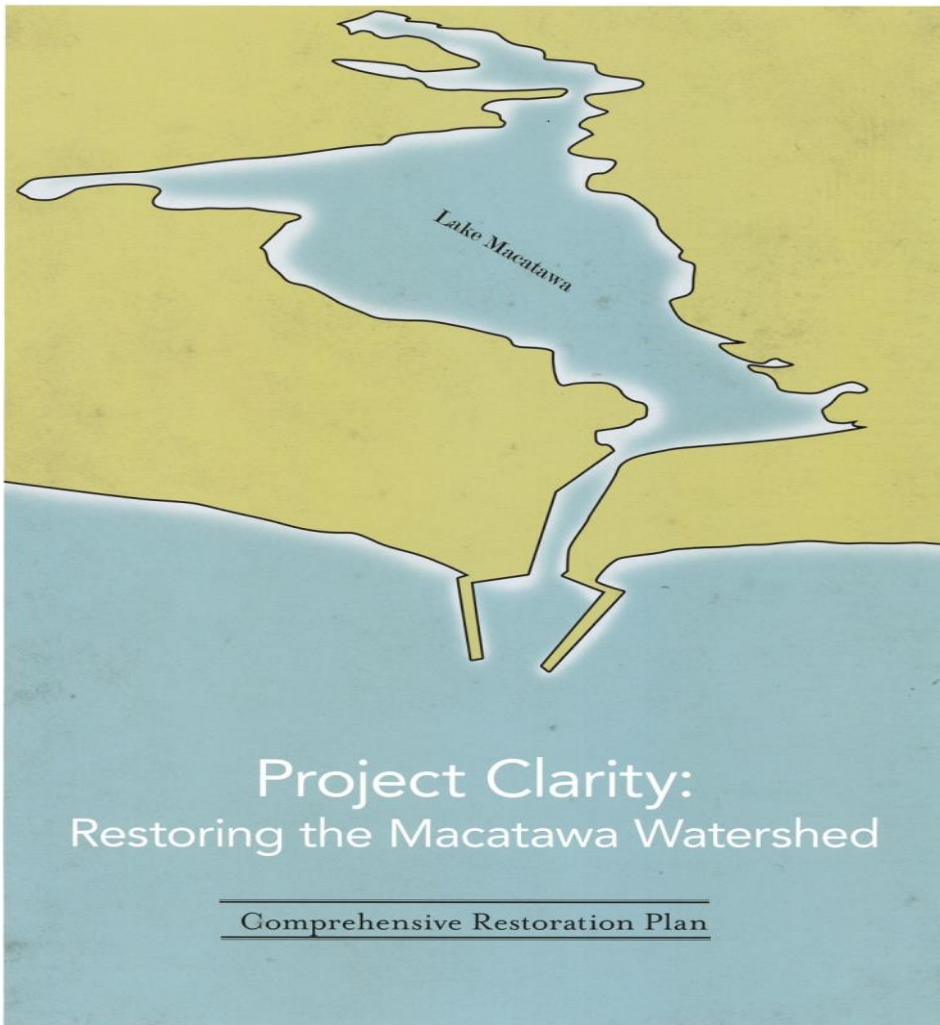




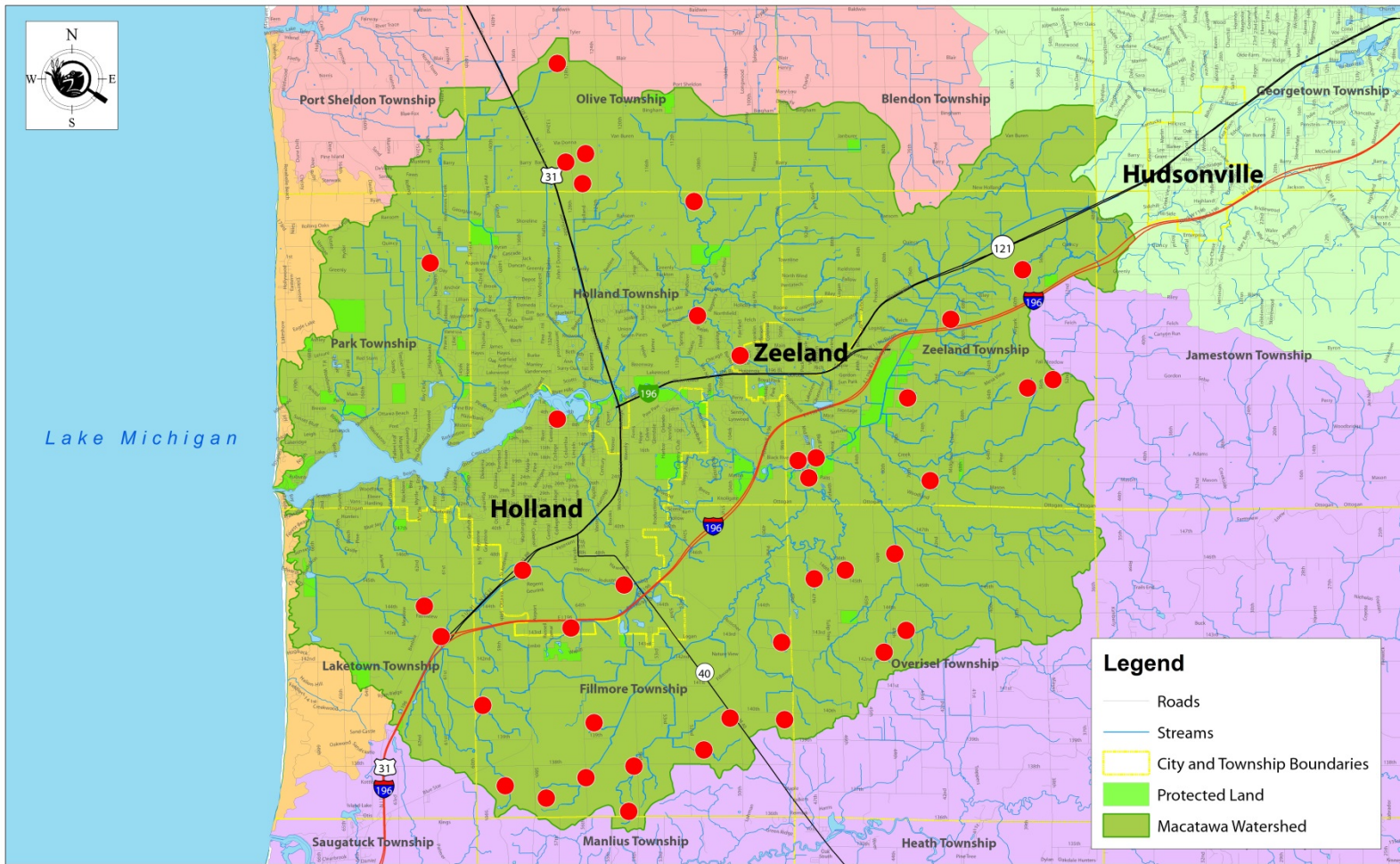
PROJECT **clarity**

Restoring the Macatawa Watershed



Project Clarity: Comprehensive Restoration Plan

- ✓ Investment of \$11,976,000
- ✓ Multi-faceted approach
 - ID & Secure Land
 - Restoration
 - Best Management Practices (BMP)
 - Education & Information
 - Maintenance



Project Clarity Projects



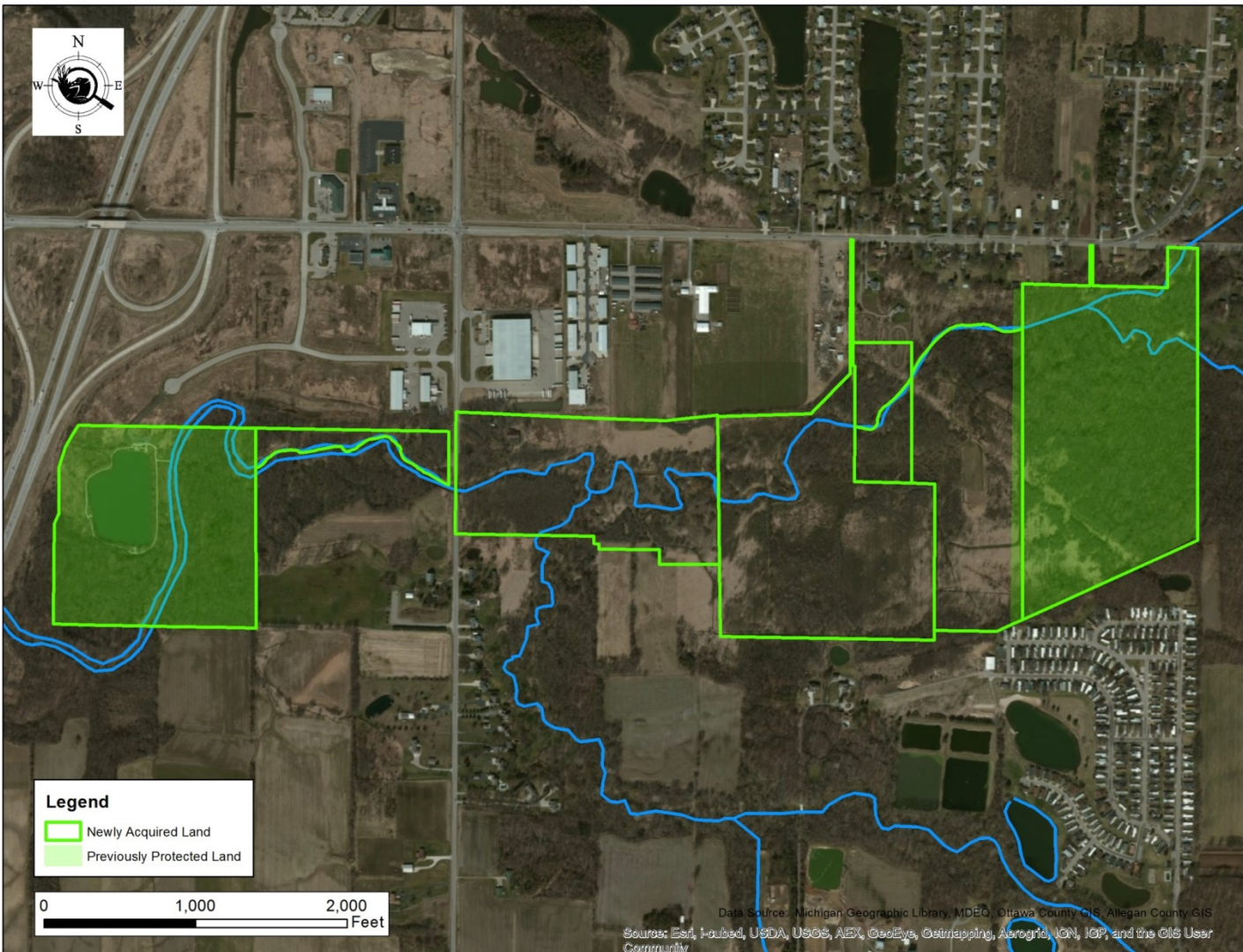
PROJECT **clarity**
Restoration Site

Middle Macatawa Restorations



www.macatawaclarity.org

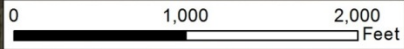
Supported by





Legend

-  Newly Acquired Land
-  Previously Protected Land

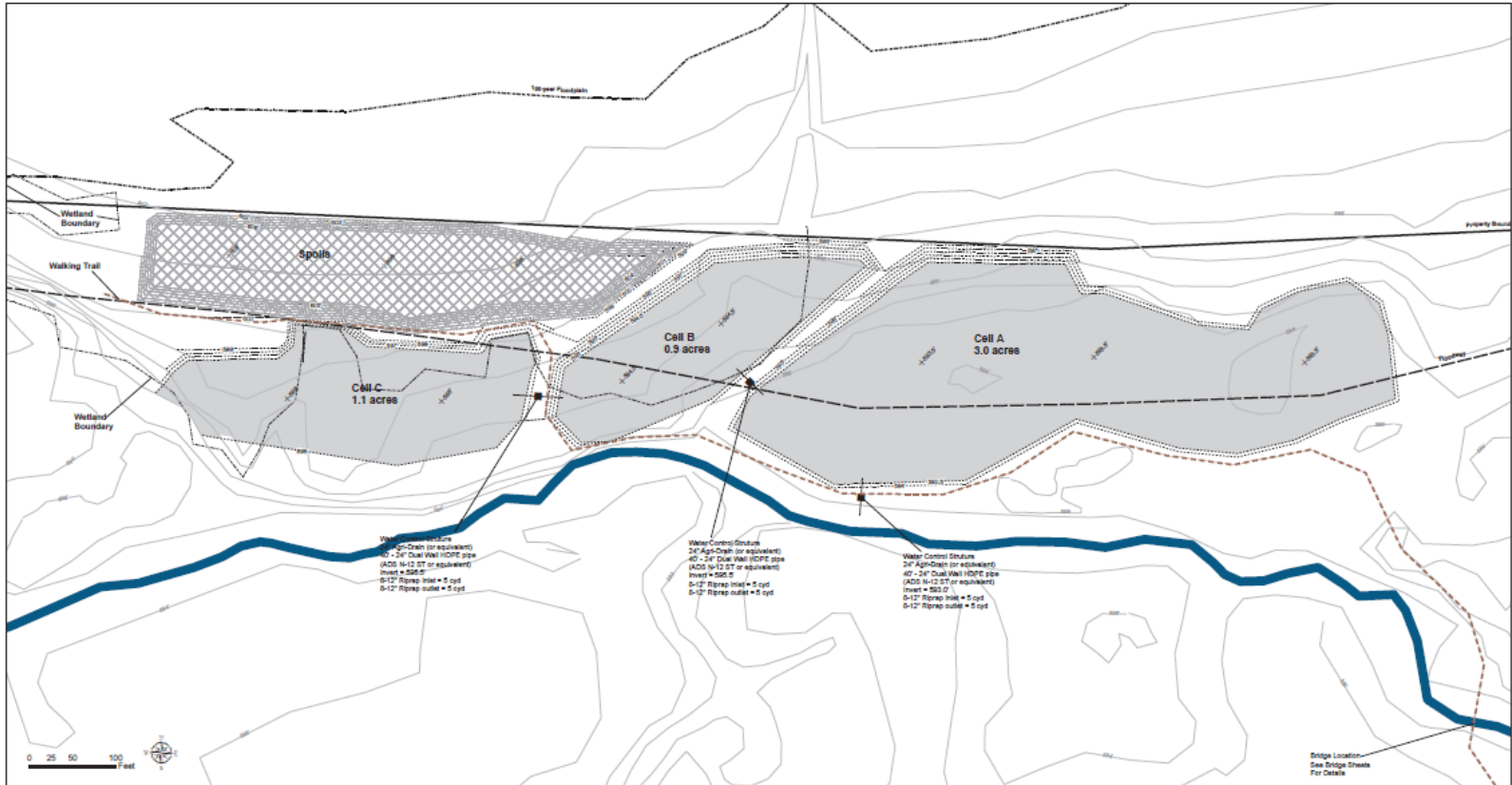


Data Source: Michigan Geographic Library, MDEQ, Ottawa County GIS, Allegan County GIS
Sources: Esri, InRoads, USDA, USGS, AEX, GeoEye, GeoMapping, AeroGrid, IGN, IOP, and the GIS User Community



Outdoor Discovery Center Macatawa Greenway
 Middle Macatawa Wetland Restoration
 Zeeland Township, Section 31, Ottawa County, MI

USEPA - Great Lakes Restoration Initiative Project: GL-00E01459-0



Job No: NE 1283-13

Drawn:
T.M.L. 08-14-2015

Revisions:

Project Clarity: Middle Macatawa (North) Wetland Restoration
 Grading Plan
 ODCMG Middle Macatawa Properties
 Section 31 of Zeeland Township, Ottawa County, Michigan

Client: ODCMG
 Initiative: Project Clarity
 Consultant: Niswander Environmental











PROJECTclarity Project Clarity Agricultural Committee
Best Management Practice Guidelines and Recommendations
BMP Guidelines

BMP's are site specific
 All Tech Site Visit is Recommended for All Fields
 Field Evaluation should be completed by a Qualified Official
 Conservation Planning should be Required

BMP Category	BMP Preferred Target Outcomes	Minimum Accepted Outcome
General Erosion	The following list should be considered a menu of options that a farmer could choose from to achieve BMP status on a given field. The more practices that are utilized on a field the better. However, not all practices may be appropriate for a given field. <ul style="list-style-type: none"> Plant Cover Crops No-till or strip-till farming Five-stage ditches and grassed waterways Maintain waterways Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops 	The following list should be considered a menu of options that a farmer could choose from to achieve BMP status on a given field. The more practices that are utilized on a field the better. However, not all practices may be appropriate for a given field. <ul style="list-style-type: none"> Plant Cover Crops No-till or strip-till farming Five-stage ditches and grassed waterways Maintain waterways Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops
Manage Water Flow	<ul style="list-style-type: none"> Plant cover crops No-till or strip-till farming Five-stage ditches and grassed waterways Maintain waterways Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops 	<ul style="list-style-type: none"> Plant Cover Crops No-till or strip-till farming Five-stage ditches and grassed waterways Maintain waterways Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops
Soil Health	<ul style="list-style-type: none"> Plant cover crops No-till or strip-till farming Five-stage ditches and grassed waterways Maintain waterways Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops 	<ul style="list-style-type: none"> Plant Cover Crops No-till or strip-till farming Five-stage ditches and grassed waterways Maintain waterways Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops
Nutrient Management	<ul style="list-style-type: none"> Plant cover crops No-till or strip-till farming Five-stage ditches and grassed waterways Maintain waterways Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops 	<ul style="list-style-type: none"> Plant Cover Crops No-till or strip-till farming Five-stage ditches and grassed waterways Maintain waterways Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops
GAAMPs	<ul style="list-style-type: none"> Plant cover crops No-till or strip-till farming Five-stage ditches and grassed waterways Maintain waterways Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops 	<ul style="list-style-type: none"> Plant Cover Crops No-till or strip-till farming Five-stage ditches and grassed waterways Maintain waterways Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops Plant cover crops

PROJECTclarity Agricultural Project Ranking

Project Number: _____
 Project Name: _____
 Project Address: _____

Conservation Value
 # of Wet / Dry

Criteria	Value	Score
1. Wetland / Riparian Area	_____	_____
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99. Wetland / Riparian Area	_____	_____
100. Wetland / Riparian Area	_____	_____
TOTAL SCORE	_____	_____

Project Name: _____
 Project Address: _____
 Project Contact: _____
 Project Phone: _____
 Project Email: _____

PROJECTclarity Agricultural Statement of Commitment

As a signatory of Project Clarity, I/we pledge to follow these guidelines to the best of my/our ability to protect water quality and help restore Lake Maconawas:

- Schedule a site visit with an agricultural agent (see next page for list of potential consultants).
- Develop a site specific project plan.
- Perform native soil tests every 3 years.
- If applicable, inventory manure at existing branned waterways, two-stage ditches, vegetated barriers, and other natural features that contribute to water quality protection.
- Do not apply manure or fertilizer onto ground.
- When fast applying manure or fertilizer, use a vegetated buffer.
- When applying manure or fertilizer, always maintain a 100-foot buffer zone between the applied area and any stream or ditch or 50-foot in the instance of a vegetated buffer.
- Attempt to use alternative tillage practices to support water quality improvement.
- Attempt to maintain a healthy soil cover to support water quality improvement.
- As all times follow the Michigan Department of Agriculture and Rural Development's Generally Acceptable Agricultural Management Practices.

My signature below affirms this commitment. By signing below I understand that compliance with this condition is mandatory in order to receive financial assistance from Project Clarity and that additional conditions may also be required.

Signature: _____
 Printed name and title: _____
 Project Clarity approval: _____
 Date: _____
 Farm name (if applicable): _____
 Date: _____

Agricultural Best Management Practices (BMPs)

PROJECTclarity

Qualifying Agricultural Best Management Practices

Requests can be made to the Project Clarity Agricultural Committee requesting assistance with any of the following practices. In order to qualify, applicants must have a completed Project Clarity Agricultural Statement of Commitment submitted to the Project Clarity Agricultural Committee. Approval for funding and the amount of funding will be determined by the committee using the Project Clarity Cost-Benefit Analysis Ranking Tool which assesses the project location, cost, reduction of sediment and nutrient run-off, and overall benefits to the watershed. Projects may be fully or partially funded depending on the project cost benefit analysis and location. Projects will be reviewed with potential for funding as long as money is available. Funds used for projects will come from the Outdoor Discovery Center Maconawas Greenway - Project Clarity Initiative. This is a privately funded program and NOT part of any government program, grant or initiative. The Project Clarity Goal is to Reduce the Sediment and Phosphorus runoff in the Maconawas Watershed by 70%.

Qualifying Practices:

- WASCOB Installation
- Drainage Management
- Wetland & Sediment Pond Development
- Two Stage Ditch Development
- Grassed Waterway Development
- Vegetated Buffer Strip Implementation
- Cover Crop Implementation
- Slurry Seeding Cover Crops
- No-Till Farming
- Gypsum Application

Contact Information:

Name: _____
 Farm/Entity Name: _____
 Address: _____
 City: _____ State: _____ Zip: _____
 Phone Number: _____
 Email: _____
 What type of project are you interested in: _____

◆ Please attach map or location information of field(s) where you are interested in a project(s)
 Requests should be sent to:
 Outdoor Discovery Center Maconawas Greenway, c/o Project Clarity, 4214 56th Street, Holland, MI 49423
 For questions or additional information, please contact Dan Calkins at 616-393-9453, or danc@outdoorclarity.com

Project Clarity Project Requests

Agricultural Committee

- Allison Brink, Brink Consulting
- Bob Dykhuis, Dykhuis Farms
- Bryan Kleinheksel, Kleinheksel Farms
- Jeff Hoeve, Hoeve Farms
- John Janssen, Great Lakes Turkey Farms
- Cal Schipper, Schipper Eggs
- Ross Timmerman, QuarterLine Farms
- Bob Fenton, CHS
- John Christian, GreenValley Agriculture Inc.
- Cliff Meeuwsen, Zeeland Farm Services







WASCOB

Water and Sediment Control Basin





WASCOB
*Water and
Sediment
Control Basin*



← Cover Crops

No till farming →



Cover Crop InterSeeder



Cover Crop InterSeeder







Gypsum Applications



Gypsum
applied to
3,658 acres of
farmland.

Agricultural BMP Highlights

- **34 farms** committed to implement water quality best management practices (BMP's) on nearly **11,000 acres** of land.
- Project Clarity is providing matching funds on an additional **4,461 acres** managed by Macatawa Watershed Project from the Great Lakes Restoration Initiative.
- To date, Project Clarity has committed to a total of **42 Agricultural BMP projects**. Of the projects...
 - Gypsum was applied to **3,658 acres** of farmland
 - **8.1 acre-feet** of water storage was created by farm projects.
 - **1,803 acres** of cover crop were planted.
 - **1.5 miles** of two-stage ditches were created.

Storm Water Sediment Trap

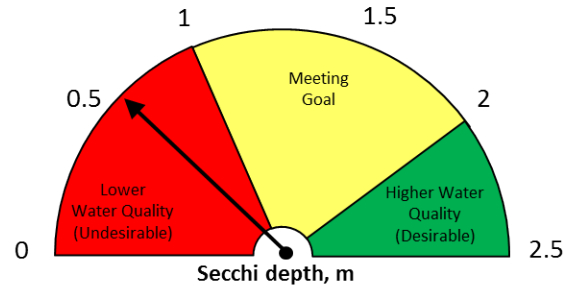


clean water structure

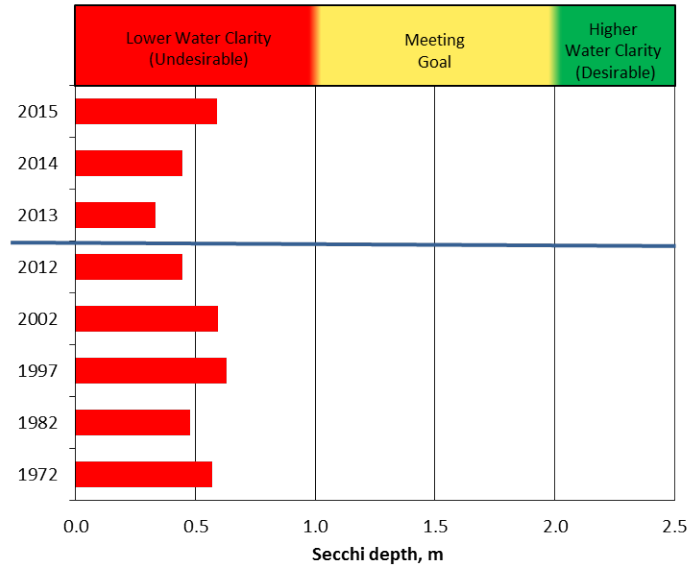


Secchi Depth, m (Water Clarity)

**Current status
(2015)**



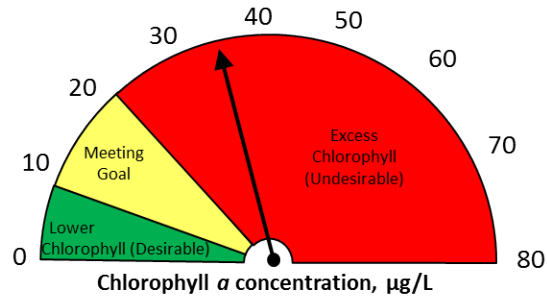
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(1972*; 1982-2012[†];
2013-2015[‡])**



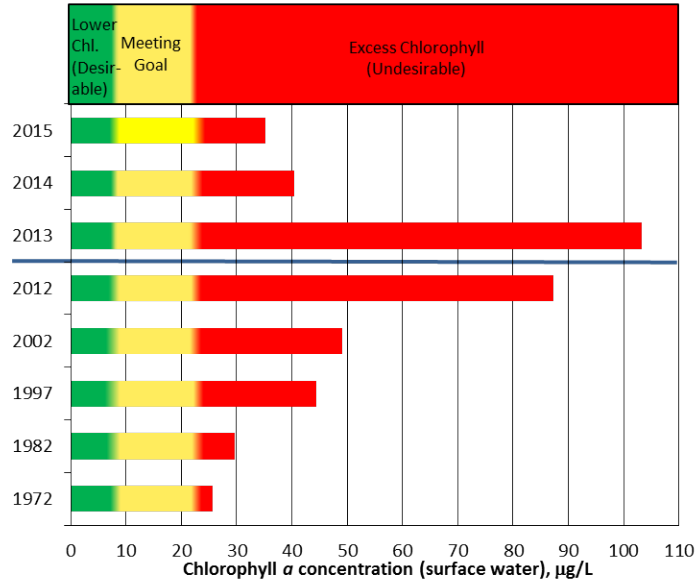
*U.S. EPA; [†]MDEQ; [‡]AWRI

Chlorophyll *a* Concentration, $\mu\text{g/L}$

**Current status
(2015)**



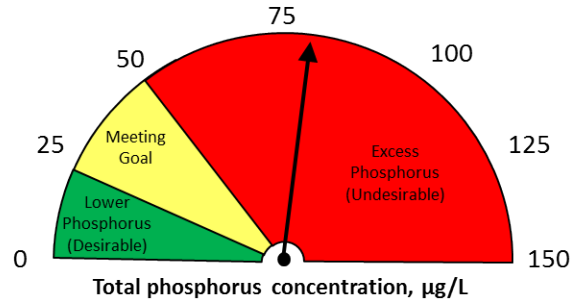
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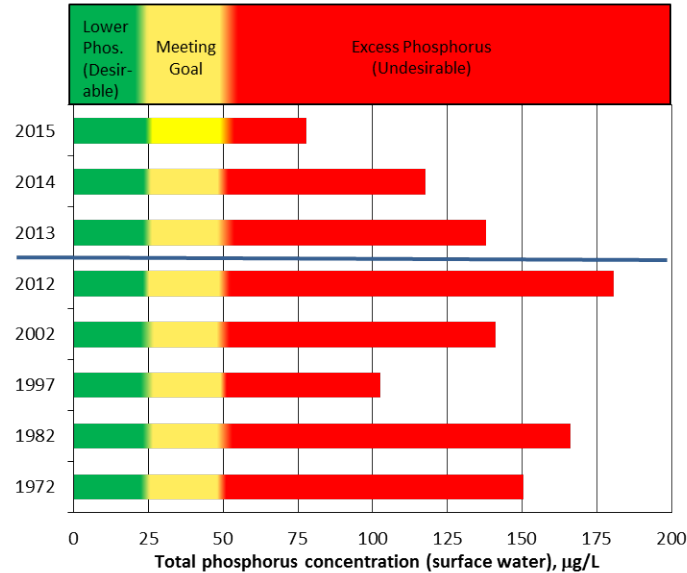
*U.S. EPA; [†]MDEQ; [‡]AWRI

Total Phosphorus Concentration, $\mu\text{g/L}$

**Current status
(2015)**



**Historical Status
(1972*; 1982-2012[†];
2013-2015[‡])**



*U.S. EPA; [†]MDEQ; [‡]AWRI



Save The Date: July 15th, 2017!



**Saturday,
July 15**
on Windmill Island

