

Project Clarity

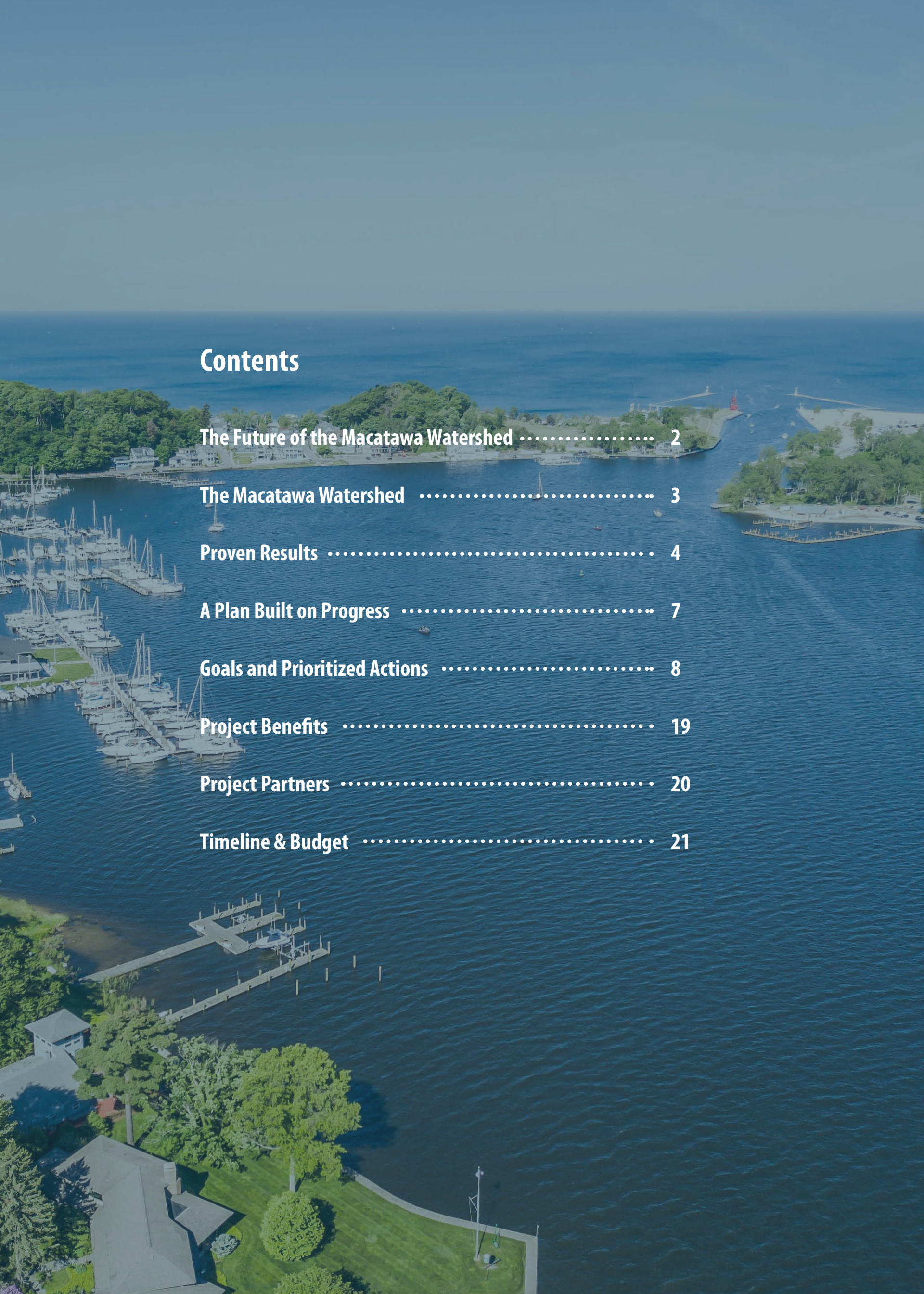
Phase III

*Protecting the Future
of the Macatawa Watershed*



ProjectClarity
Restoring the Macatawa Watershed





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The Future of the Macatawa Watershed Starts Here...

A Community Plan to Improve Water Quality and Support a Thriving Macatawa Watershed

For generations, Lake Macatawa has been at the center of life in this community—where families gather, where memories are made, and where the natural beauty of West Michigan is experienced every day.

Over the past decade, our community has come together to take on one of the lake’s greatest challenges: restoring water quality after years of environmental change, development, and runoff. Project Clarity Phases I and II reflect a strong public-private partnership led by ODC Network and powered by the leadership and investment of private donors, philanthropic organizations, government agencies, and private sector partners, alongside committed community members.

Together, we’ve made real progress. 

- **More than 46,000 tons of sediment kept out of the lake each year**
- **40,000 pounds of phosphorus prevented from entering annually**
- **In-lake phosphorus levels reduced by more than 60% in the first 10 years**

This progress matters. It means clearer water, healthier ecosystems, and a stronger future for Lake Macatawa.
But the work is not finished.

Today, Lake Macatawa and the Macatawa Watershed still do not meet state water quality standards. Ongoing development, changing rainfall patterns, and continued runoff threaten to slow, or even reverse, the gains we’ve made. **What happens next will determine the future of this lake.**

Project Clarity Phase III is the next step: a focused, science-backed plan to build on a decade of progress and community partnership to ensure lasting water quality improvement across the Macatawa Watershed.

Project Location:

Lake Macatawa, Holland, Ottawa County

Macatawa Watershed, Allegan and Ottawa Counties

Timeline:

2026 - 2030

Start Date:

July 1, 2026

Budget:

\$7,650,000

The Macatawa Watershed

The Macatawa Watershed is a 175-square-mile area of land that drains and feeds into Lake Macatawa in West Michigan.

The watershed includes all or portions of the townships of Blendon, Fillmore, Holland Charter, Laketown, Olive, Overisel, Park, Port Sheldon, and Zeeland Charter.

The watershed includes Lake Macatawa, the Macatawa River, and nearly 700 miles of rivers, streams, and ditches.

European settlement of the area resulted in clear-cutting native forests, draining natural wetlands, and straightening tributaries, leading to problems with water pollution and flooding. Nearly 90% of the historic wetlands and forestland were lost to development.

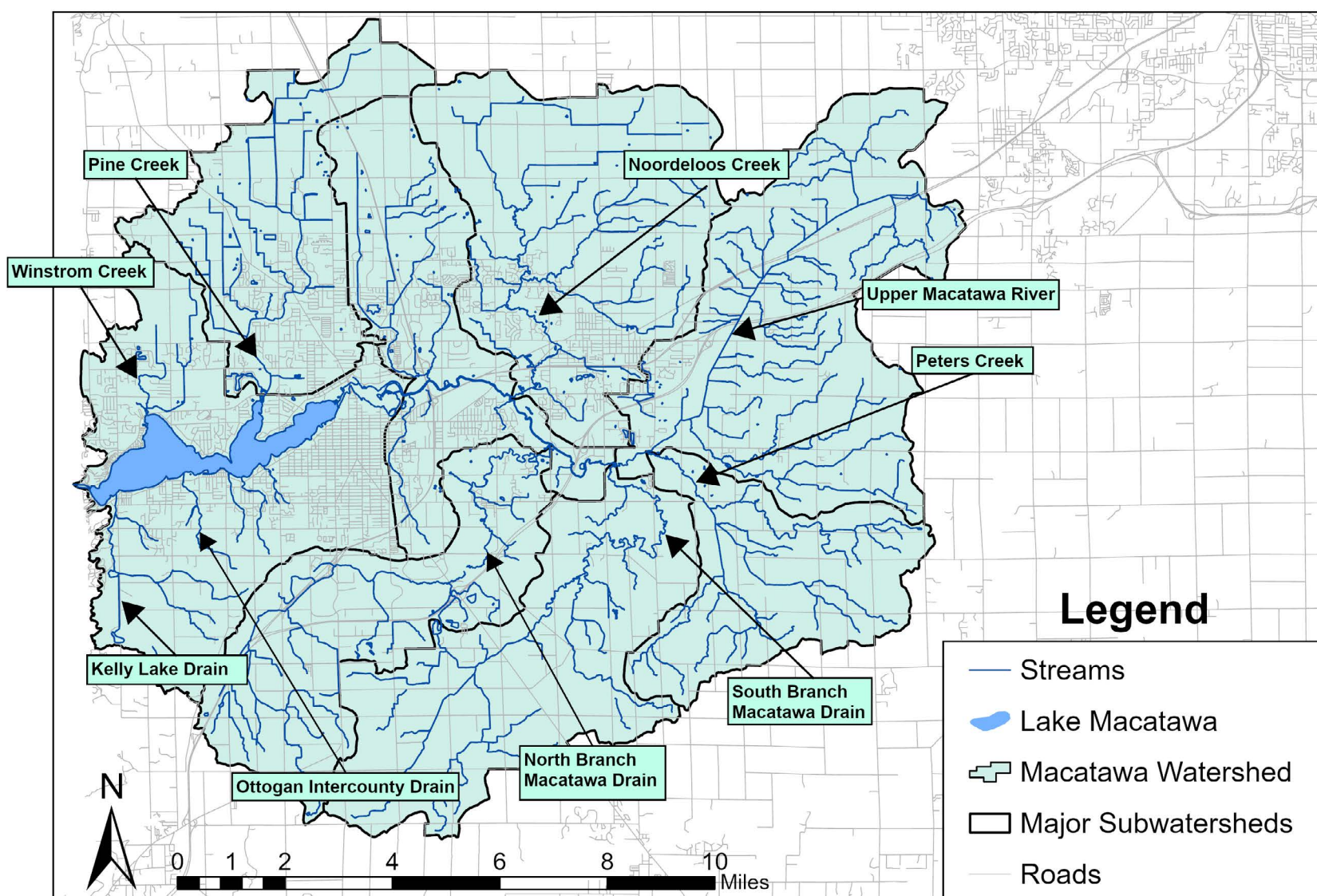
The resulting increased runoff led to sediment and nutrient pollution of Lake Macatawa and its tributaries.

Other pollutants of concern are *E. coli* bacteria and excess chloride from road salt applications. In addition to water quality issues, there are also water quantity concerns in the watershed, both with surface flooding and groundwater depletion.

These conditions make continued, coordinated action essential to improving and protecting water quality.

Lake Macatawa is not only an environmental resource, but an economic driver for the region. Clean water supports property values, recreation, and local businesses, while declining water quality can lead to increased public costs, reduced tourism, and long-term economic loss.

Protecting the watershed is essential not only for ecological health, but also for the strength and resilience of the West Michigan community.





**A lake that thrives needs a community that cares
and a community that thrives depends on a healthy lake.**

Proven Results from a Decade of Work

Project Clarity is an initiative of ODC Network that was launched in 2013. The purpose of this community-wide partnership is to improve the health of the Macatawa Watershed and the water quality of Lake Macatawa and its tributaries.

The initial approach included a five-step remediation plan:

Identifying the most impactful areas

Protected
290
acres of critical land



Prioritizing restoration efforts

Stabilized
3 miles
of streams and other waterways

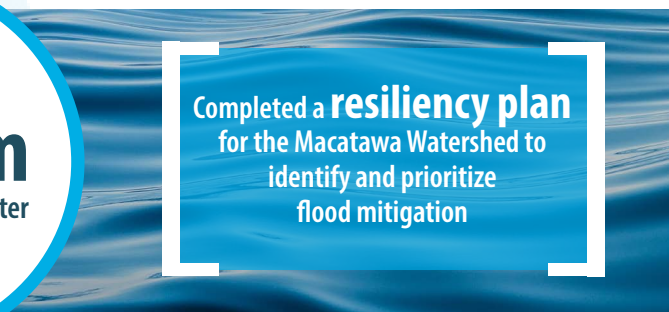
More than
200
acres treated for invasive species



Building a long-term plan for sustained improvement

Installed monitoring sondes in
5 stream
locations to increase water quality data

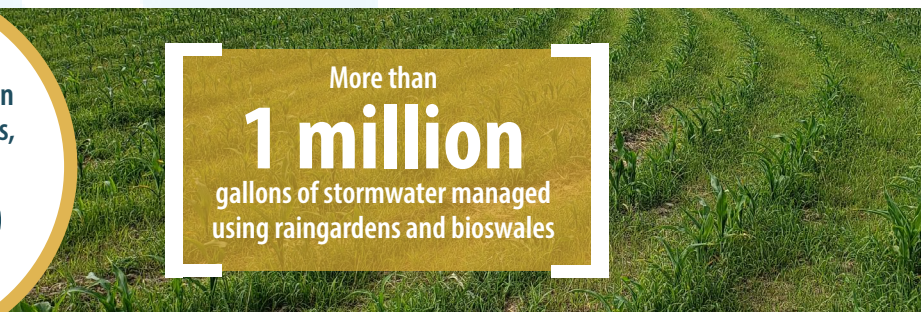
Completed a **resiliency plan** for the Macatawa Watershed to identify and prioritize flood mitigation



Implementing proven conservation practices

Implemented agricultural conservation practices across 65 farms, covering
36,000
acres

More than
1 million
gallons of stormwater managed using raingardens and bioswales



Increasing community awareness and engagement

Educated more than
10,000
community members on water quality and the Macatawa Watershed

Educational signage installed at
8 parks
and public spaces throughout the community



Connected to the Great Lakes



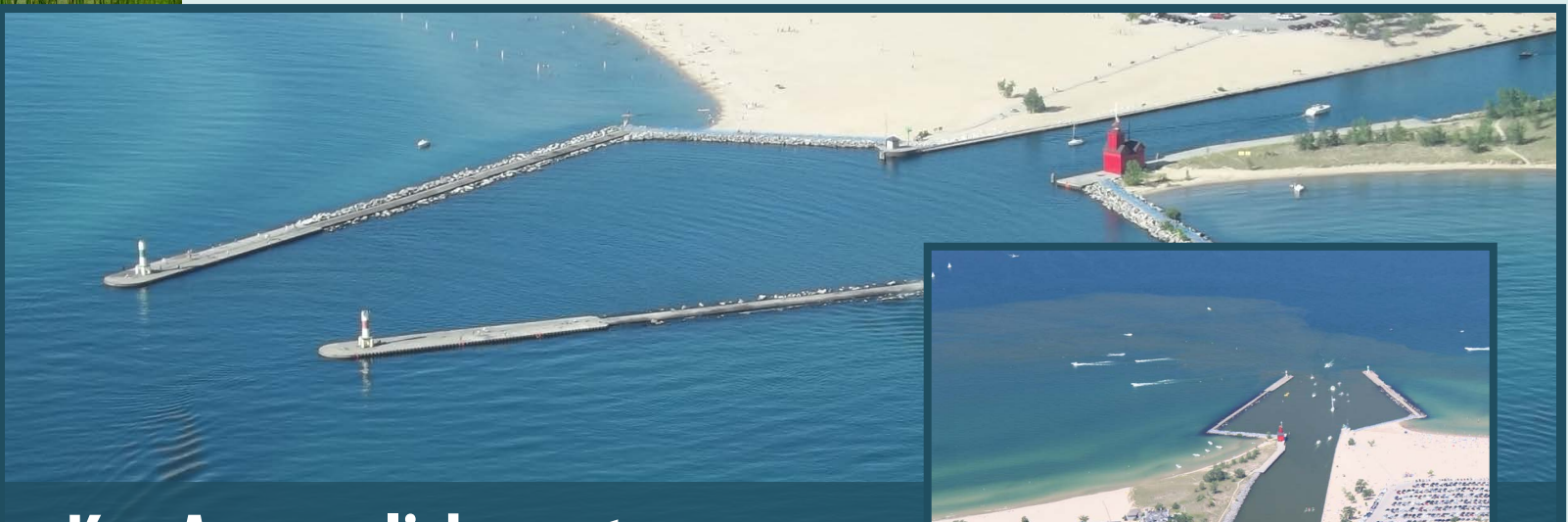
Lake Macatawa is not an isolated system. It is part of the Great Lakes Basin, a major global freshwater resource.

Water flowing through the Macatawa Watershed enters the Great Lakes, linking local actions to a larger system that spans states and international borders.

The Great Lakes hold **over 20% of the world's surface freshwater** and provide drinking water to **more than 40 million people**. They support a multi-billion-dollar economy and serve as habitat for thousands of species.

What happens here matters. Pollutants like phosphorus, nitrogen, and sediments that enter Lake Macatawa flow into Lake Michigan, contributing to challenges like harmful algal blooms and ecosystem imbalance.

This is why Project Clarity matters. Investing in the Macatawa Watershed improves water quality and helps protect a resource millions depend on.



Key Accomplishments

Sediment plumes leaving Lake Macatawa, like the one pictured above, occur less frequently as a result of recent restoration efforts.

Project Clarity has driven significant impact in the Macatawa Watershed, contributing to a cleaner watershed and a healthier Lake Macatawa. The project has:

- Reduced sediment entering Lake Macatawa by **46,000 tons** annually and phosphorus by **40,000 pounds** per year
- Improved Lake Macatawa's water quality by **more than 60%** in the first 10 years, as measured by in-lake phosphorus concentrations

These efforts demonstrate a proven approach to reducing new phosphorus entering the lake, while highlighting the need to address legacy phosphorus in lake sediments through in-lake treatment to achieve lasting improvement.

A Plan Built on Progress and Designed for What Comes Next

The results to date demonstrate what's possible when a community commits to action.

Strategic land protection, agricultural conservation practices, stream restoration, and community education have significantly reduced the pollutants entering the lake and improved overall water quality.

This progress has helped stabilize the impacts of decades of development and runoff across the watershed, but phosphorus that has built up in the lake over time continues to be released from sediments, making in-lake treatment a critical next step to remove this legacy pollution and allow the gains from Phases I and II to be sustained long term.

What This Means for Our Community

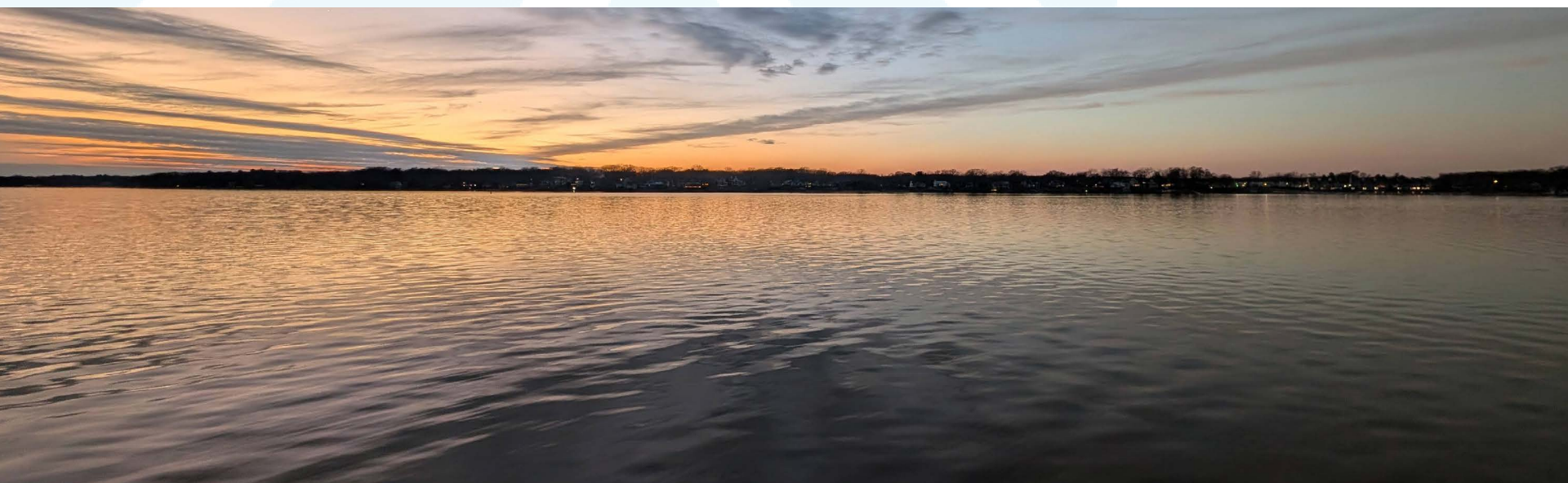
This work is not abstract—it directly impacts life on and around the lake:

- Better recreation (boating, kayaking, fishing) with cleaner, safer water
- Improved wildlife habitat and ecosystem health
- Increased flood storage and climate resilience
- Smarter development that protects water quality
- More informed and engaged community stewardship
- Higher shoreline property values
- Economic growth from tourism and recreation

What This Will Take

Achieving these outcomes will require continued partnership—and investment. Phase III represents a \$7.65 million effort over five years, combining public funding, grants, and private support.

With a clear plan in place and measurable progress already achieved, this is a pivotal moment. The decisions and investments made now will determine whether Lake Macatawa continues to improve—or falls short of its full potential.



Goals & Prioritized Actions

The ultimate goal of Project Clarity is to restore the water quality of Lake Macatawa to meet state water quality standards.

Information contained in this plan comes primarily from the Macatawa Watershed Management Plan. The plan also includes goals to protect natural areas and enhance desired uses of the watershed, such as recreation, public access, and groundwater protection.

The purpose of the Project Clarity Phase III plan is to highlight prioritized actions that will help to achieve goals below.

Four of the five goals are designed to address the root causes of water quality challenges by reducing phosphorus inputs, strengthening watershed function, and increasing community awareness and action through education and outreach. The in-lake treatment addresses phosphorus that has accumulated over time.

1

Establish a **sustainable funding** mechanism

2

Implement **in-lake treatment**

3

Advance **prioritized best management practices**

- Agricultural best management practices
- Stormwater management and water smart landscaping
- Streambank restoration
- Wetland restoration and development

4

Deliver **outreach and education**

- Community events and educational programs
- Policy changes to protect water quality

5

Expand **maintenance and monitoring**

- Long-term maintenance of constructed practices and ongoing treatments
- Water quality monitoring to track progress



Goal 1: Sustainable Funding

Establish a sustainable funding mechanism to support long-term water quality improvements across the Macatawa Watershed. Funds generated will primarily support implementation efforts (Goal 2), with potential to advance additional priorities over time.

Start Date	Target Completion Date	Cost
07/01/2026	12/31/2027	\$250,000

Objectives:

- 1. Evaluate four potential funding mechanisms, including a lake association, lake improvement board, water resource improvement tax increment financing authority, and watershed council
- 2. Develop a summary report with a recommended path forward
- 3. Partner with community leaders and stakeholders to determine the preferred approach and implementation strategy
- 4. Develop and execute a communication strategy to support community understanding and engagement





Target Results

Establish a sustainable, community-supported funding mechanism to ensure consistent, long-term investment in water quality improvements across the Macatawa Watershed.

As an example, if each of the approximately 800 property owners around Lake Macatawa contributed \$500 annually, it would generate approximately \$400,000 per year to support ongoing lake improvement efforts.

This type of consistent funding would provide a reliable source of support for treatment, maintenance, and monitoring—protecting progress to date, enabling proactive management, and sustaining water quality improvements now and well into the future.

Considerations

- The funding mechanism will likely need to be administered by a unit of government
- Outside legal, financial, and technical expertise may be required to evaluate and implement options
- A clear and coordinated communication strategy will be essential to build community understanding and support
- Establishing a new funding mechanism may require local and/or state approvals
- Implementation timelines may extend over multiple years

Goal 2: In-Lake Treatment

Implement in-lake treatment to accelerate water quality improvement by reducing phosphorus concentrations in Lake Macatawa. Treatment approaches, including alum or a similar flocculant application, will be informed by ongoing scientific study to ensure effectiveness and long-term impact.

Building on the success of Project Clarity Phases I and II, which have reduced new phosphorus entering the lake, in-lake treatment addresses phosphorus that has accumulated in sediments over decades. Together, these approaches reduce future inputs while reducing existing sources, creating a comprehensive strategy for lasting water quality improvement.

Start Date
04/01/2026

Target Completion Date
12/31/2027

Cost
\$3,250,000

Objectives:

1. Partner with Grand Valley State University’s Annis Water Resources Institute (AWRI) to complete a detailed study assessing sediment phosphorus levels and determining treatment approach, location, and cost
2. Secure necessary state and local permits
3. Secure funding for initial in-lake treatment
4. Implement treatment based on study recommendations

Target Results

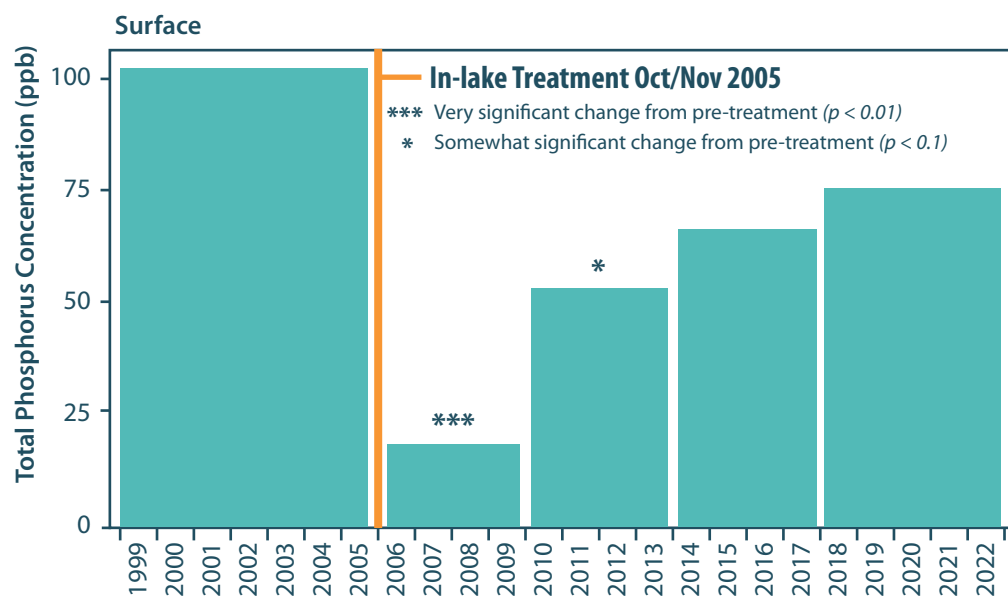
Reduce phosphorus concentrations in the water column and limit phosphorus release from lake sediments—resulting in measurable reductions in algal blooms and improved water clarity.

Based on comparable lake systems in West Michigan, in-lake treatment is expected to:

- Reduce phosphorus levels by approximately 50–75% in treated areas
- Significantly decrease the frequency and severity of algal blooms
- Improve water clarity and overall lake conditions within the first season following treatment

These improvements are expected to be most pronounced in the first several years following treatment, with long-term effectiveness dependent on continued reduction of phosphorus inputs from the watershed.





The graph to the left illustrates results from an in-lake treatment project in Spring Lake, Michigan, a comparable West Michigan system that did not have established best management practices (BMPs) in place at the time of treatment. Even without those upstream interventions, phosphorus levels declined significantly and remained lower for decades.

The recommended approach for Lake Macatawa builds on this proven model—with the added advantage of already implemented, effective BMPs across the watershed—positioning our community to achieve even stronger, more sustained results.

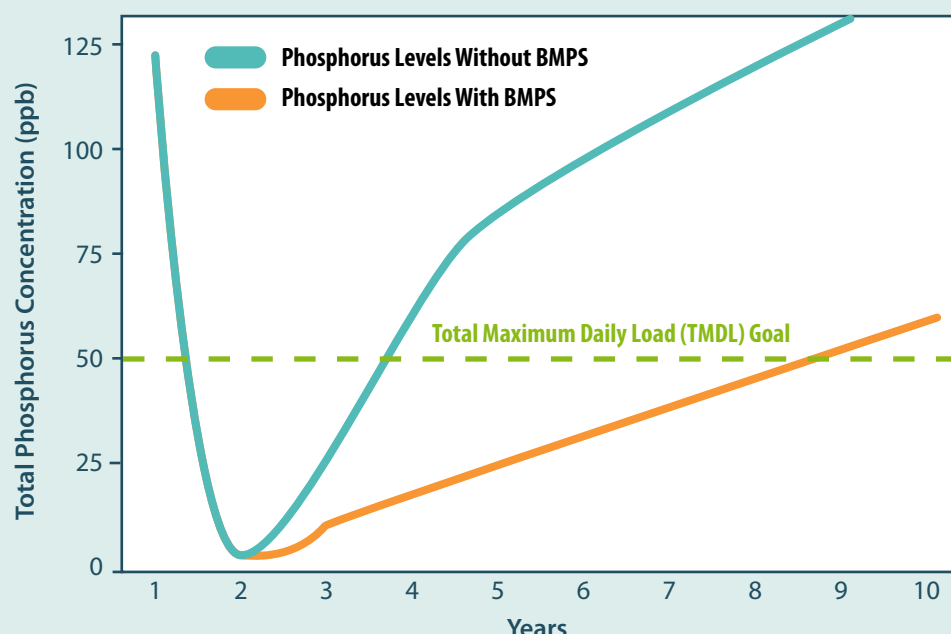
Data adapted from Spring Lake in-lake treatment monitoring, provided by Dr. Al Steinman, Grand Valley State University's Annis Water Resources Institute.

Impact of Best Management Practices on Phosphorus Levels

The graph shows projected phosphorus levels for Lake Macatawa after in-lake treatment, comparing scenarios with and without continued best management practices (BMPs).

The goal is to keep phosphorus levels at or below 50 parts per billion (ppb), a standard set by the state-approved Total Maximum Daily Load (TMDL), which defines how much phosphorus the lake can receive while meeting water quality standards.

While based on the best available science, results depend on continued implementation and monitoring. Sustained BMPs will be key to maintaining improvements and preventing levels from rising.



Considerations

- In-lake treatment can produce rapid, visible improvements, but results are not permanent and may require reapplication over time
- Continued monitoring is essential to evaluate effectiveness and determine if and when additional treatment is needed
- In-lake treatment does not address upstream sources of phosphorus; continued watershed management is critical to maximize and extend results
- A clear communication strategy will be important to help the community understand how treatment works, its safety, and expected outcomes
- Final treatment design, cost, and frequency will be determined through ongoing study of lake conditions, particularly phosphorus levels in sediments

Goal 3: Prioritized Best Management Practices

Advance prioritized best management practices (BMPs) to reduce phosphorus runoff and strengthen long-term watershed health. This work includes agricultural practices, stormwater management, stream and habitat restoration, and wetland expansion—targeted to areas with the greatest impact.

Start Date
07/01/2026

Target Completion Date
12/31/2030

Cost
\$2,900,000

Objectives:

1. Secure funding for cost-shared practices through local, state, and federal sources
2. Partner with landowners in priority areas to plan and implement practices
3. Complete project design, engineering, and permitting, as needed
4. Implement prioritized BMPs across the watershed

Target Results

Reduce phosphorus loading to Lake Macatawa through implementation of high-impact practices across agricultural and developed landscapes.

Over the next five years, this work will result in:

- 5,000 acres of cover crops and reduced tillage
- 1,500 acres of drainage water management
- 1 mile of grassed waterways and buffer strips
- 2 livestock stream crossings
- 40 acres of wetland restoration
- 1 mile of natural channel design (streambank restoration)
- 3 miles of two-stage channels / floodplain benches
- 3 road-stream crossing repairs or replacements
- 20 native plantings or rain gardens
- 400 trees planted

Together, these BMPs will reduce sediment and nutrient runoff, improve habitat, and support continued progress toward water quality goals.



How BMPs Improve Water Quality

Best management practices reduce the amount of phosphorus and sediment entering the lake by:

- Slowing and filtering runoff
- Improving soil health and water retention
- Restoring natural stream function and flood storage
- Capturing and treating stormwater before it reaches waterways while increasing infiltration to groundwater

Considerations

- BMP implementation relies on a combination of funding sources, including philanthropy, local government support, as well as state and federal grants
- Participation by landowners is voluntary; success will depend on strong outreach, education, and relationship-building
- Implementation will require coordination with consultants, engineers, and construction partners
- Long-term maintenance agreements and funding are essential to ensure practices continue to function effectively
- BMPs will lengthen the effectiveness of the in-lake treatment

Goal 4: Outreach & Education

Deliver outreach and education to increase community awareness, engagement, and adoption of practices that improve water quality. ODC Network is a trusted leader in outdoor education and engagement, working in partnership with local organizations and public agencies. Building on this foundation, we will continue to offer high-quality educational experiences for watershed residents, while strengthening awareness, engagement, and policy that support water quality. This work will empower community members to take action to protect and improve the Macatawa Watershed.

Start Date	Target Completion Date	Cost
07/01/2026	12/31/2030	\$400,000

Objectives:

- 1. Develop and implement a coordinated, watershed-wide education and outreach strategy
- 2. Expand educational programming into a coordinated, watershed-wide effort that integrates school curriculum, community engagement, and a multifaceted awareness campaign, to drive behavior change among residents, local leaders, and stakeholders
- 3. Engage partner organizations and community stakeholders in advancing Project Clarity goals
- 4. Collaborate with local units of government to advance policies that protect water quality, including stormwater management, groundwater protection, and water-smart landscaping practices





Target Results

Increase community awareness, engagement, and adoption of practices that improve water quality and support long-term watershed health. This work will result in:

- Increased adoption of water-friendly practices, including reduced fertilizer use, improved waste management, and minimized stormwater runoff
- Expanded use of native vegetation and water-smart landscaping across residential, commercial, and public spaces
- Greater community participation in conservation, restoration, and stewardship efforts
- Improved understanding of watershed health, groundwater protection, and responsible recreation
- Updated ordinances across municipalities that better protect water quality, support native plant use, and strengthen wetland and floodplain protection

Considerations

- Educational efforts should be coordinated across ODC's programs, marketing, and partner organizations to align with audience needs and learning objectives
- The Macatawa Watershed Management Plan provides a strong foundation for recommended policy updates and should guide implementation
- Policy changes will require coordination across municipalities and should aim for consistent language and standards
- Advancing policy and ordinance updates may require legal, technical, and consulting support

Goal 5: Maintenance & Monitoring

Expand maintenance and monitoring to sustain progress and inform long-term water quality improvements. Ongoing maintenance and monitoring are essential to sustaining the impact of restoration efforts and ensuring long-term water quality improvements. Monitoring across the watershed combines real-time sensors, scientific research led by regional partners, and community-based efforts to track conditions, measure progress, and inform decision-making over time.

Start Date
07/01/2026

Target Completion Date
12/31/2030

Cost
\$850,000

Objectives:

- 1. Expand the maintenance fund to support the ongoing management of Project Clarity practices
- 2. Sustain and enhance watershed monitoring to inform decision-making, including increased automation where feasible
- 3. Engage community members in monitoring efforts to expand data collection and strengthen stewardship

Target Results

Sustain a comprehensive watershed-wide monitoring and maintenance program to track progress and inform long-term decision-making.

Estimated annual investment: ~\$80,000–\$90,000, inclusive of monitoring, equipment maintenance, and staffing, with adjustments for inflation and system needs.

This investment will result in:

- Reliable, long-term data to measure progress toward water quality goals
- Early detection of emerging issues and changing conditions
- Data-driven decision-making to guide future restoration strategies
- Increased accountability and transparency around outcomes
- Improved ability to determine when additional interventions or treatments are needed
- Resources for ongoing maintenance of restoration projects throughout the watershed

How We Monitor Progress

- Real-time monitoring: Continuous sensors in the lake and key tributaries track changing conditions and provide timely data
- Scientific research and sampling: Partners such as Hope College's Global Water Research Institute and Grand Valley State University's Annis Water Resources Institute conduct ongoing sampling to measure key water quality and biological indicators
- Community science: Volunteers contribute data on water clarity, chloride levels, and stream health—expanding coverage while strengthening local stewardship

Considerations

- Maintenance of constructed practices must be sustained throughout their full design life
- Ongoing monitoring is essential to track progress toward water quality goals
- Advances in technology are creating new opportunities for more efficient, automated data collection
- Community science programs require dedicated coordination, training, and equipment
- A long-term funding strategy is critical to sustain maintenance and monitoring beyond 2030





Project Benefits

The efforts undertaken as part of Project Clarity Phase III will improve water quality across the watershed, delivering meaningful environmental, community, and economic benefits to the greater Holland and Zeeland communities, including:

- **Improved recreational experiences**—like boating, kayaking, paddleboarding, and fishing—with clearer water, fewer algal blooms, and safer conditions for people to enjoy the lake
- **Stronger habitat for fish and wildlife**, supporting thriving populations, improved fishing opportunities, and a more balanced, resilient ecosystem
- **Improved flood storage and increased climate resilience** across the watershed, helping reduce flooding impacts, protect infrastructure, and better manage heavy rainfall events
- **Future community development** that better protects water quality, ensuring growth happens in ways that reduce runoff, protect natural systems, and avoid repeating past impacts
- **A more engaged, connected, and informed community**, connected to the watershed, in which residents, landowners, and local leaders understand their role and take action to protect water quality
- **Increased value of shoreline and nearby properties**, as cleaner water and healthier lake conditions strengthen desirability and long-term investment across the community
- **Economic benefits** driven by tourism, recreation, and waterfront investment, supporting local businesses and strengthening the region's long-term economic vitality

Together, these benefits reflect what's possible when a community invests in water quality, creating a place where people and nature thrive.

Project Partners

Project Clarity was launched through the leadership and early investment of public, philanthropic, and private sector partners, whose commitment helped establish the foundation for this work and continues to drive its success today. ODC will continue to provide overall management of Project Clarity and work with a host of existing and new community partners to implement this plan. The Project Clarity Advisory Committee and Project Clarity Stakeholder Committee will continue to provide project oversight, advice, and support to ODC. Key partners include:

Grand Valley State University's Annis Water Resources Institute

Involved from its inception, AWRI will continue to provide expert technical assistance and conduct regular water quality monitoring of Lake Macatawa to track progress toward meeting water quality goals. AWRI will also be contracted to develop a plan for in-lake treatment.

Dr. Al Steinman, Research Professor at GVSU, provided technical input in the development of the Project Clarity Phase III plan, ensuring recommendations are informed by the best available science.

Hope College's Global Water Research Institute

GWRI, through its Day 1 Watershed program, will continue to conduct regular water quality monitoring of Lake Macatawa, the Macatawa River, and major tributaries to track progress toward meeting water quality goals. GWRI will also assist ODC with maintenance and data management for automated monitoring equipment (buoy and stream sondes).

Ottawa Conservation District & Allegan Conservation District

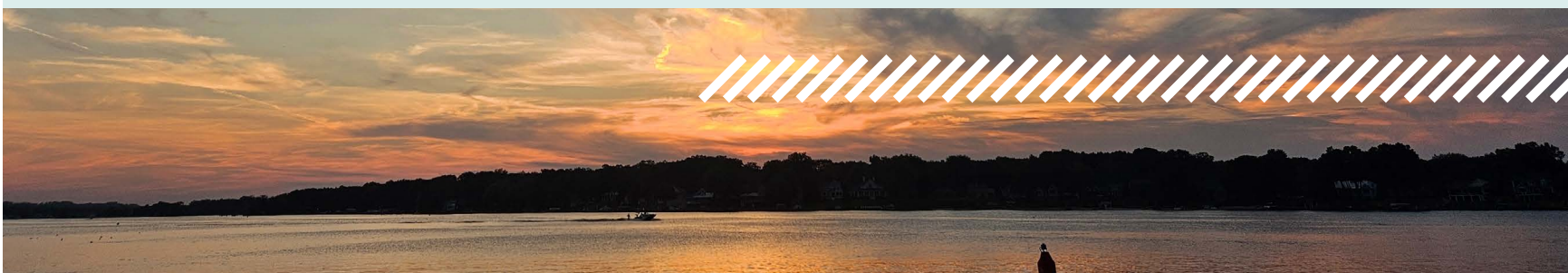
Our local Conservation Districts play an important role in providing technical assistance to private landowners interested in planning and implementing best management practices (BMPs). Both Districts have been working collaboratively with the ODC on implementation of BMPs, as well as outreach and education.

Ottawa County & Allegan County

Various departments within our counties, including the drain and water resources offices, conduct work that impacts water quality in the Macatawa Watershed. These partners will be critical to realizing Project Clarity goals.

Others

Project Clarity is supported by a broad network of partners across the watershed, including municipalities, community organizations, landowners, volunteers, and private sector partners. ODC will continue to strengthen existing partnerships and actively engage new partners to advance shared goals and expand impact over time.



Project Timeline & Budget

Delivering lasting water quality improvement requires a coordinated, multi-year investment—pairing proven strategies with the resources needed to implement them effectively.

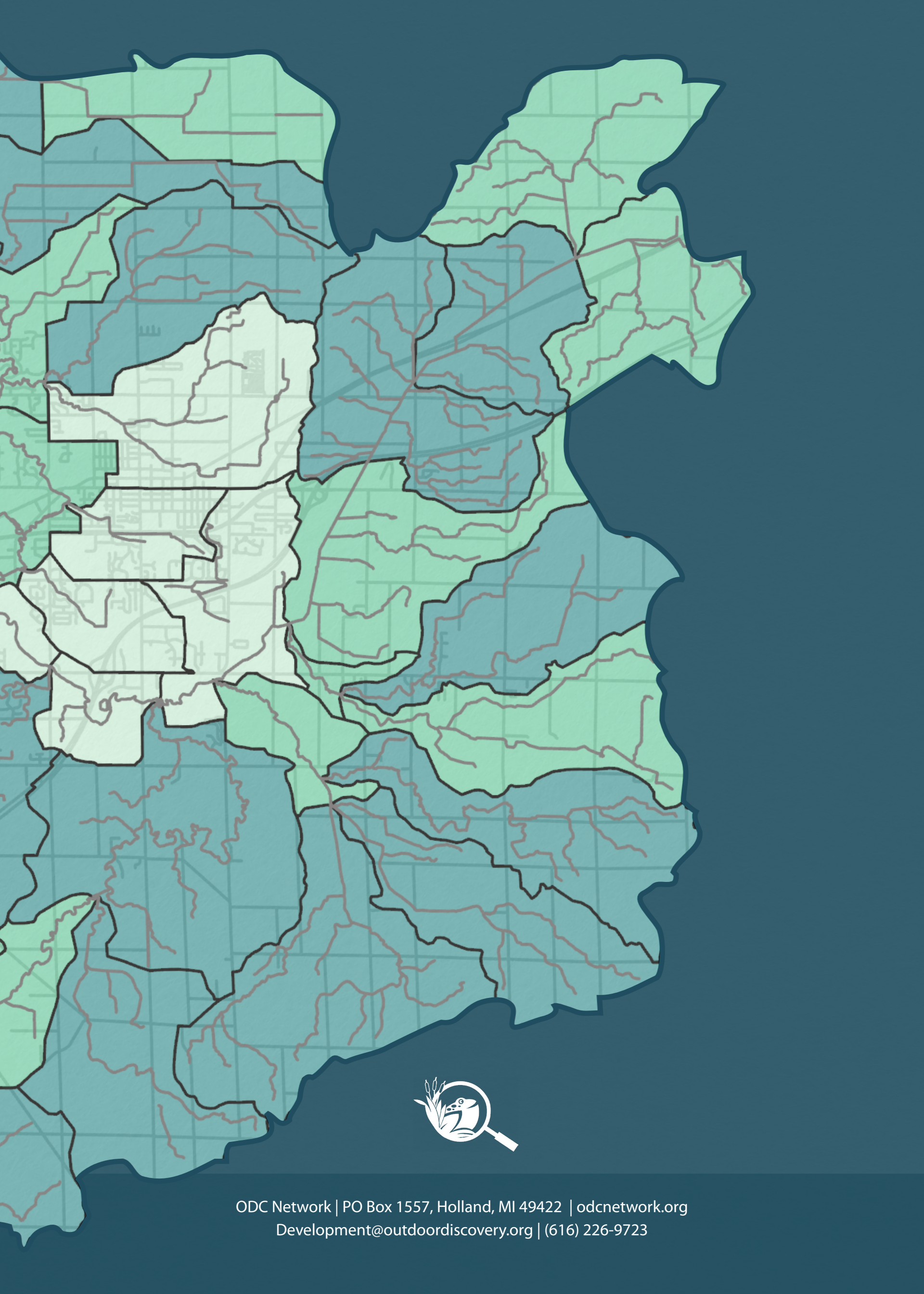
The timeline and budget below outline how Phase III will be executed from 2026–2030.

Timeline

Task	2026	2027	2028	2029	2030
Investigate and establish funding mechanism					
In-lake treatment study					
In-lake treatment					
Best management practices					
Outreach and education					
Monitoring and maintenance					

Budget

Investigate and establish funding mechanism	\$250,000
In-lake treatment	\$3,250,000
Best management practices	\$2,900,000
Outreach and education	\$400,000
Monitoring and maintenance	\$850,000
Total:	\$7,650,000



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