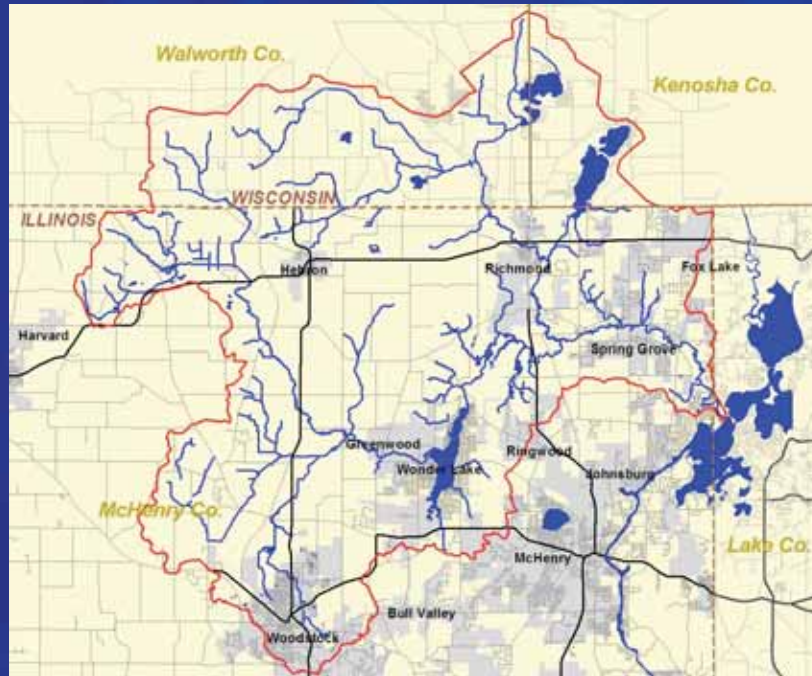


Obtaining & Implementing Section 319 Grants for Watershed Restoration

*Presented By: Randy Stowe
Nippersink Creek Watershed Manager /
Lake Manager for Wonder Lake,
McHenry County, Illinois*



Nippersink Creek WATERSHIED



Nippersink Creek Watershed

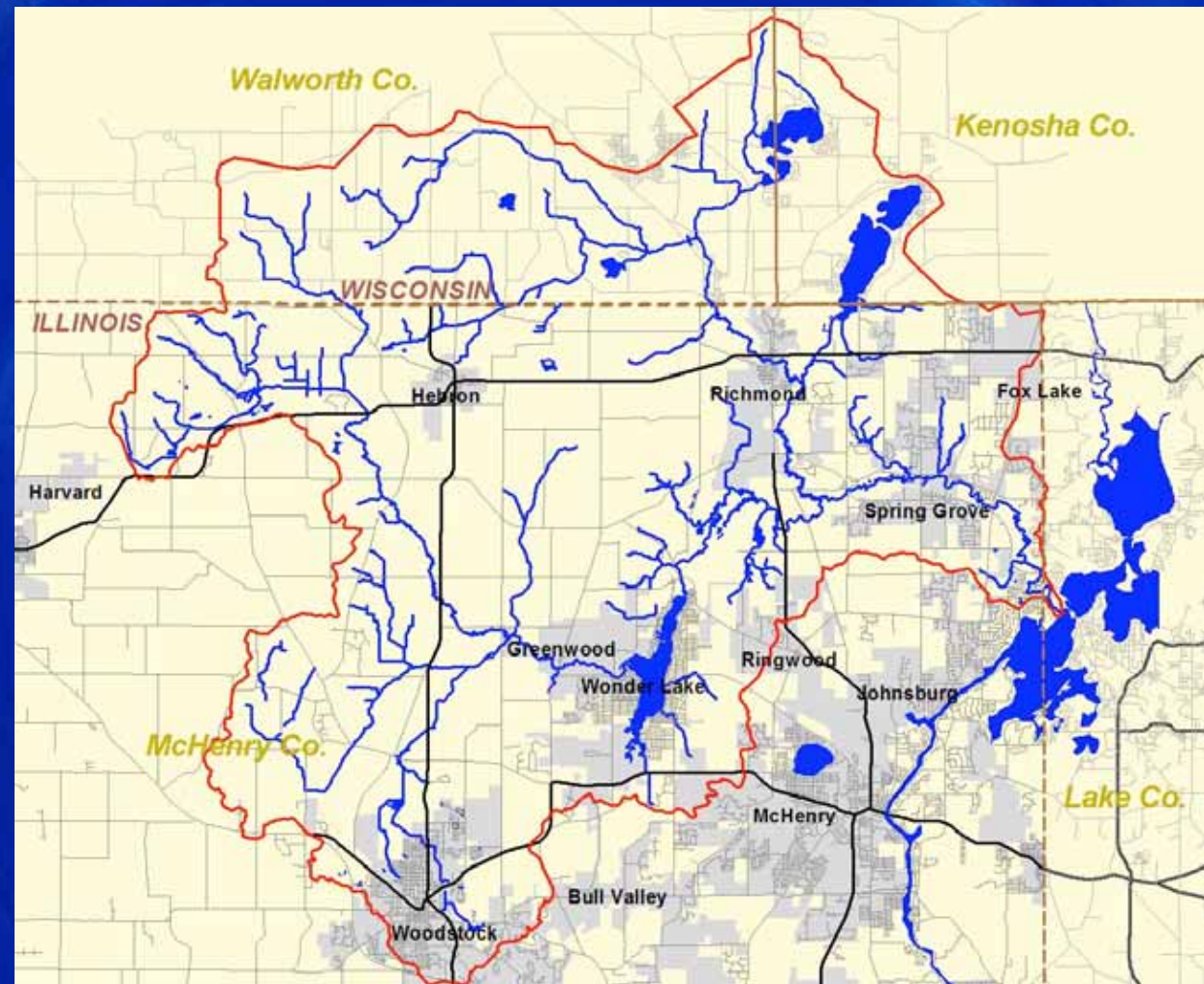
One of the highest quality streams in Illinois

Largest Tributary to Fox River

202 square mile watershed

150 square miles in Illinois

97 square miles drain to Wonder Lake

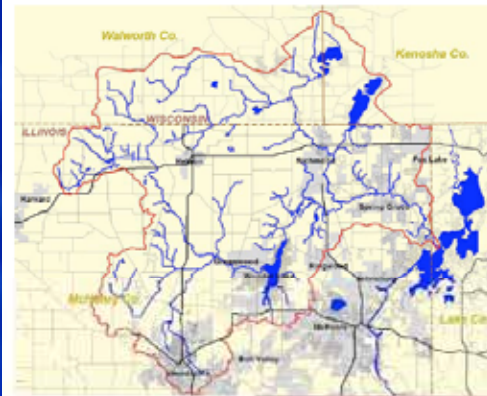


Nippersink Creek Watershed Plan

www.nippersink.org

www.nippersinkwatershed.org

The Nippersink Creek Watershed Plan



February 2008

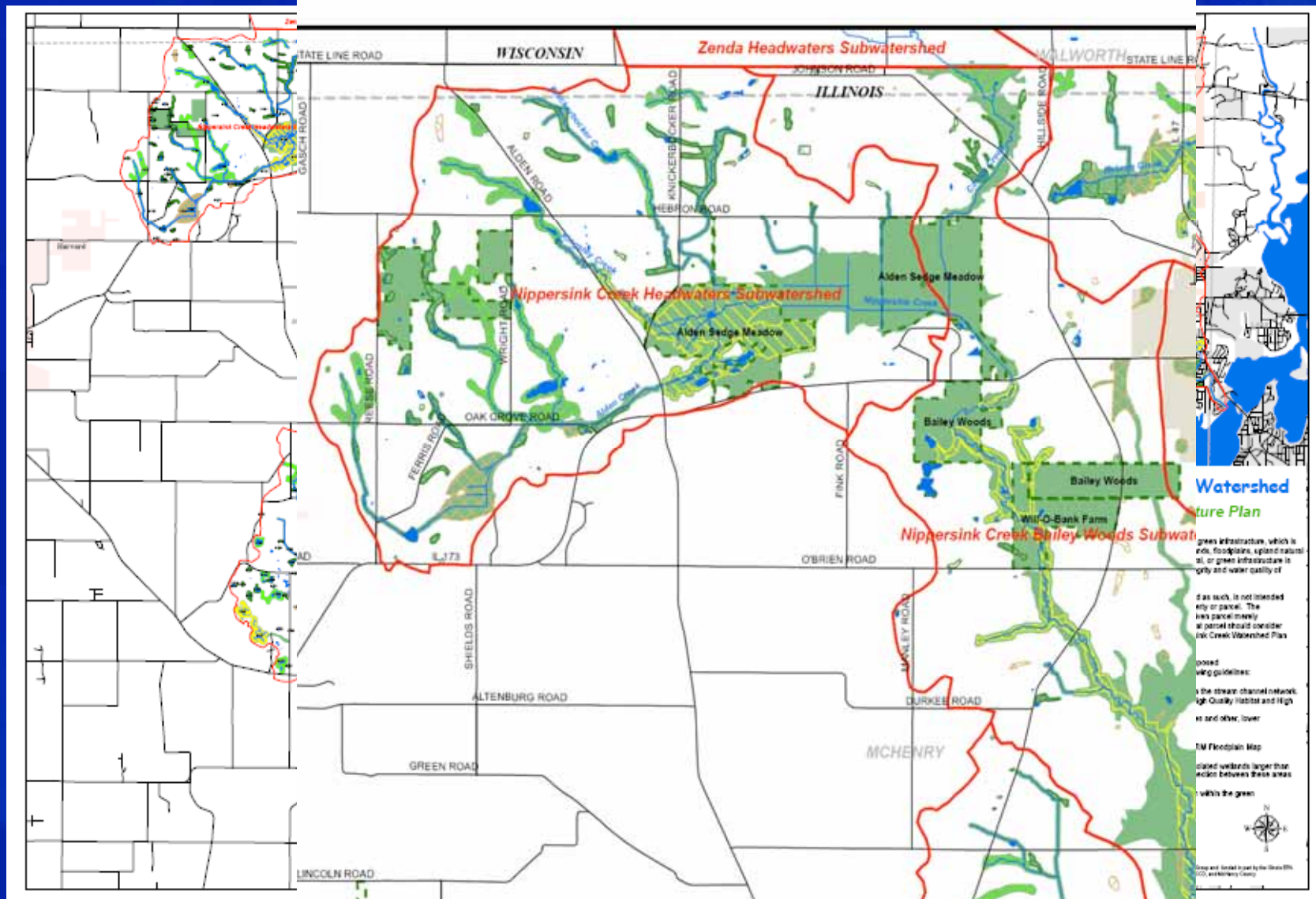
Nippersink Creek Watershed Issues

- Watershed is still largely rural with significant, high quality natural resources.
- McHenry County has experienced tremendous growth, particularly along the south and southeast areas of the Nippersink Watershed.
- Downstream of Wonder Lake, Nippersink Creek is listed as impaired by the IEPA due to excessive total fecal coliform bacteria (source unknown).

2008 Watershed Plan Findings

- Given the agricultural land use of the area, agricultural Best Management Practices (BMP's) and Nutrient Management Planning are critical.
- To minimize the impacts of urban growth, a proactive approach to protecting the stream system should be pursued, minimizing the need for future "urban" BMP's.
- This proactive approach can be accomplished by protecting the stream corridors, wetlands, and floodplain areas, and linking them with existing open space areas, county parks, and privately owned natural areas. These areas can collectively be referred to as the "Green Infrastructure" of the watershed.

Green Infrastructure Plan



Nippersink Creek Green Infrastructure Plan

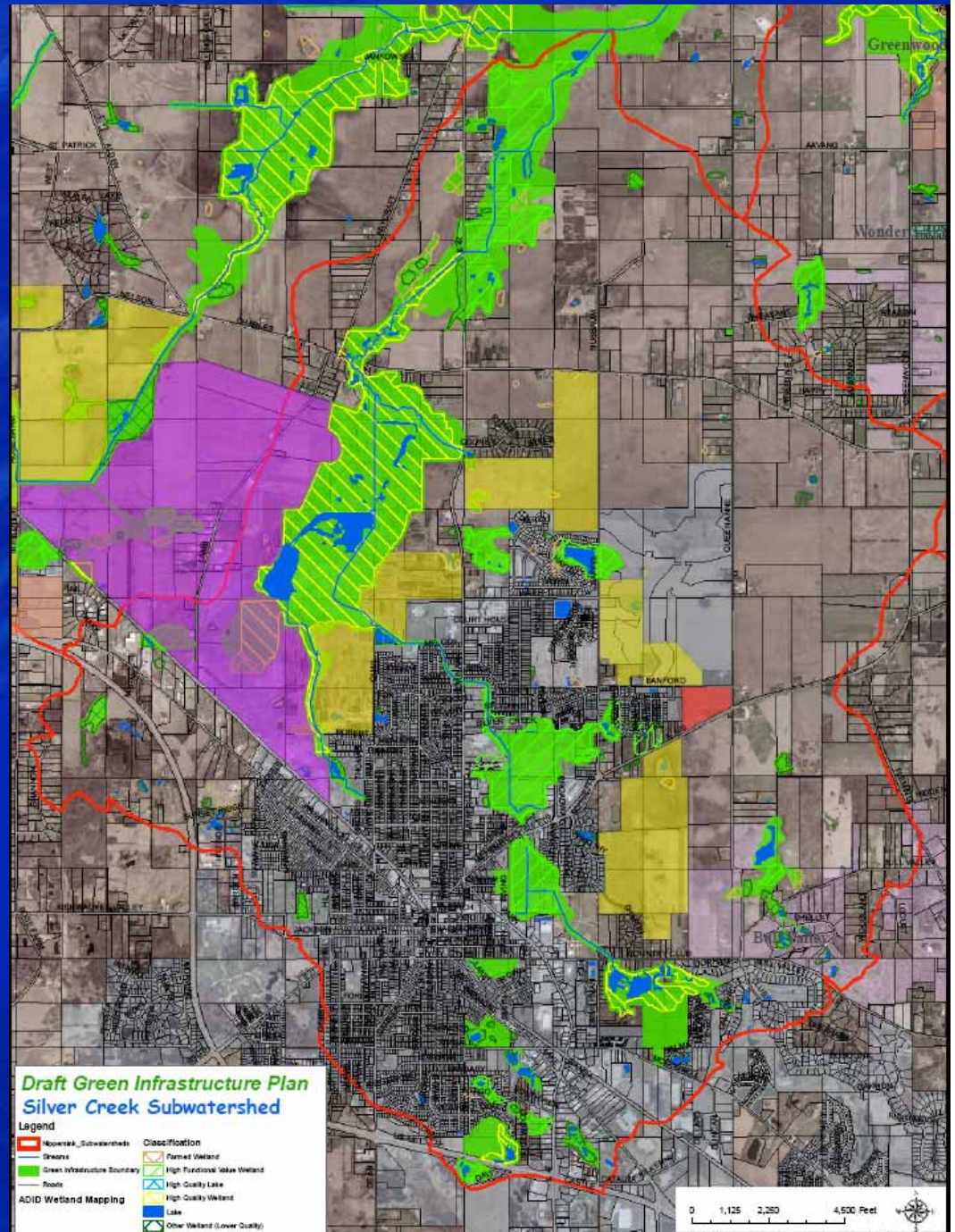
- Utilize existing protected parcels (MCCD) and floodplain
- Combine with ADID Wetlands & stream channels
- Link isolated natural areas > 5 acres using hydric soils

For Areas Already Developed:

- Highlights restoration/buffer opportunities for landowners to protect Nippersink Creek

For Areas Planned for Development:

- Indicates critical land features to be retained and preserved as resources wildlife, recreational, and water quality benefits



EPA Section 319 Program



- Over 150 specific Watershed Plan Best Management Practice (BMP) projects were identified in the Nippersink Creek Watershed Plan, with a total implementation cost exceeding 23 million dollars.
- Projects identified in the approved watershed plan are eligible to apply for further Section 319 funding, which provides a 60% federal cost-share.
- Funded projects need to be able to demonstrate a "measurable outcome" that water quality objectives are being achieved.



Illinois Environmental
Protection Agency

Wonder Lake

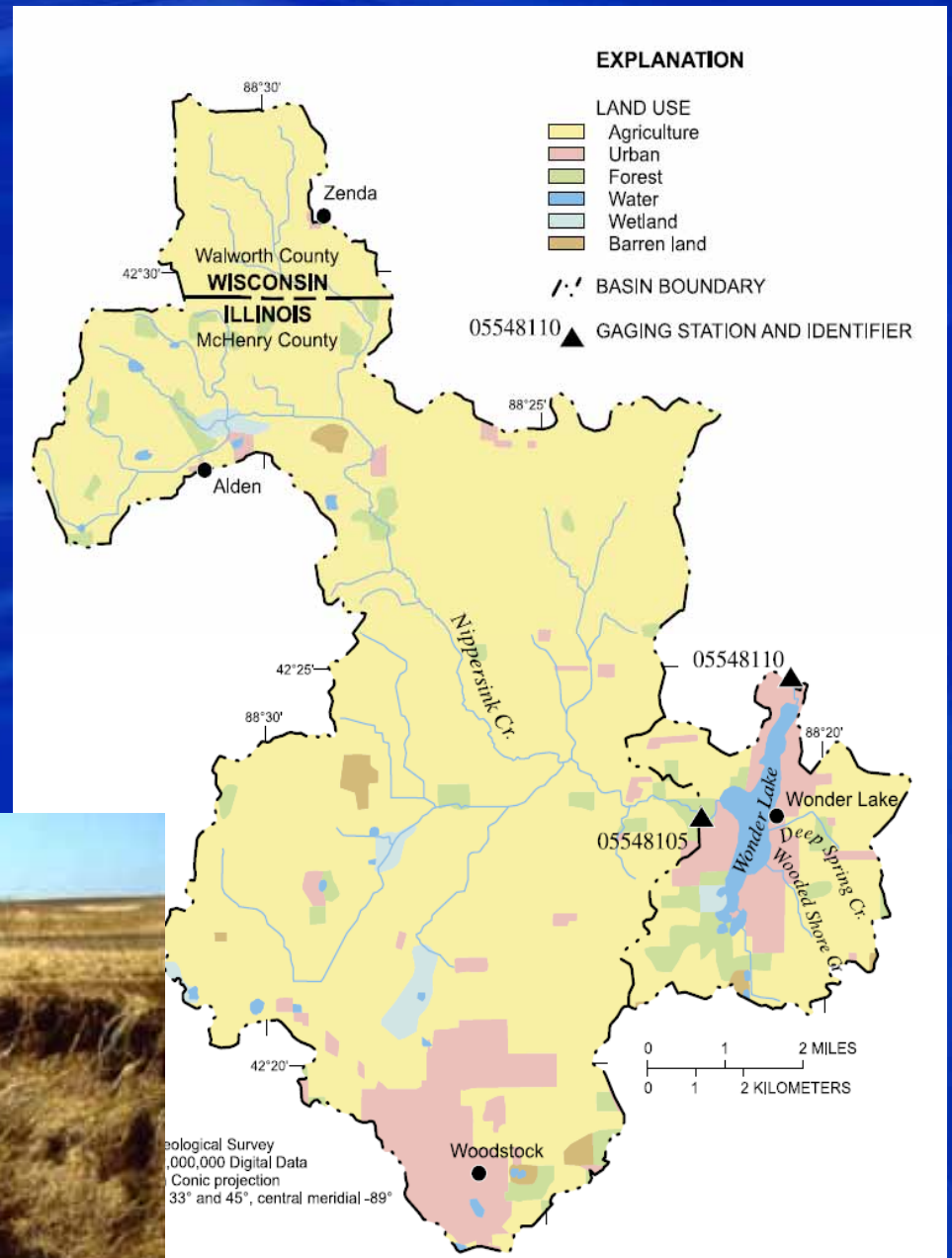
10 miles of perimeter shoreline



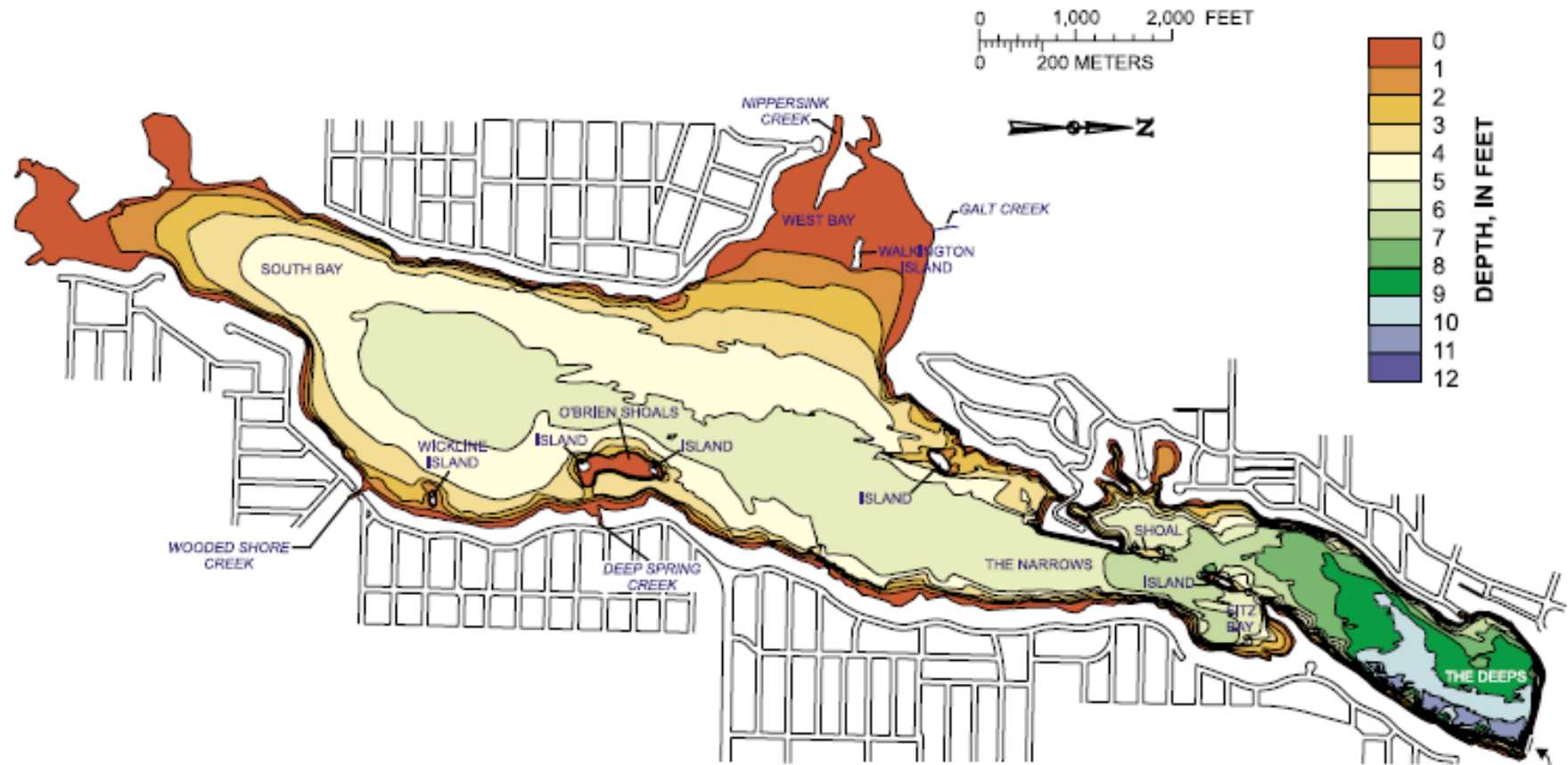
WONDER LAKE
Created in 1929
22 foot high earthen dam

Agricultural Impacts

When settlers broke the virgin prairie, they channelized streams and drained wet soils to facilitate intensive row-crop production. Combined, these practices delivered great volumes of sediment into the streams.



Going, Going, Gone?



Bathymetry Map of Wonder Lake 1994

Spillway = 802 feet above NGVD29

Fall 2007 Lake Drawdown

(Photographed at Two Feet below NWL)



Fall 2007 Lake Drawdown

(Photographed at Two Feet below NWL)



Fall 2007 Lake Drawdown

(Photographed at Two Feet below NWL)



Fall 2007 Lake Drawdown

(Photographed at Two Feet below NWL)



THE RESULTS?

Excessive Nutrient Levels
Reduced Navigational Access
Reduced Recreational Appeal
Excessive Turbidity
Excessive Rough Fish (Carp)



An aerial photograph of a lake with a boat's wake and sediment trails. The text 'WONDER LAKE' is overlaid in the top left corner.

WONDER LAKE WONDER LAKE

Since Wonder Lake was created in 1929 it has filled with 3 million cubic yards of sediment.

In some areas it's 4 to 6 feet thick.

Wonder Lake residents first recognized the adverse impacts of sediment filling the lake, and first started proposing a dredging program, in 1964.

We need to Dredge NOW

We can't keep putting it off "for a few more years"

Nippersink Creek Water Quality

- Watershed planning efforts over the last 15 years have reduced the annual sediment load from Nippersink Creek from 33,000 to 12,000 cubic yards.
- Determined from stream gauging and water quality monitoring conducted over a seven year period.



In cooperation with the McHenry County Soil and Water Conservation District

Water Quality of Nippersink Creek and Wonder Lake, McHenry County, Illinois, 1994-2001



Scientific Investigations Report 2004-5085
U.S. Department of the Interior
U.S. Geological Survey

What's Been Happening?

- In January 2007, our consultant submitted an Updated Feasibility Study, which recommended the removal of up to 2.5 million cubic yards of sediment at a cost of up to \$13 million.
- In May 2007, the MPOA held two open house meetings to present the recommendations, and seek input from the community.

What's Been Happening?

- The MPOA has been vigorously working on developing a more affordable dredging plan.
- We are focusing on the most significantly impacted portions of Wonder Lake, and have reduced the dredging volume from 2.5 million to about 1 million cubic yards.
- After months of review, meetings, and reviewing costs / sediment depths, the MPOA presented the community with a \$ 5.9 million lake restoration plan.

More Affordable Dredging Plan

Remove roughly 1 million cubic yards of sediment from:

Mouth of Nippersink Creek

South Portion of West Bay

South Bay

Coves in White Oaks Bay

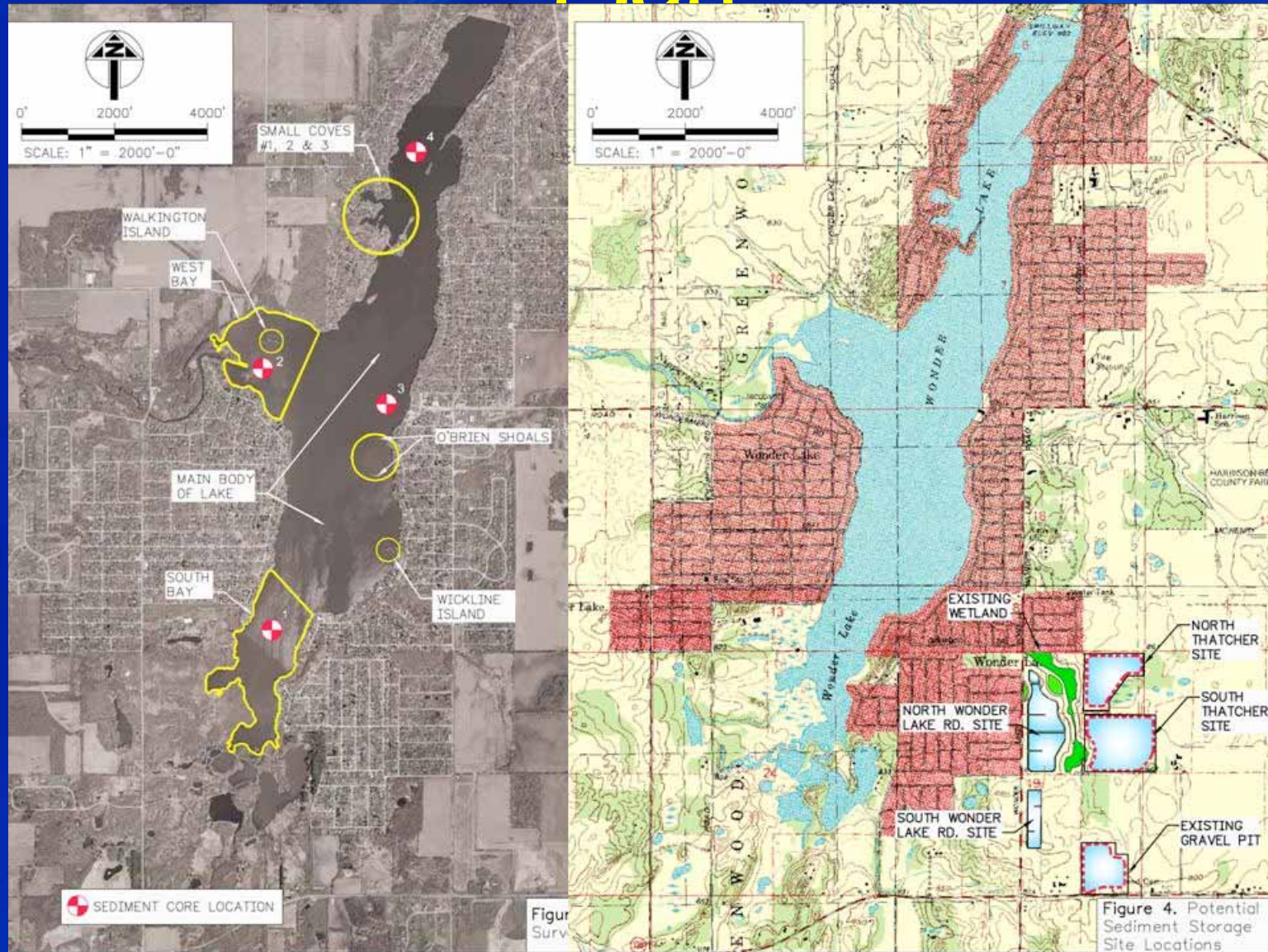
Small Cove at Lookout Point

Restore O'Brien Shoals & Wickline Island

Establish long-term Maintenance Plan

Add 50 – 75 acres of navigable lake surface

More Affordable Dredging Plan



**One million Cubic Yards of
silt = one football field
with 562 ft. high pile!**



Dredging Funding Sources

- Ongoing efforts to find dredging funding sources were unsuccessful, as the Illinois Environmental Protection Agency (IEPA), the most likely funding source of water quality projects, typically does not fund dredging projects.
- As a result, in 2009, the Wonder Lake Master Property Owners Association successfully created a Special Service Area (SSA) taxing district that will fund a \$ 5.9 million dredging project.
- The cost of this project will be proportionally distributed among all landowners who have deeded lake rights to Wonder Lake, based upon their property value.

Watershed Benefits

- As the dredging of Wonder Lake was included as a recommendation in the *Nippersink Creek Watershed Plan* (2007), the potential exists that “local” funds spent on a SSA funded dredging project could be used as the 40% local cost-share match for other watershed Section 319 grants.

Watershed Benefits

- Under this arrangement, up to eight million dollars in federal cost-share funding could potentially be obtained to implement Nippersink Creek Watershed Plan recommended water quality enhancement projects through the entire Nippersink Creek watershed, which comprises approximately 25% of McHenry County.
- If a sediment resale can be developed (soil testing and fertility analysis has already been done), the proceeds could be used to fund additional dredging, generating new sediment resale, etc.
- A portion of future sediment resale funds could also potentially be used as cash “local” match for watershed 319 projects.

Watershed Benefits

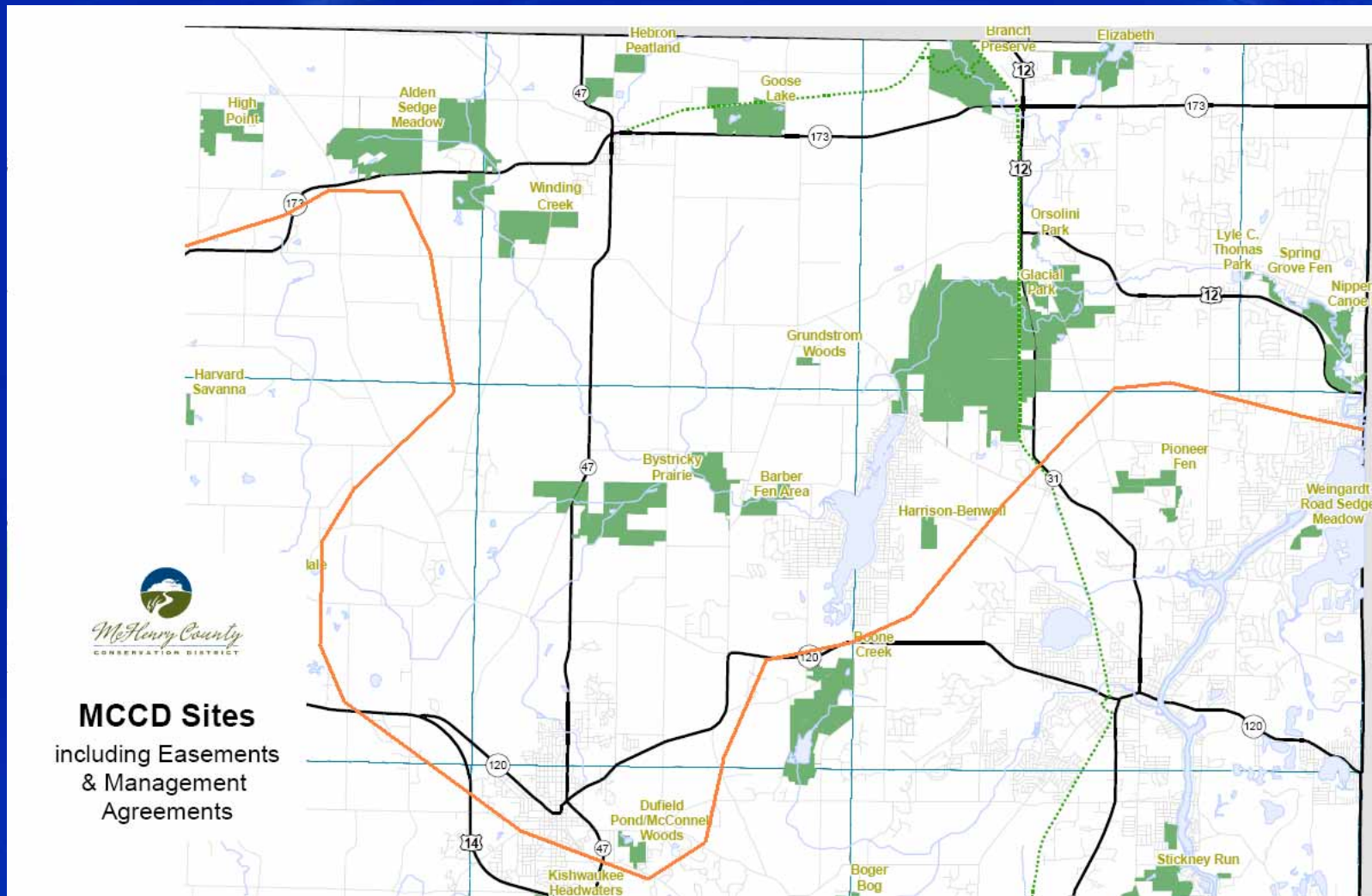
- Any Nippersink Creek Watershed Plan water quality projects implemented upstream of Wonder Lake will serve to further protect and enhance the water quality of Wonder Lake, as well as Nippersink Creek and the Fox River.
- The in-lake sediment is highly fertile, meaning that every cubic yard of sediment dredged and removed from the lake will also be “exporting” nutrients from the lake.
- The restoration of stream corridors and wetlands, as recommended in the NCWP, will also further serve to protect and enhance McHenry County groundwater recharge areas.

Moving Into Implementation

Encouraging the protection of “Green Infrastructure” through:

- a “land-first” approach towards land use planning (County / municipal land use plans)
- the development / implementation of Conservation Design / Low Impact Design Ordinances
- partnering with resource agencies to acquire / protect / manage waterways and wetlands
- applying for BMP implementation grants

Protecting Green Infrastructure



FY 2009 Section 319 Project



FY 2010 Section 319 Project



FY 2010 Section 319 Project

Stream Corridor / Wetland Restoration Project Area Location Map
McHenry County Conservation District - High Point Unit

Key:
— 100' Wetland Lines
— 319 Project Area



Keep Your Plan Flexible!

- At 150 square miles, the Nippersink Watershed Planning process is at the larger end of the scale.
- Although over 150 Best Management Practice (BMP) projects were identified, it is guaranteed that additional BMP projects will be encountered through stakeholder outreach (and already have been!).
- As a result, it is critical that a methodology be adopted to allow the BMP recommendations section of your plan to be periodically updated to allow newly identified BMP projects to become potentially eligible for 319 funding.

Keep Your Plan Current!

- Often, a significant time lag can occur between the identification of a potential BMP project in a watershed plan and its actual implementation.
- Conducting outreach to stakeholders who have control over the BMP (landowner, municipality, etc.), and building consensus on the need to implement the BMP can take months or years.
- Identifying and securing a “local” match source of funds can take an indefinite amount of time, particularly since 319 and other grant programs typically operate on a “reimbursement” basis, meaning the “local” source has to front the total cost.

Keep Your Plan Current!

- Add in the grant request cycles, regulatory permitting timeframes, and project design/bidding/construction, and it can be multiple years between BMP identification and implementation.
- If your project budget only uses the original identified project cost amount, your project may experience a significant budget shortfall.

Questions?