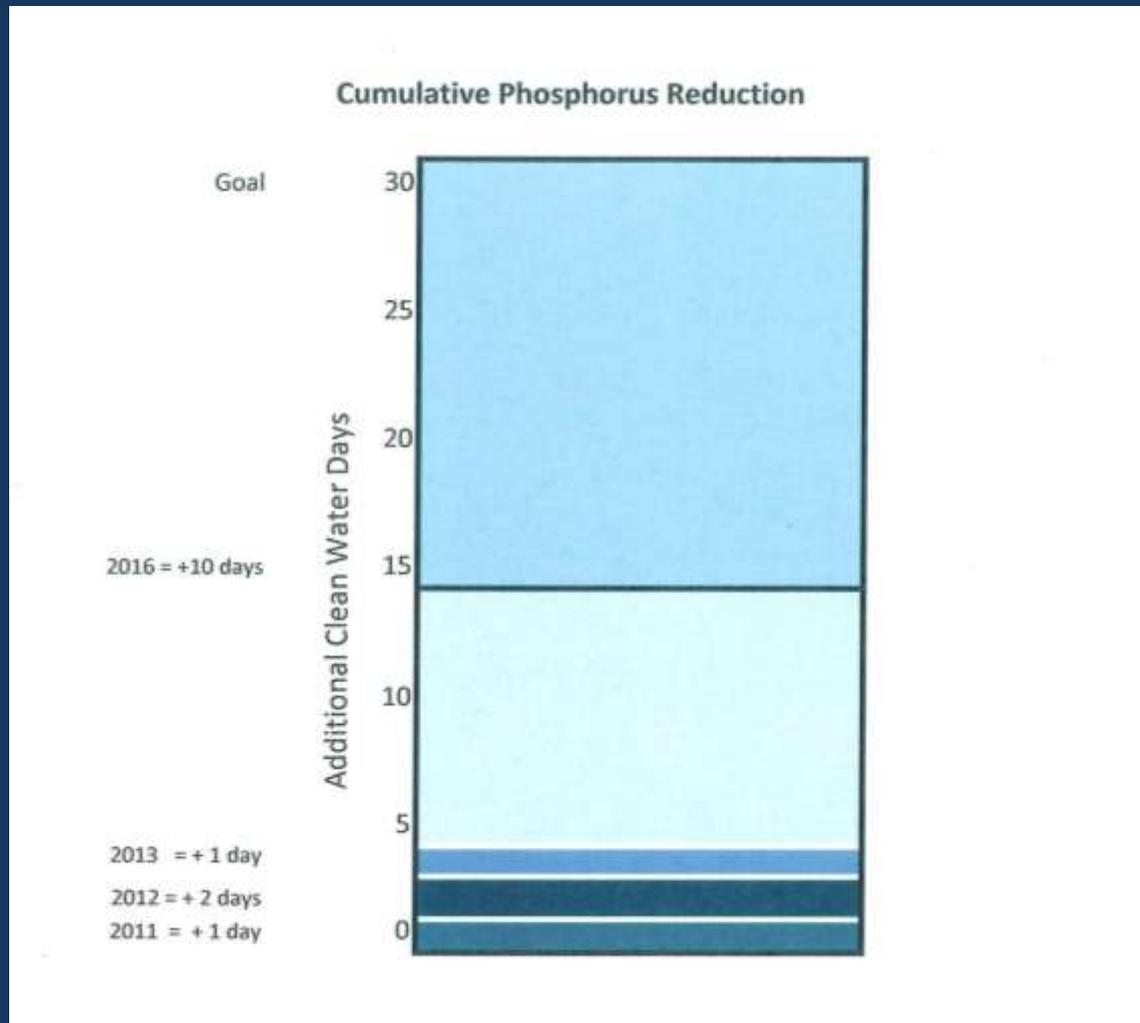
Planned Adjustments:

- Request DNR evaluate historic data on watershed pollutant loads and lake response modelling
- With DNR & LWIPA, develop a long term comprehensive lake & watershed monitoring plan to support future lake management efforts

Little Lake Wissota Stewardship Project



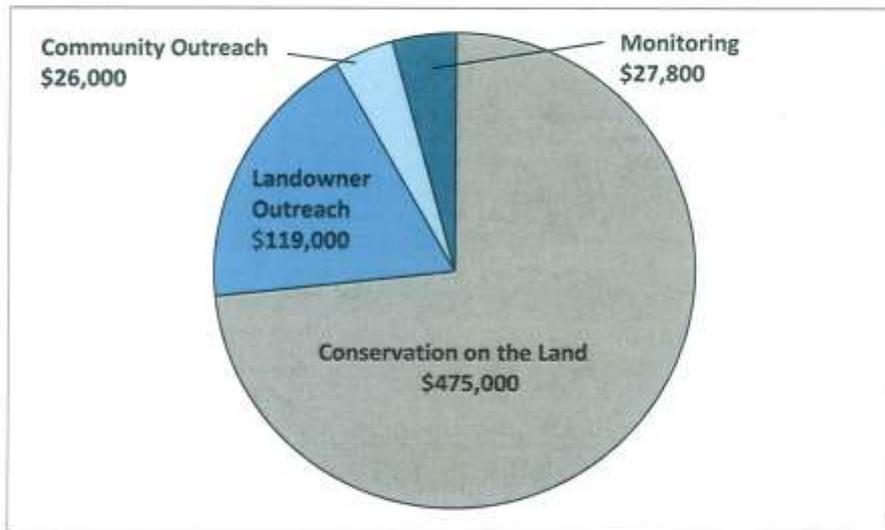
Resource Monitoring



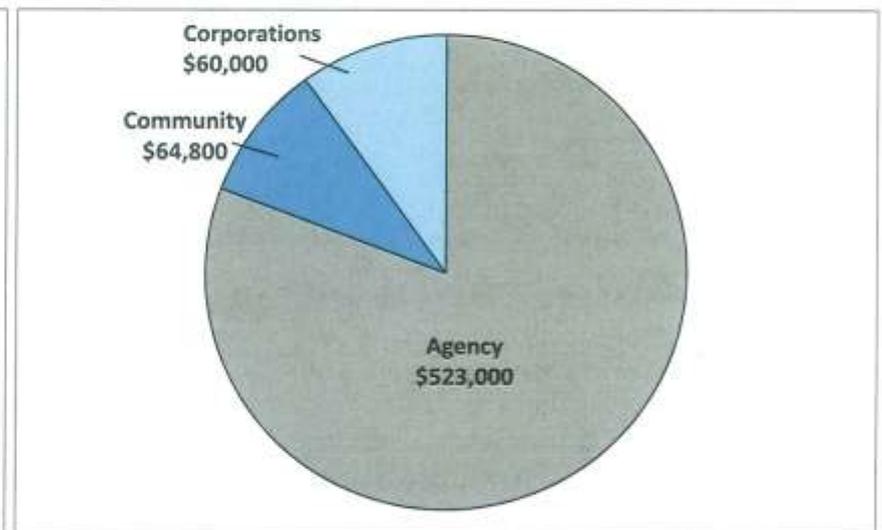


2014 Budget

EXPENDITURES

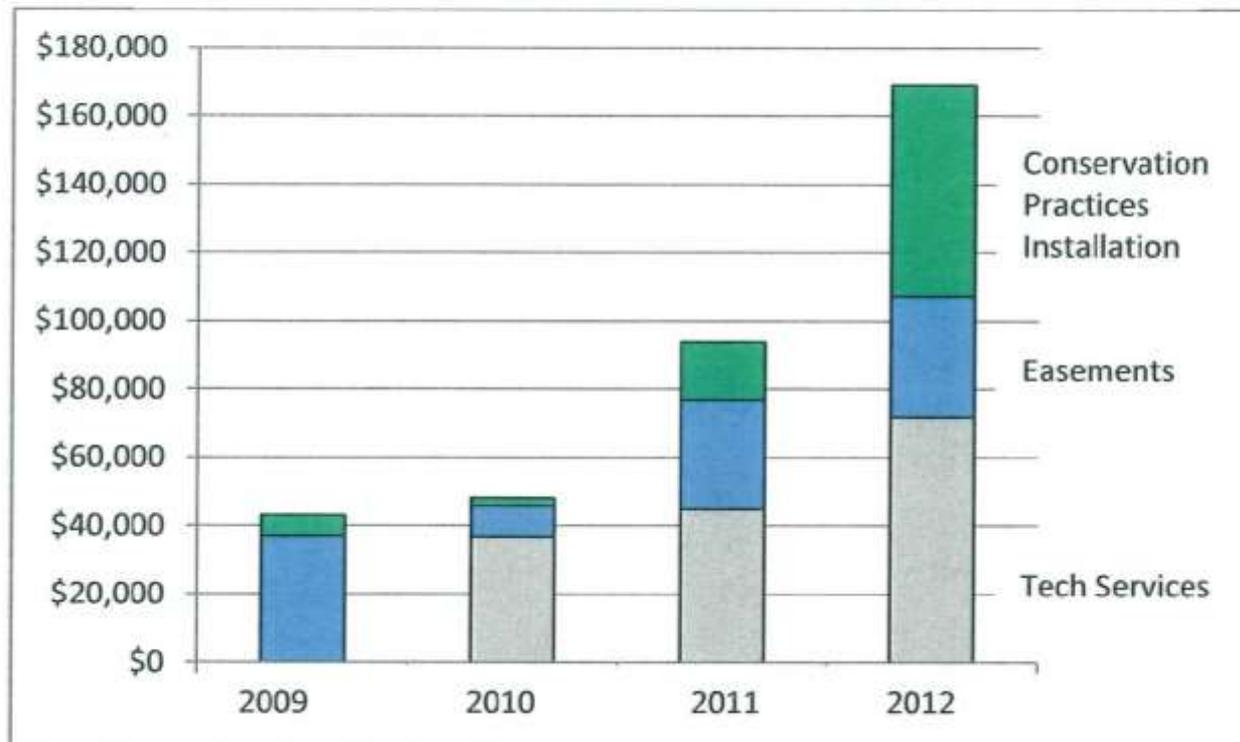


REVENUE



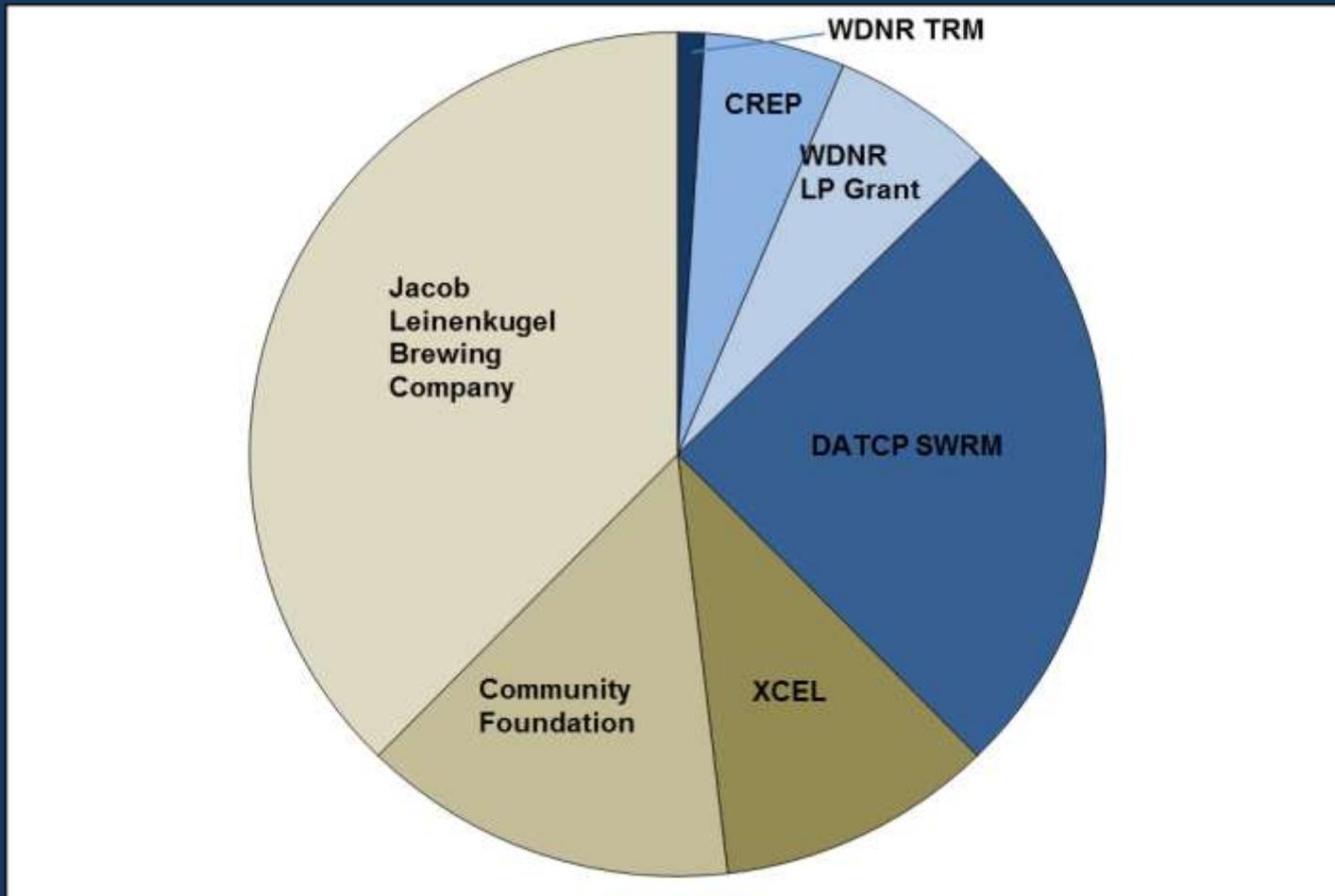


Little Lake Wissota Stewardship Project
Expenditures 2009-2012





Financial Sources 2009-2012





2014 Budget

- **Funding for ag related pollution control activities is adequate (manure storage, nutrient mgt., field buffers)**
- **Need to maintain and shift current level of community contributions used to:**
 - install planned scrapes/buffers
 - maintain lake/watershed water quality monitoring



Recap

Types of support needed:

- **Direct financial support (\$)** for:
 - Community outreach
 - “Conservation On The Land”
 - Monitoring
- **Donated services & materials**
 - tree planting, excavation & data/web mgmt.
- **Promotional support**
 - featured marketing
 - community events



Recap

Project will:

- **Initiate a long term maintenance effort**
- **Protect a critical natural resource & economic asset**
- **Provide local resources (people & \$) to leverage outside grants (4:1)**
- **Provide a positive environmental focus for community efforts**



Landowner Recognition

“In recognition of environmental commitment and lasting community contributions toward the protection and improvement of Little Lake Wissota conducted through installation of permanent water conservation practices”





Little Lake Wissota Stewardship Project

Clean Water. Bright Future.

December 2, 2013