

# Great Lakes Protection Fund

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2020 Annual Report



## Background

In 1989, the governors of the Great Lakes states created the Protection Fund to help them protect and restore their shared natural resources. The Fund is the first private endowment created to benefit a specific ecosystem. It is designed to support the creative work of collaborative teams that test new ideas, take risks, and share what they have learned. It is a source of financial support for groups that value innovation and entrepreneurship, focus on tangible benefits for the Great Lakes ecosystem, and learn by doing. Seven Great Lakes states contributed \$81.0 million to the Fund's permanent endowment.

The Fund does three things. First, it invests the endowment to produce income. This income supports regional projects, member states' individual Great Lakes priorities, and operations. Second, it designs and finances regional projects. These projects identify, demonstrate, and promote regional action to enhance the health of the Great Lakes ecosystem. Third, it monitors those regional projects to ensure that they are successful, modified when necessary, or terminated if they are not creating value for the ecosystem.

From its inception through December 2020, the Fund has made a total of 294 grants and program-related investments, representing a \$90.9 million commitment to protecting and restoring the ecological health of the Great Lakes ecosystem. Additionally, the Fund has paid \$53.9 million directly to its seven member states to support their Great Lakes priorities. Over the course of the past 31 years, the Great Lakes ecosystem has benefited from the States' initial investment of \$81.0 million with an overall commitment of \$144.9 million.

## Governors' Ongoing Priorities

From time to time the governors establish, modify and renew their ongoing Great Lakes priorities. Currently, the Fund's goals are responsive to the governors' stated priorities including the following:

- Ensure the sustainable use of our water resources while confirming that the States retain authority over water use and diversions of Great Lakes waters.
- Promote programs to protect human health against adverse effects of pollution in the Great Lakes ecosystem.
- Control pollution from diffuse sources into water, land and air.
- Continue to reduce the introduction of persistent bioaccumulative toxics into the Great Lakes ecosystem.
- Stop the introduction and spread of non-native aquatic invasive species.
- Enhance fish and wildlife by restoring and protecting coastal wetlands, fish and wildlife habitats.
- Restore to environmental health the Areas of Concern identified by the International Joint Commission as needing remediation.
- Standardize and enhance the methods by which information is collected, recorded and shared within the region.
- Adopt sustainable use practices that protect environmental resources and may enhance the recreational and commercial value of our Great Lakes.



## Activities During 2020

In the past year, the Fund realized over \$5.5 million in investment income from the endowment. The Fund returned \$1.2 million to its member states to support their Great Lakes priorities. The Fund paid \$3.2 million to support regional projects. Audited financial statements can be found in Appendix 1.

The Fund's strategic plan ([link here](#)) focuses programming in three priority areas: ensuring sustainable use of water resources, controlling pollution from diverse sources and stopping the introduction and spread of non-native aquatic invasive species. Our focus is on building new solutions to these shared gubernatorial priorities. During 2020, the Fund developed and supported nine new projects, maintaining the portfolio of active, supported work at over \$17.6 million. The complete portfolio of supported work, including new projects awarded in 2020, can be found in Appendix 3.

Our strategic plan encourages new types and sizes of awards to better target large investments, better engage experts that provide advice, and better engage our audiences. The Fund continued its efforts to expedite support of small, exploratory projects and supported another Leadership Awards initiative. This year our Great Lakes Leadership Awards focused on Communications. This award celebrates the recipients' outstanding storytelling efforts— better connecting their audiences to the ecosystem, its challenges, and efforts to solve those challenges. More information about the awards can be found in Appendix 3.

The Fund entered 2020 with 25 active projects focused on efforts to prevent biological pollution, restore natural flow regimes, stimulate market forces to adopt best practices and promising technology solutions, and provide leadership for ecosystem restoration in the Great Lakes Basin. These projects represented an investment by the Fund of \$14.2 million. Over the course of the year, work was completed on twelve of these projects. These projects are identified in Appendix 2. All projects generated new and useful tools that will ultimately improve the health of the Great Lakes ecosystem. Each project provided a unique and positive mission-related return on the Fund's investment.

## Evaluation of the Corporation's Performance

During 2020, we all faced a period of uncertainty as COVID-19 spread around the globe. During that time, the corporation's commitment to our mission, the teams we fund, and our Great Lakes community was unchanged. We transitioned to a fully remote operation, remained open for business, and continued to seek transformative solutions to restore Great Lakes health. We strengthened our balance sheet, and launched an external evaluation of our work, its impact on the health of the Lakes, and sought advice as to how we can do our work even better.

The Fund accomplished its objectives in 2020. We ended the year more financially secure, with a larger portfolio of active projects, and assured by a positive external review of our work. Regional projects were designed and funded to address key gubernatorial priorities. Ongoing regional efforts were monitored, adjusted when required, and closed out when appropriate. Significant funds totaling \$1.2 million were paid directly to the member states to support their individual priorities.



### **Emerging Trends and Future Needs**

The Governors have identified their priorities for Great Lakes Basin ecosystem protection and restoration. The Fund's strategic plan is built on those priorities and focuses our activities where we can make the biggest difference. We will continue our multi-year support agenda in support of these priorities.

### **Actions Taken by the Directors in Response to Public Comments**

The directors have sought, but not received, public comments on this report.



# Members of the Corporation in 2020

## **Governor of Illinois**

J.B Pritzker

## **Governor of Michigan**

Gretchen Whitmer

## **Governor of Minnesota**

Tim Walz

## **Governor of New York**

Andrew Cuomo

## **Governor of Ohio**

Mike DeWine

## **Governor of Pennsylvania**

Tom Wolf

## **Governor of Wisconsin**

Tony Evers



## Board of Directors in 2020

Kate Bartter (Columbus, OH)

Timothy Bruno (Erie, PA)

Vita DeMarchi (Syracuse, NY)

Joanne So Young Dill (Barrington, IL)

Tim Eder, appointed, October 2020 (Chelsea, MI)

Patricia Glaza, replaced, October 2020 (Royal Oak, MI)

Peter Gove (St. Paul, MN)

Richard Hylant (Ottawa Hills, OH)

Jill Jedlicka (Lancaster, NY)

Kim Marotta (Mequon, WI)

Andrew McElwaine (Pittsburgh, PA)

Don Ness (Duluth, MN)

Mark Meijer, replaced, October 2020 (Grand Rapids, MI)

Laura Rubin, appointed, October 2020 (Ann Arbor, MI)

Kevin Shafer (Milwaukee, WI)

Debra Shore (Skokie, IL)



# Great Lakes Protection Fund Staff

Stephen Cole – Vice President of Programs

Shannon Donley – Project Implementation Manager

Amy Elledge – Communications Manager

Mariela Lawrence – Office Administrator

Drew Pfeifer – Vice President of Operations

Janis Post – Business Manager

David Rankin – Executive Director

Ryan Smith – Project Development Manager



# Appendix 1

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## 2020 Audited Financial Statements





## **Great Lakes Protection Fund**

Financial Report  
December 31, 2020



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## Independent Auditor's Report

RSM US LLP

Board of Directors  
Great Lakes Protection Fund

### Report on the Financial Statements

We have audited the accompanying financial statements of Great Lakes Protection Fund (the Fund), which comprise the statements of financial position as of December 31, 2020 and 2019, the related statements of activities and cash flows for the years then ended, and the related notes to the financial statements.

### Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

### Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Great Lakes Protection Fund as of December 31, 2020 and 2019, and the changes in its net assets and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

*RSM US LLP*

Chicago, Illinois  
March 22, 2021

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## Great Lakes Protection Fund

### Statements of Financial Position December 31, 2020 and 2019

	2020	2019
<b>Assets</b>		
Cash and cash equivalents	\$ 8,468,533	\$ 3,999,291
Investments	143,908,681	137,704,350
Accrued interest	52,364	57,675
Other assets	25,971	25,527
Furniture, equipment and leasehold improvements, net of accumulated depreciation of \$52,955 and \$45,280 in 2020 and 2019, respectively	17,841	19,187
	<b>\$ 152,473,390</b>	<b>\$ 141,806,030</b>
<b>Liabilities and Net Assets</b>		
Liabilities:		
State shares payable	\$ 1,263,100	\$ 1,188,500
Accrued expenses	171,339	153,382
	<b>1,434,439</b>	<b>1,341,882</b>
Net assets:		
Without donor restrictions	8,540,408	5,406,760
With donor restrictions	142,498,543	135,057,388
	<b>151,038,951</b>	<b>140,464,148</b>
	<b>\$ 152,473,390</b>	<b>\$ 141,806,030</b>

See notes to financial statements.



## Great Lakes Protection Fund

### Statements of Activities Year Ended December 31, 2020

	Without Donor Restrictions	With Donor Restrictions	Total
Income:			
Realized investment income and gains, net	\$ 76,358	\$ 5,500,813	\$ 5,577,171
Miscellaneous revenue	-	170	170
Net assets released from restrictions	6,257,481	(6,257,481)	-
	<u>6,333,839</u>	<u>(756,498)</u>	<u>5,577,341</u>
Expenses:			
Mission			
Regional grant payments	3,206,805	-	3,206,805
State shares	1,263,098	-	1,263,098
Salaries and benefits	742,393	-	742,393
Facilities	107,154	-	107,154
Other mission expenses	70,134	-	70,134
	<u>5,389,584</u>	<u>-</u>	<u>5,389,584</u>
Management and general			
Salaries and benefits	577,961	-	577,961
Facilities	104,792	-	104,792
Other management and general expenses	185,144	-	185,144
	<u>867,897</u>	<u>-</u>	<u>867,897</u>
Total expenses	<u>6,257,481</u>	<u>-</u>	<u>6,257,481</u>
<b>Increase (decrease) in net assets before other items</b>	76,358	(756,498)	(680,140)
Unrealized gains	57,290	11,197,653	11,254,943
Net assets released from restrictions - appropriation for temporary reserve	3,000,000	(3,000,000)	-
<b>Increase in net assets</b>	3,133,648	7,441,155	10,574,803
Net assets:			
Beginning of year	<u>5,406,760</u>	<u>135,057,388</u>	<u>140,464,148</u>
End of year	<u>\$ 8,540,408</u>	<u>\$ 142,498,543</u>	<u>\$ 151,038,951</u>

See notes to financial statements.



## Great Lakes Protection Fund

### Statements of Activities Year Ended December 31, 2019

	Without Donor Restrictions	With Donor Restrictions	Total
Income:			
Realized investment income and gains, net	\$ 69,326	\$ 5,252,573	\$ 5,321,899
Miscellaneous revenue	-	947	947
Net assets released from restrictions	6,321,960	(6,321,960)	-
	<u>6,391,286</u>	<u>(1,068,440)</u>	<u>5,322,846</u>
Expenses:			
Mission			
Regional grant payments	3,376,104	-	3,376,104
State shares	1,188,500	-	1,188,500
Salaries and benefits	624,627	-	624,627
Facilities	96,493	-	96,493
Other mission expenses	201,797	-	201,797
	<u>5,487,521</u>	<u>-</u>	<u>5,487,521</u>
Management and general			
Salaries and benefits	515,372	-	515,372
Facilities	101,308	-	101,308
Other management and general expenses	217,759	-	217,759
	<u>834,439</u>	<u>-</u>	<u>834,439</u>
Total expenses	<u>6,321,960</u>	<u>-</u>	<u>6,321,960</u>
<b>Increase (decrease) in net assets before other items</b>	69,326	(1,068,440)	(999,114)
Unrealized gains	100,824	17,870,104	17,970,928
<b>Increase in net assets</b>	170,150	16,801,664	16,971,814
Net assets:			
Beginning of year	5,236,610	118,255,724	123,492,334
End of year	<u>\$ 5,406,760</u>	<u>\$ 135,057,388</u>	<u>\$ 140,464,148</u>

See notes to financial statements.



## Great Lakes Protection Fund

### Statements of Cash Flows Years Ended December 31, 2020 and 2019

	2020	2019
Cash flows from operating activities:		
Cash provided by dividends, interest, and miscellaneous	\$ 3,672,957	\$ 3,937,194
Cash payments for:		
Grants	(3,215,798)	(3,385,097)
State shares	(1,188,498)	(1,135,900)
Salaries and benefits	(1,355,239)	(1,200,873)
Facilities	(216,549)	(231,075)
Investment management and advisory fees	(134,983)	(137,550)
Other operating expenses	(255,608)	(458,805)
<b>Net cash used in operating activities</b>	<b>(2,693,718)</b>	<b>(2,612,106)</b>
Cash flows from investing activities:		
Purchases of investments	(4,503,955)	(10,143,377)
Proceeds from sales of investments	11,673,244	10,110,000
Purchases of furniture, equipment and leasehold improvements	(6,329)	(3,728)
<b>Net cash provided by (used in) investing activities</b>	<b>7,162,960</b>	<b>(37,105)</b>
<b>Increase (decrease) in cash and cash equivalents</b>	<b>4,469,242</b>	<b>(2,649,211)</b>
Cash and cash equivalents:		
Beginning of year	3,999,291	6,648,502
End of year	<b>\$ 8,468,533</b>	<b>\$ 3,999,291</b>

See notes to financial statements.



## Great Lakes Protection Fund

### Notes to Financial Statements

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#### Note 1. Nature of Activities and Significant Accounting Policies

Great Lakes Protection Fund (the Fund) is a nonprofit organization designed to have as its members the governors of the eight states bordering on the Great Lakes. Seven of the states have joined the Fund and have made contributions, as specified in the Fund's articles of incorporation, to establish their membership in the Fund. Income earned on the contributions is used to provide grants which finance projects advancing the health of the ecosystem of the Great Lakes Basin.

**Basis of accounting:** Under accounting principles generally accepted in the United States of America, not-for-profit organizations report net assets in two classes: net assets with donor restrictions or net assets without donor restrictions based on the existence or absence of donor-imposed restrictions.

**Cash and cash equivalents:** For purposes of the financial statements, the Fund considers money market funds to be cash equivalents.

The Fund maintains cash accounts at financial institutions, which at times may exceed \$250,000. A significant portion of cash equivalents is invested in interest-bearing money market accounts. Such amounts are insured by the Federal Deposit Insurance Corporation up to \$250,000 per taxpayer ID number. The Fund has not experienced any losses in such accounts. Management believes that the Fund is not exposed to any significant credit risk on cash and cash equivalents.

**Investments:** Investments are reflected at fair value based on quoted market prices. Realized gains on the sale of mutual funds are computed using the specific-identification method. Realized gains on the sale of other investments are computed using the first-in, first-out method. Purchases and sales of investments are recorded on a trade-date basis. Interest is recorded on the accrual basis. Dividend income is recorded on ex-dividend date. Endowment fund investment income or loss (including gains and losses on investments, interest and dividends) is recorded as increases or decreases in net assets with donor restrictions until appropriated for expenditure by the Fund. Other investment income or loss is included in the statement of activities as increases or decreases in net assets without donor restrictions unless the income or loss is restricted by donor or law. Changes in fair value are recorded as unrealized gains/losses in the statements of activities.

The Fund invests in various investments. Such investments are exposed to various risks such as interest rate, market and credit risk. Due to the level of risk associated with certain investments, it is at least reasonably possible that changes in the values of investments will occur in the near term and that such changes could materially affect the amounts reported in the statements of financial position.

**Furniture, equipment and leasehold improvements:** Furniture, equipment and leasehold improvements are stated at cost. Depreciation is recorded on a straight-line basis over the estimated useful lives of the assets ranging from three to seven years. Leasehold improvements are amortized over the lesser of useful life or lease term.

**Grant commitments:** Payment of grants beyond the initial installments is contingent on the satisfaction by the recipients of agreed-upon requirements. Unpaid amounts are accrued only if the conditions have been met. Most grants cover a three-to-five year period.

**State shares:** In accordance with the articles of incorporation, the Fund is required to disburse to the member states one-third of its realized income after deducting operating expenses, excluding grants. Amounts paid to the states are to be used for the furtherance of the Fund's activities and are allocated on the basis of the state's respective contribution.





## Great Lakes Protection Fund

### Notes to Financial Statements

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#### Note 1. Nature of Activities and Significant Accounting Policies (Continued)

**Functional expenses:** The costs of providing the Fund's mission and other activities have been summarized on a functional basis in the statements of activities. Accordingly, certain costs have been allocated among mission and management and general expenses.

The financial statements report certain categories of expenses that are attributed to more than one function. Therefore, expenses require allocation on a reasonable basis that is consistently applied. The expenses that are allocated include salaries and benefits, which are allocated on the basis of estimates of time and effort, as well as facilities, which are allocated on a square footage basis.

**Use of estimates:** The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions affecting the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements, as well as the reported amounts of revenue and expenses during the reporting period. Actual results could differ from the estimates.

**Income taxes:** The Fund is exempt from income taxes under Section 115(1) of the Internal Revenue Code and applicable state law.

The Fund follows the accounting guidance related to accounting for uncertainty in income taxes, which addresses the determination of whether tax benefits claimed or expected to be claimed on a tax return should be recorded in the financial statements. Under this guidance, the Fund may recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by taxing authorities, based on the technical merits of the position. Examples of tax positions include the tax-exempt status of the Fund and various positions related to the potential sources of unrelated business taxable income. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. At December 31, 2020 and 2019, there were no unrecognized tax benefits identified or recorded as liabilities.

**Adopted accounting pronouncements:** In 2020, the Fund adopted the resource provider portion of Accounting Standards Update (ASU) 2018-08, *Not-for-Profit Entities (Topic 958): Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made*. This ASU clarifies the guidance for evaluating whether a transaction is reciprocal (i.e., an exchange transaction) or nonreciprocal (i.e., a contribution) and for distinguishing between conditional and unconditional contributions made. The adoption of this guidance did not have a significant impact on the financial statements.

In June 2020, the Financial Accounting Standards Board (FASB) issued ASU 2020-05, *Revenue from Contracts with Customers (Topic 606) and Leases (Topic 842): Effective Dates for Certain Entities*. This ASU allows for a one-year effective date deferral of Topic 606 and Topic 842. The Fund has elected the one-year effective date deferral of Topic 842.

**Recent accounting pronouncements:** In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*. The guidance in this ASU supersedes the leasing guidance in Topic 840, *Leases*. Under the new guidance, lessees are required to recognize lease assets and lease liabilities on the statement of financial position for all leases with terms longer than twelve months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the statement of activities. The new standard is effective for the Fund in 2022; early adoption is permitted. The Fund is currently evaluating the impact of the adoption of this standard on its financial statements.



## Great Lakes Protection Fund

### Notes to Financial Statements

#### Note 1. Nature of Activities and Significant Accounting Policies (Continued)

**COVID-19:** The COVID-19 pandemic affected the Fund's activities and finances beginning in March 2020. Subsequently, the Fund worked with each funded team to evaluate their projects, identifying risks to their work and, where necessary, adjusting project completion and payment timelines. To date, the Fund has experience significant fluctuations in its investment portfolio due to volatile market conditions primarily caused by the pandemic. In response, the Fund's Board of Directors appropriated \$3,000,000 to create a Temporary Reserve Fund. The Temporary Reserve Fund plus the already existing Sequestration Fund represents an estimate of 18 months of expenses so that the Fund can continue to pursue its mission in the event of a long-term economic downturn.

**Subsequent events:** The Fund has evaluated subsequent events for potential recognition and/or disclosure through March 22, 2021, the date the financial statements were available to be issued.

#### Note 2. Liquidity and Availability

The Fund regularly monitors liquidity to meet its grant payments, operating needs and the annual state share payments (general expenditures). The Fund relies on investment income and available financial assets to meet general expenditures over the next 12 months.

The tables below present information related to financial assets available for general expenditures within one year at December 31, 2020 and 2019:

	2020	2019
Financial assets at year-end:		
Cash and cash equivalents	\$ 8,468,533	\$ 3,999,291
Investments	143,908,681	137,704,350
Accrued interest	52,364	57,675
	<u>\$ 152,429,578</u>	<u>\$ 141,761,316</u>
Financial assets not available for general expenditures within one year:		
Donor restricted endowment	\$ 81,000,000	\$ 81,000,000
Donor restricted earnings on endowment, less future year estimated appropriations of \$6,721,000 and \$6,854,000, respectively	54,777,543	47,203,388
	<u>\$ 135,777,543</u>	<u>\$ 128,203,388</u>
Financial assets available for general expenditures within one year:	<u>\$ 16,652,035</u>	<u>\$ 13,557,928</u>

Cash and cash equivalents are available on demand. All investments at year-end can be converted to cash within three days of a sale.



## Great Lakes Protection Fund

### Notes to Financial Statements

#### Note 3. Investments

Investments consist of the following:

	2020	
	Cost	Fair Value
Exchange-traded funds:		
Global equity:		
Global equity index	\$ 6,078,632	\$ 9,330,552
Mutual funds:		
Domestic equity:		
Large cap index	16,859,015	50,854,587
Mid cap index	4,851,399	8,279,098
Small cap index	4,853,386	8,163,706
International equity:		
Emerging markets	7,800,000	8,979,824
Small cap	3,430,153	4,313,210
Developed markets index	4,400,000	5,057,244
Foreign large value	6,000,000	6,223,048
Fixed income:		
Core plus	11,805,049	12,515,446
Core	6,600,000	6,985,791
Strategic income	8,936,055	9,121,175
Short-term treasury	4,150,000	4,315,510
Intermediate-term government	4,066,667	4,355,646
U.S. government securities	5,303,026	5,413,844
	<u>\$ 95,133,382</u>	<u>\$ 143,908,681</u>
	2019	
	Cost	Fair Value
Exchange-traded funds:		
Global equity:		
Global equity index	\$ 6,078,632	\$ 8,150,863
Mutual funds:		
Domestic equity:		
Large cap index	17,960,271	47,436,091
Mid cap index	4,851,399	7,124,351
Small cap index	4,853,386	6,950,798
International equity:		
Emerging markets	7,800,000	8,054,832
Small cap	3,430,153	3,790,962
International value	3,389,173	3,639,193
Developed markets index	2,000,000	2,380,055
Foreign large value	6,000,000	6,158,922
Fixed income:		
Core plus	13,900,000	14,020,701
Core	6,600,000	6,653,417
Strategic income	8,936,055	8,769,346
Short-term treasury	4,150,000	4,199,844
Intermediate-term government	5,000,000	5,086,524
U.S. government securities	5,234,925	5,288,451
	<u>\$ 100,183,994</u>	<u>\$ 137,704,350</u>



## Great Lakes Protection Fund

### Notes to Financial Statements

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#### Note 4. Fair Value Disclosures

The accounting guidance on fair value provides a framework for measuring fair value and defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants on the measurement date. That framework provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements).

Financial assets and liabilities carried at fair value will be classified and disclosed in one of the following three categories:

Level 1. Valuations for assets and liabilities traded in active exchange markets, such as the New York Stock Exchange. Level 1 assets primarily include listed equities, money market funds, government securities, mutual funds and exchange-traded funds. Valuations are obtained from readily available pricing sources for market transactions involving identical assets or liabilities.

Level 2. Valuations for assets and liabilities traded in less active dealer or broker markets. Valuations are obtained from third-party pricing services for identical or similar assets or liabilities. Level 2 assets primarily include equities traded in over-the-counter markets.

Level 3. Valuations for assets and liabilities that are derived from other valuation methodologies, including option pricing models, discounted cash flow models and similar techniques, and not based on market exchange, dealer, or broker-traded transactions. Level 3 valuations incorporate certain assumptions and projections in determining the fair value assigned to such assets or liabilities.

In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, an investment's level within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement. The Fund's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment, and considers factors specific to the investment.

For the years ended December 31, 2020 and 2019, the application or valuation techniques applied to similar assets and liabilities have been consistent. The following is a description of the valuation methodology used for assets measured at fair value:

Investments in securities traded on a national securities exchange, or reported on the NASDAQ national market, are stated at the last reported sales price on the day of valuation. These financial instruments are classified as Level 1 in the fair value hierarchy.

The Fund assesses levels of the investments at each measurement date, and transfers between levels are recognized on the actual date of an event or change in circumstances that caused the transfer. For the years ended December 31, 2020 and 2019, there were no such instances.

All of the Fund's investments are classified as Level 1 as of December 31, 2020 and 2019.



## Great Lakes Protection Fund

### Notes to Financial Statements

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#### Note 5. Grants Activity

Grants activity for 2020 and 2019 is as follows:

	Grants Approved	Grants Paid	Grants Payable
2020	\$ 3,134,000	\$ 3,206,805	\$ -
2019	\$ 3,441,200	\$ 3,376,104	\$ -

As of December 31, 2020, total grants approved since the Fund's inception amounted to approximately \$90.9 million, of which approximately \$6.4 million related to grants for which the conditions have not been met and, therefore, the grant expenses have not been recognized. Upon satisfaction of the conditions by the recipients, the Fund will recognize the grant expenses and disburse the remaining payments. The terms of most grants cover a three-to-five year period.

#### Note 6. Net Assets

##### *Net assets without donor restrictions:*

Net assets that are not subject to donor-imposed restrictions and may be expended for any purpose in performing the primary objectives of the Fund. Certain net assets without donor restrictions have been designated by the Board of Directors as a Sequestration Fund and a Temporary Reserve Fund. Combined, the Sequestration Fund and the Temporary Reserve Fund represent an estimate of amounts sufficient to provide for 18 months of expenses so the Fund can continue to pursue its mission in the event of long-term economic downturn. The balance of \$8,540,408 and \$5,406,760 in net assets without donor restrictions for 2020 and 2019, respectively, represents the combined unspent portion of the Sequestration Fund and Temporary Reserve Fund of \$8,000,000 and \$5,000,000, plus any interest earned.

##### *Net assets with donor restrictions:*

Net assets subject to stipulations imposed by donors and grantors. Some donor restrictions are temporary in nature; those restrictions will be met by actions of the Fund or by the passage of time. Other donor restrictions are perpetual in nature, where the donor has stipulated the funds be maintained in perpetuity.



## Great Lakes Protection Fund

### Notes to Financial Statements

#### Note 6. Net Assets (Continued)

Net assets with donor restrictions were as follows for the years ended December 31, 2020 and 2019:

	2020	2019
Original donor-restricted endowment contribution amount and amounts required to be retained by donor:		
Illinois	\$ 15,000,000	\$ 15,000,000
Michigan	25,000,000	25,000,000
Minnesota	1,500,000	1,500,000
New York	12,000,000	12,000,000
Ohio	14,000,000	14,000,000
Pennsylvania	1,500,000	1,500,000
Wisconsin	12,000,000	12,000,000
	<u>81,000,000</u>	<u>81,000,000</u>
Accumulated investment gains on endowment funds, which, once appropriated, are expendable to support the activities of the Fund	61,498,543	54,057,388
Total net assets with donor restrictions	<u>\$ 142,498,543</u>	<u>\$ 135,057,388</u>

Donor-restricted endowment contributions represent the contributions received from member states in accordance with the Fund's articles of incorporation. These amounts cannot be expended.

With the exception of Indiana, all states have made their required contributions. There is no due date for the contribution payable by Indiana, which has not yet joined the Fund.

#### Note 7. Endowment Net Assets

The Fund's endowment net assets are comprised of restricted contributions made by the member states, as well as the net effect of the realized and unrealized investment returns and losses on those investments and the operating expenses of the Fund. As the original contributions were made for the purpose of establishing a fund of assets to provide income for the Fund, the Fund's net assets are considered an endowment, as defined by accounting guidance related to financial statement presentation for not-for-profit organizations.

*Interpretation of Relevant Law* – The Fund has interpreted the Illinois Uniform Prudent Management of Institutional Funds Act (UPMIFA) as requiring the preservation of the fair value of the original contribution as of the contribution date of the donor-restricted endowment funds absent explicit donor stipulations to the contrary. As a result of this interpretation, the Fund classifies as net assets with donor restrictions (a) the original value of contributions donated to the permanent endowment, (b) the original value of subsequent contributions to the permanent endowment, and (c) accumulations to the permanent endowment made in accordance with the direction of the applicable donor contribution instrument at the time the accumulation is added to the Fund. In accordance with UPMIFA, the Fund considers the following factors in making a determination to appropriate or accumulate earnings on donor-restricted endowment funds:



## Great Lakes Protection Fund

### Notes to Financial Statements

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#### Note 7. Endowment Net Assets (Continued)

- 1) The duration and preservation of the Fund;
- 2) The purpose of the Fund and the donor-restricted endowment fund;
- 3) General economic conditions;
- 4) The possible effect of inflation and deflation;
- 5) The expected total return from income and the appreciation of investments;
- 6) Other resources of the Fund; and
- 7) The investment policies of the Fund.

The changes in endowment net assets for the Fund were as follows for 2020 and 2019:

	2020	2019
	With Donor Restrictions	With Donor Restrictions
Endowment net assets, beginning of year	\$ 135,057,388	\$ 118,255,724
Realized income and gains, net	5,500,813	5,252,573
Miscellaneous revenue	170	947
Unrealized gain on investments	11,197,653	17,870,104
Amounts appropriated for expenditure - temporary reserve	(3,000,000)	-
Amounts appropriated for expenditure	(6,257,481)	(6,321,960)
Endowment net assets, end of year	<u>\$ 142,498,543</u>	<u>\$ 135,057,388</u>

*Return Objectives and Risk Parameters* – The Fund has adopted endowment investment and spending policies that attempt to provide a predictable stream of funding to its programs while ensuring that the original value of the endowment contributions is preserved. Assets are invested in a manner intended to achieve an annualized nominal return of 5 to 7%. Actual returns in any given year may vary from this amount.

*Strategies Employed for Achieving Objectives* – To satisfy its long-term rate-of-return objectives, the Fund relies on a total return strategy in which returns are achieved through both capital appreciation (realized and unrealized) and current yield (interest and dividends). The Fund targets a diversified asset allocation that places a greater emphasis on equity-based investments to achieve its long-term return objectives within prudent risk constraints.

*Spending Policy and How the Investment Objectives Relate to Spending Policy* – The Fund has a policy of appropriating an estimate of expenditures each year as part of a formal, annual budget. Adjustments to appropriations are also approved during the year as unexpected changes arise. As discussed in Note 1, due to the uncertain economic and market conditions in the current year, the Board appropriated an additional \$3,000,000 for expenditure, which has been designated by the Board as a Temporary Reserve Fund.



## Great Lakes Protection Fund

### Notes to Financial Statements

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#### Note 8. Commitments

The Fund is obligated under an office lease expiring in December 2025 with an option to extend the lease for an additional five-year period.

Rent expense totaled \$205,486 and \$198,658 for 2020 and 2019, respectively.

Minimum payments required under the lease are as follows:

2021	\$	185,672
2022		188,252
2023		190,831
2024		193,411
2025		179,658
	\$	<u>937,824</u>

#### Note 9. Retirement Plan

The Fund maintains a retirement plan under the provisions of Section 401(a) of the Internal Revenue Code applicable to governmental retirement plans. The Fund makes contributions under two provisions in the plan:

- 1) Contributions equal to 10% of each employee's compensation. All employees must participate upon commencement of employment.
- 2) Discretionary matching contributions in the amount of 100% of the employee's deferral contributions to the Fund's 457(b) deferred compensation plan (Note 10). The Fund's discretionary matching contributions are limited to 6% of the employee's compensation for the year. All employees contributing to the Fund's 457(b) deferred compensation plan are eligible to participate.

All Fund contributions on behalf of employees are 100% vested when made. The Fund contributed \$160,181 and \$139,342 to the retirement plan for 2020 and 2019, respectively.

#### Note 10. Deferred Compensation Plan

The Fund maintains a deferred compensation plan under the provisions of Section 457(b) of the Internal Revenue Code. All employees are eligible to voluntarily participate upon commencement of employment. Participants can elect to participate in the deferred compensation to the extent permitted by applicable contribution limits under Section 457(b) of the Internal Revenue Code.

The Fund makes discretionary matching contributions to the retirement plan (Note 9) in the amount of 100% of the employee's deferral contributions to the Fund's 457(b) deferred compensation plan. The Fund's discretionary matching contributions are limited to 6% of the employee's compensation for the year. Only employee contributions were made to the deferred compensation plan for 2020 and 2019.





# Appendix 2

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## Projects Completed in 2020



### **PARM Ag Retailer Survey (\$50,000)**

The IPM Institute of North America

Contact: Caitlin Leahy

With Fund support, this team completed the ninth annual Partnership for Ag Management (PARM) agricultural retailer survey and reporting to track conservation products and service delivery, environmental impacts and profits made by agricultural retailers. This first-of-its-kind survey captures the adoption rates in the Great Lakes region of water-friendly products and services such as cover crops, variable rate technology, soil sampling, taking weather into account, etc. The team also developed a proposal for design support to explore collaboratively with food companies and agricultural retailers how to speed the transition to regenerative agriculture, prioritizing revenue for both farmers and retailers.

### **Great Lakes One Water Partnership Assessment (\$41,000)**

Public Sector Consultants Inc

Contact: Melissa Jimison

Awarded and completed in 2020, this project assessed the current state of the Great Lakes One Water (GLOW) partnership (a partnership of 27 shoreline community foundations formed into six regional teams to address water quality issues, beach health, flooding, and other water-related needs), evaluate the initiative against its goals and objectives, determine and prioritize interests and needs of the regional teams, and make recommendations on next steps.

### **Optical Technology to Efficiently Detect Sewage Contamination for Rapid Remediation (\$1,424,000)**

U.S. Geological Survey

Contact: Steven Corsi

The goal of this team was to build a first-of-its-kind hand-held, real-time, optical sensor that would have the capacity to locate human sewage contamination in streams and storm sewers and significantly speed up the repair process on pipes and wastewater conveyance systems. Contamination of urban waterways by leaking wastewater systems, and the tracking of this contamination back to the source, is widely recognized as a challenging problem. No tools exist today that can rapidly and accurately identify sewage contamination in surface waters.

The team initiated an extensive field sampling and laboratory analysis program in three watersheds in three states within the Great Lakes basin: the Kinnickinic River in Milwaukee (WI); the Clinton River in Macomb County (MI); and Red Creek in Monroe County (NY). The team found that the optical technology works well in larger watersheds but as one moves up into increasingly smaller drainages, and into neighborhoods, there is too much variability and background “noise” for the technology to work consistently. The team is currently using the techniques they developed and tested in larger watersheds in the Milwaukee area and in the Grand River near Grand Rapids, Michigan.



### **Engaging Private Capital for Great Lakes Green Infrastructure Financing (\$690,000)**

American Rivers

Contact: Jeff Odefey

Building off a project design award, this team, led by American Rivers, developed sustainable approaches for implementing green stormwater infrastructure (GSI) that leveraged private sector funding and resources in the Great Lakes region. The project team worked with two municipal partners – the City of Grand Rapids' Environmental Services Department (ESD), and the Northeast Ohio Regional Sewer District (NEORSDD).

In Grand Rapids, the team built the region's first stormwater credit trading program that provides a market-based exchange for GSI and increases the deployment of privately funded, equitably distributed GSI in Grand Rapids. This program is the first-of-its-kind in the Great Lakes region and allows private property owners to meet stormwater requirements more cost-effectively and achieve benefits beyond just volume retention. In greater Cleveland, the team critically examined and optimized the NEORSDD's existing GSI grants program to (1) improve its connection to additional sources of revenue, (2) achieve better stormwater outcomes through a more targeted selection process, and (3) better engage neighborhood community leaders to improve local impact.

The project team branded itself Stormwater Currency. Stormwater Currency has become a recognized expert in stormwater financing. The team created a how-to guidance document titled, "Establishing a Stormwater Volume Credit Trading Program: A Practical Guide for Stormwater Practitioners", that is being marketed to stormwater professionals across the country.

### **Addressing Nutrient Runoff from Leased Farmland in the Great Lakes (\$1,087,000)**

American Farmland Trust

Contact: Robbin Marks

This team developed a new and innovative model to reduce nutrient and soil runoff on leased farmland in the Great Lakes region. By engaging women landowners, their operators, and farm retailers, the team expanded the use of conservation practices to improve soil health and reduce runoff in the Great Lakes basin. Pilots for the model took place in the Portage and Toussaint River basins in northwestern Ohio and the Genesee River basin in western New York. By employing innovative communication strategies, including women-only learning circles, this team increased the understanding of conservation practices among non-operating landowners, particularly women. It developed a diverse toolbox for non-operating landowners, farmers who rent land, and the agricultural professionals who serve them, that is expanding the use of conservation practices across the Great Lakes.

### **Great Lakes Community Foundations Water Initiative - Phase 2 (\$1,030,000)**

Council of Michigan Foundations

Contact: Robert Collier



Developed through a project design award, this team expanded the ability of the region's shoreline communities to address water quality and human health challenges resulting from aging water and wastewater systems. The team included 27 shoreline community foundations, community water managers, regional leaders, and technical experts – who identified infrastructure challenges, accelerated innovation, explored new financing strategies, and built community will, to support necessary improvements to grey and green infrastructure.

The 27 community foundations worked together in six regional clusters (Lake Erie, Lake Huron, Upper Lake Michigan, Lower Lake Michigan, Lake Ontario, and Upper Great Lakes) to build new programs around water that address the water infrastructure issues in their respective communities. Each regional cluster prepared, and began to implement, an action plan that identified infrastructure challenges—water quality, financing barriers, use of green infrastructure, rate structures, water literacy, etc.—that exists in each community, and created a list of deliverables and timeline for action.

This work expands on a successful initiative that the Fund and the members of the project team launched in the late 1990s – the Great Lakes Community Foundation Environmental Collaborative – which built new donor networks in 26 shoreline foundations and set the standard for launching environmental programs in the community foundation field.

#### **Investing in Outcomes: Retrofit of Existing Private Stormwater Assets for Public Benefit (\$120,000)**

Opti RTC, Inc.

Contact: Matthew Rea

This project design award focused on the optimization of stormwater management assets on private property (e.g., detention basins, cisterns, green infrastructure) to better manage stormwater and improve water quality. These assets are commonplace and underutilized in the region. The team worked with Walmart, which has over 200 stormwater assets within the Great Lakes watershed. The team evaluated the existing designs of Walmart's private stormwater assets and determined how to optimize the assets by retrofitting them with a real-time, automated monitoring and control system. With such a system, water can be held back to reduce the amount of sediment, nutrients and other pollutants that enter downstream waters. The team's evaluation showed the water quality benefit that is achievable at a site after a retrofit.

#### **Building the Great Lakes Impact Investment Platform (\$75,000)**

Council of Great Lakes Governors, Inc.

Contact: David Naftzger

This design project developed a buildout plan for creating a dashboard that will be used for tracking and reporting impact of the Great Lakes Impact Investment Platform. The platform offers investment products that contribute to the vitality of the Great Lakes and generate competitive financial returns for investors. These include equities, environmental impact bonds, and "blue bonds"- a relatively new asset class that helps to solve water-related challenges. The platform also tracks the performance of these investments against key environmental outcomes for the Great Lakes.



The project team analyzed currently available data and methodologies, identified gaps, and selected the parameters to be included in the dashboard. The team also hosted two workshops with Great Lakes data and impact investing experts, planned a reporting system for the dashboard that tracks impact and submitted an implementation proposal to the Fund; the Fund's Board of Directors subsequently awarded \$371,000 to the project team to develop the dashboard for their project titled, "Great Lakes Impact Investment Platform Implementation." This work will ultimately provide investors a mechanism to invest in the health of the Great Lakes, track that impact, and generate an attractive financial return.

### **Great Lakes Water Tech Innovation Leadership Awards (\$140,000)**

The Fund named six organizations from the United States and Canada as recipients of the 2019 Great Lakes Leadership Award for Water Technology Innovation. The award highlighted efforts to advance water technology innovation—addressing current threats and anticipating future challenges to the ecological health of water in this region and beyond.

The winners were AquaHacking, the Cleveland Water Alliance, Current, The Everglades Foundation, Imagine H2O, and The Water Council. They all have built rich networks of entrepreneurs, financiers, public entities, and private industries to spur innovation for the benefit of the basin's people and environment.

### **Monitor & Compare Orthophosphate Removal Technologies (\$82,000)**

The Everglades Foundation  
Contact: Tom Van Lent

This project design award was focused on incorporating automated monitoring technology for dissolved reactive phosphorus into the final phase of the George Barley Water Prize competition. The George Barley Water Prize was created to spur innovation in removing phosphorus from water. Teams from industry and academia were competing for a grand prize of \$10 million.

This design support enabled the Everglades Foundation team to look beyond total phosphorus in assessing the performance of the competing technologies. Total phosphorus is relatively well-controlled in the Great Lakes region; but technologies that can remove orthophosphate, or dissolved reactive phosphorous, (the form of phosphorus directly taken up by plant cells) are needed in the region. In this project, the team modified and calibrated the testing site to accommodate automated orthophosphate monitoring systems, but, due to a lack of interest from the four finalists in competing for the grand prize, the Everglades Foundation officially closed the George Barley Water Prize in 2020.

### **Vacant to Vibrant: Vacant Land as Green Infrastructure (\$902,000)**

Cleveland Botanical Garden  
Contact: Sandra Albro

This project set out to repurpose small, urban, and vacant land parcels as stormwater parks within three post-industrial cities – Buffalo, NY, Cleveland, OH, and Gary, IN – to benefit urban communities and the



Great Lakes. The project team distinguished itself by being the first to look at using vacant parcels of land to not only manage stormwater, but to also serve as sites for neighborhood stabilization in underserved communities. By working with community partners, the team developed a unique top-down site selection process that emphasized watershed health and neighborhood stabilization, while also establishing a simple green infrastructure portfolio that could be replicable in other Great Lakes cities.

The Vacant to Vibrant team demonstrated a specific type of investment that strategically targets environmental, social, and economic benefits for neighborhoods in decline, and neighborhoods experiencing reinvestment. By demonstrating that disparate, yet important, land uses – recreation and stormwater management – could coexist within small spaces, the project team laid the groundwork for feasibly retrofitting neighborhoods with green space that serve the dual purpose of increasing access to parks and addressing environmental problems such as flooding and combined sewer overflows. This project emerged from a successful convening and planning phase, which connected experts from fourteen Great Lakes cities to assess the regional interest of reusing vacant urban lands as green infrastructure. The project resulted in the publication of a book, [Vacant to Vibrant: Creating Successful Green Infrastructure Networks](#) by Sandra Albro.

#### **Automated Ballast Treatment Verification Project (\$823,000)**

Wayne State University  
Contact: Jeffrey Ram

To reduce the likelihood of new invasive species entering the Great Lakes, this team planned to create an automated, shipboard, rapid testing system that would be able to report, in real-time, the presence of any live organisms in ballast water following treatment. This was a highly ambitious project because the system this team wanted to create would be the first system of its kind to include automation, sensitivity to very small organisms, and the ability to detect both plants and animals (phytoplankton and zooplankton). As of the close of this project, there were no ballast compliance testing systems in the marketplace that could do everything this team was trying to do.

The team quickly solved the automation obstacle but struggled with developing a prototype with enough sensitivity to be continued as a viable product. The team ultimately pivoted away from technology development and towards sharing the lessons learned. The team planned and hosted two successful, first-of-their-kind, hands-on training workshops for Great Lakes ballast testing and regulatory personnel, invasive species experts and shipping industry staff on the very different technologies currently available in the marketplace for assessing the efficacy of ballast water treatment systems. From these workshops, the team created a guidebook for the region, that has been shared widely, as well as a new website.



# Appendix 3

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## Portfolio of Projects as of December, 2020



*Team composition described includes both paid and unpaid collaborators.*

### **Buy & Supply Side Support to Accelerate Adoption of Regenerative Agriculture in Great Lakes Basin Large-Acreage Commodity Crops (\$135,000)**

This design project will bring together a team of agriculture, conservation, and finance experts to determine the best ways to expand the adoption of regenerative farming systems across the Great Lakes basin. The team will work with farm advisors and the food industry, to lay the groundwork for new business models, products and services to engage farmers and support regenerative farming systems. The project will complement the Fund-supported Partnership for Ag Resource Management (PARM), a successful program that works with farm advisors and agricultural retailers to reduce fertilizers and pesticides from entering the Great Lakes.

#### **Team Composition:**

The IPM Institute of North America, Inc. (Fiscal Agent)

### **Great Lakes Communication Leadership Awards (\$115,000)**

The Fund named three individuals and three organizations as recipients of the 2020 Great Lakes Leadership Award for Communications Excellence. This award celebrates the recipients' outstanding storytelling efforts—better connecting their audiences to the ecosystem, its challenges, and efforts to solve those challenges.

The winners—Peter Annin, Dan Egan, Tom Henry, Great Lakes Now, Institute for Nonprofit News, and U.S. Water Alliance—are all organizations that have covered a range of threats to the Great Lakes – including invasive species, toxic algae blooms, climate change, racial inequities, stormwater runoff, outdated water infrastructure – and delivered solution-oriented stories of positive ecological impact. The Fund created the Leadership Awards to celebrate efforts that accelerate new actions for protecting and improving the Great Lakes for the benefit of the basin's people and environment.

### **Great Lakes Impact Investment Platform Implementation (\$371,000)**

This team will develop the Great Lakes Impact Investment Platform. The platform will showcase investments (tax-exempt bonds, environmental impact bonds, and other lending instruments) that deliver positive Great Lakes environmental outcomes and contribute to the vitality of the region. The platform will also track the performance of these investments against key environmental outcomes for the Great Lakes. The platform is designed to promote the linkages between financial instruments and the work that those instruments support to advance green infrastructure, forest health, and sustainable farming practices. The team hopes that by increasing attention to such investments, investors will be more motivated to make them. This project was developed through a design award where the team met with Great Lakes data and impact investing experts, developed a reporting system for the platform that tracks impact, and designed the platform.



**Team Composition:**

Council of Great Lakes Governors, Inc. (Fiscal Agent)  
The Nature Conservancy  
University of Michigan School for Environment and Sustainability  
Environmental Consulting and Technology Inc.

**Expand Knowledge for Small Grains as a Great Lakes Basin Nutrient Reduction Strategy (\$50,000)**

This is a research and design effort to establish the efficacy and marketability of small grains (like wheat, barley, oats and rye) in the Great Lakes basin. The team is investigating two key questions related to the environmental benefits and supply chain development of small grains - one, what are the water quality benefits of small grains in a row crop or livestock system; and two, how do small gains move from the farm, through processors, to the end user, and what might future regenerative supply chains for food and beverages look like.

**Team Composition:**

Artisan Grain Collaborative (Fiscal Agent)  
Michael Fields Agricultural Institute  
Dovetail Partners, Inc.

**Transition Financing for Regenerative Agriculture Systems (\$1,187,000)**

This project will expand and accelerate the adoption of regenerative agriculture practices across the Great Lakes basin by designing and developing transition loan products and supporting services that will facilitate farmers' transitions from conventional agriculture to regenerative agriculture. Regenerative agriculture systems that minimize soil disturbance, maximize crop diversity, keep the soil covered, maintain root structure, and integrate livestock have been shown to reduce sediment and nutrient runoff from farms. However, a variety of obstacles exist to adopting these practices that require farmers to face new financial uncertainty, obtain new knowledge, invest more time, and procure new equipment.

The project team, led by Cornell University, will engage agricultural lenders, farmers, landowners, and other stakeholders across the Great Lakes basin. The transition loan products created will be standardized, reliably and simply underwritten, and competitive with other agriculture lending products. The work will initially take place in the Lake Ontario watershed in New York state, which offers a cross-section of farm types including crops, livestock, vineyards, and vegetables. This will be valuable in developing alternative financial solutions that are attractive to farmers with different types of operations across the Great Lakes basin.

**Team Composition:**

Cornell University (Fiscal Agent)  
Evidn  
Cornell Atkinson Center for Sustainability



### **Great Lakes One Water Partnership: Path to Sustainability (\$487,000)**

This project will build on the progress made by the Great Lakes One Water (GLOW) partnership, a first-of-its-kind effort to bring the region's shoreline community foundations together to develop solutions around water. The GLOW partnership encompasses 27 lakeshore community foundations working together in six regional teams (Upper Great Lakes, Lake Erie, Lake Huron, Lake Ontario, Lower Lake Michigan, and Upper Lake Michigan) to address the water infrastructure issues in their respective communities. The project team will transition the GLOW partnership into building transformational leadership on water issues and expanding the ability of the region's shoreline communities to address the water quality and human health challenges posed by aging water, stormwater, and wastewater systems.

This project's focus will be on building the local capacity within the GLOW partnership to ensure its success and long-term sustainability and will include up to \$210,000 for grants that directly support the water-focused action agendas built by the six regional teams. This project will develop tools to help the GLOW partnership communicate with the public, local decision-makers, and elected officials, and expand the ability of its members to raise funds locally and regionally to support their activities. By strengthening regional networks of different stakeholders, the GLOW partnership will become a model for other regions ready to collaborate and take action to design and deploy innovative solutions to water issues.

#### **Team Composition:**

Public Sector Consultants, Inc. (Fiscal Agent)  
OAI, Inc.  
Networks Northwest  
Huron Pines  
Small Change Fund  
Michigan State University Extension  
Cleveland Water Alliance

### **Water-Friendly Financing in Agriculture Supply Chains (\$100,000)**

This design award is an early-stage investment to create a new system of incentives for farmers to produce crops using water-friendly practices. The project team will develop a privately financed approach to create demand among businesses for water-friendly grains produced in the Great Lakes basin. They will engage financial and agricultural stakeholders to explore how the offering of performance-based, low-interest loans to supply chain businesses can influence farming practices. The project team estimates that this strategy will have substantial benefits to the Great Lakes and over time could reduce nutrient runoff by ten to fifteen percent. A primary outcome from the design phase will be the development of an implementation proposal to the Fund to build on the findings of this design work.

#### **Team Composition:**

University of Michigan (Fiscal Agent)  
Croatan Institute



### **Advancing Early Detection of Ballast-mediated invaders in the Great Lakes (\$648,000)**

Developed from a project design award, this project will make early detection of aquatic invasive species (AIS) both more economical and practical and significantly improve the prospects for prevention and containment of AIS in the Great Lakes. Existing detection methods for target invasive organisms are time-consuming and expensive. Consequently, new colonies of AIS are often only detected after they are well-established. The project team will develop “smoke detectors” for AIS – new protocols for sampling and analysis that are inexpensive, rapid, and easy to use. They will use methods that detect the genetic material of target organisms in Great Lakes harbors and determine whether its presence indicates a reproducing colony of that organism. The team will “package” the products of their work so state resource managers and others that lead AIS management activities can quickly adopt them.

#### **Team Composition:**

Pennsylvania State University – Erie (Fiscal Agent)  
Governors State University  
Pennsylvania Sea Grant  
Tom Ridge Environmental Center Foundation  
US Environmental Protection Agency  
US Naval Research Laboratory  
American Great Lakes Ports Association  
Alliance for the Great Lakes  
Pennsylvania Department of Environmental Protection  
Great Lakes Commission  
Central Michigan University  
NOAA Great Lakes Environmental Research Laboratory

### **Great Lakes Resiliency and Finance Cluster (\$1,230,000)**

Awarded in 2019, this project will establish a self-sustaining cluster of public and private sector professionals interested in market-based, efficient, and effective, delivery/finance of resilient stormwater infrastructure across the Great Lakes. The project will seek large-scale impacts and investments that directly address water quality and climate resiliency and have socio-economic benefits.

#### **Team Composition:**

Environmental Consulting and Technology, Inc. (Fiscal Agent)  
Delta Institute  
Center For Neighborhood Technology  
American Society of Adaptation Professionals  
CDP North America  
HIP Investor, Inc.  
Quantified Ventures  
Fitch Ratings



### **Nutrient Reduction through Real-time Optimization and Control (\$905,000)**

Awarded in 2019, this is a foundational proof-of-concept project to develop a real-time monitoring and control system for reducing phosphorus, nitrogen, and sediment discharged by agricultural drains. The project team will deploy an array of sensors on farmland to continuously measure critical parameters such as precipitation, water levels, and flow, water quality, and soil moisture. They will build machine learning models using sensor and weather data to predict field drainage behavior on a variety of time scales.

#### **Team Composition:**

Xylem, Inc. (Fiscal Agent)  
University of Notre Dame  
Van Buren Conservation District

### **Massively Scaleable Water Information Systems (\$905,000)**

Awarded in 2019, this project will provide a radical improvement in water data collection and watershed-scale information tools to reduce the pollutants carried by surges of stormwater. The team will deploy county-scale water information systems that will contain 40 to 50 sensors across stream networks and built infrastructure, each of which will report water level data continuously. This network will provide data at the spatial and temporal scales that stormwater, watershed, and emergency managers need to manage and respond to changing weather patterns and extreme events.

#### **Team Composition:**

Hyfi, LLC (Fiscal Agent)  
University of Michigan  
Flood Apex Program, Department of Homeland Security  
Water Environment Foundation  
rethought Insurance  
AIR Worldwide  
Springmatter  
Michigan Department of Transportation  
Kent County, Michigan  
Kalamazoo County, Michigan  
United States Army Corps of Engineers  
Kent County Sheriff's Office  
Ohio Emergency Management Agency  
Cleveland Water Alliance  
Lake Ontario Watershed Protection Alliance  
Department of Water Environment Protection Onondaga County, NY  
Division of Homeland Security and Emergency Services, NY



### **Risk Release Follow up Study Revealing How Clean is Clean: Great Lakes Invasive Species (\$54,200)**

Awarded in 2019, this project will focus on completing a previously awarded grant to Northeast Midwest Institute. The work is aimed at producing robust and practicable methods and first results on the risk-release relationship for worst-case Great Lakes aquatic invaders. While the data collection and experimental work was completed by Northeast Midwest, follow up activities related primarily to outreach and communication of results will enhance the outcome of the original project.

#### **Team Composition:**

Pennsylvania State University – Erie (Fiscal Agent)

### **Smart2Genius: Catalyzing Farmer Adoption of Strategic Best Practices (\$200,000)**

Awarded in 2018, this design grant will establish a farmer-led network of agricultural producers, service providers, and other experts who will drive adoption of strategic practices and new technologies that will improve farm profitability and reduce nutrient loads and stream flashiness without involving government programs, making them more attractive to the majority of farm operators in the basin. This network will be supported by a dedicated online platform that will integrate the most recent science and technology with a social support system.

In this design phase the team will: expand the core team to include expertise in Ohio, Wisconsin, Michigan, and Ontario; establish a community of leader farmers and match them to strategic practices; determine the impact and adoption metrics for the implementation phase; and prepare an implementation proposal to the Fund to test a suite of technologies and management actions on farm fields. An initial community of farmers, grouped in hub farms, will select strategic practices, test them, and evaluate the impact on their operations (yield, profit) and the health of nearby water resources to inform the implementation proposal.

#### **Team Composition:**

Seneca County Soil and Water Conservation District (Fiscal Agent)  
Heidelberg University  
Bowling Green State University

### **Advancing Stormwater Management at Marinas in the Great Lakes (\$839,000)**

Awarded in 2018, this team will improve nearshore water quality and habitat quality in the Great Lakes by advancing better stormwater management at Great Lakes marinas. Great Lakes marinas and the boating industry depend on clean waters and a healthy coastal environment for the success of their business. Yet, they operate on the nearshore of the Great Lakes and their tributaries, where concentrated human activity can significantly impact flora and fauna. Furthermore, the operation of marinas can cause various sources of pollution, such as sediments, pesticides, oil and road dirt, heavy metals, and nutrients to runoff into nearshore waters during storm events.

To improve stormwater management at Great Lakes marinas, the team will develop a marina-specific stormwater management decision support tool and pilot the installation of green infrastructure practices in



three private marinas in Michigan, Ohio and Wisconsin. The team will develop and implement monitoring and maintenance plans at each marina, as well as develop training curricula. They will host a technical training workshop to scale up green infrastructure practices across the nearly 1,000 marinas in the Great Lakes watershed. The team will leverage its multi-state Clean Marina program (there are currently 200 marinas certified in the region) to drive adoption of the practices identified by the tool and demonstrated in the pilots.

#### **Team Composition:**

Michigan Sea Grant (Fiscal Agent)  
Michigan Clean Marina Program  
Ohio Sea Grant  
Erie Conservation District  
Ohio Department of Natural Resources  
Wisconsin Sea Grant  
Wisconsin Coastal Management  
Ohio State University

#### **Early Detection of Ship-Mediated Invasive Species through eDNA Detection (\$178,000)**

Awarded in 2018, this design grant will reduce the spread of aquatic invasive species (AIS). Spread of AIS is often well underway, and practically impossible to contain, by the time the Great Lakes region becomes aware of it. One promising, underutilized AIS management tool is environmental DNA, or eDNA. eDNA is the identification of an organism by finding its genetic material in the environment without any obvious signs of the organism being present.

Currently the presence of eDNA may or may not signal the presence of live organisms, in real time or in the past, depending on how long that eDNA persists in the environment. For eDNA to have relevance as a management tool, an understanding of how recently a specimen may have been alive is critical.

The team will build a regional network of advisors and customers that will work together to advance the use of eDNA as a Great Lakes AIS prevention and management tool; develop a scientific method for determining eDNA extinction rates for Great Lakes relevant AIS; conduct a set of experiments determining the rates of eDNA extinction for at least one and up to three Great Lakes–relevant invertebrate AIS; and develop a Go-Forward plan and a proposal for a larger implementation project.

#### **Team Composition:**

Pennsylvania State University – Behrend (Fiscal Agent)  
Mary Balcer—Scientist  
Governors State University  
United States Environmental Protection Agency, Research Triangle Park  
United States Fish and Wildlife Service  
US EPA NERL  
United States Navy Research Laboratory  
Central Michigan University  
Lake Carriers Association



Chamber of Marine Commerce  
Port of Erie  
Port of Duluth-Superior  
PA Office of the Great Lakes and Coastal Resource Management  
The Nature Conservancy  
Pennsylvania Department of Environmental Protection  
Great Lakes Commission  
NOAA  
American Great Lakes Ports Association  
Minnesota Department of Natural Resources  
Alliance for the Great Lakes

### **Smart Management of Microplastic Pollution in the Great Lakes (\$929,000)**

Awarded in 2018, this project will empower a new set of regional leaders focused on reducing the amount of microplastics that enter the Great Lakes each year. The team will work with municipal leaders and local groups to pilot a plastic reduction campaign and mitigation initiative in Williamston and Pontiac, MI. To support this campaign, the team will design and build a first-of-its-kind, portable optical sensor that they will use as a monitoring tool to evaluate the performance of the plastic reduction campaign.

The portable technology will integrate optical sensors with machine learning and edge computing to enable a low- cost, real-time quantification of plastic particles in water. Use of this technology will offer a dramatic improvement over the current monitoring techniques which are laborious and consist of manual counting of plastic particles under a microscope. The optical sensor will test the effectiveness of two very different mitigation strategies: one strategy will seek to reduce plastic fibers coming off clothing in the wash; the second will seek to reduce large plastics entering the stormwater system by installing green infrastructure to capture trash during large rain events.

By developing a microplastics mitigation toolbox (tested mitigation strategies supported by new sensor technology) this team is developing solutions that can be adopted by communities throughout the basin to reduce microplastics. New approaches are needed now, as most of the microplastics work being done in the region has been focused on trying to determine the extent of the problem or reducing litter, not large-scale solutions.

#### **Team Composition:**

Wayne State University (Fiscal Agent)  
Ingham Conservation District  
City of Williamston  
Tri County Regional Planning Commission  
Michigan Association of Conservation Districts  
Clinton River Watershed Council  
OHM Environmental Advisors  
Nymbus Systems Cooperation  
Great Lakes Water Authority  
Sierra Club Michigan Chapter  
Great Lakes Environmental Research Laboratory, NOAA



### **Harnessing Automated Demand Response to Reduce Great Lakes Mercury Emissions (\$1,006,000)**

Awarded in 2018, this project is a first-of-its-kind effort to reduce mercury emissions from coal-powered plants by combining two unrelated programs; electric utility Demand Response and Automated Emissions Response.

Consumer demand for more choice around energy production, and specifically demand for choosing clean energy, sits at the heart of this work. Demand response programs provide financial incentives from the utility to the users to conserve energy during high demand times (e.g., a hot summer day) to reduce the strain on the electric grid. They try to reconcile too much demand with not enough supply. These programs have the infrastructure in place to connect with many electricity customers, but interest and participation are low.

Alternatively, Automated Emissions Response (AER) is an innovative technology that determines when the electric grid is supplied by cleaner sources of energy and allows customers the ability to choose clean energy for their electricity needs. For the first time, consumers can now have control over their emissions reductions with this popular program without compromise to cost, comfort or functionality.

The AER software will be an add-on feature of familiar demand response programs (which cut consumption during a handful of peak energy demand events) and will optimize your emissions reductions the rest of the year. The impacts from this project are optimistic based on research showing a 3x increase in participants when AER is offered as part of a demand response program. More program participants and increased demand for mercury emissions reductions will incentivize mercury-emitting power plants to run or install mercury emissions reduction technology which cuts emissions by at least 90%.

The team will work closely with electric utilities and demand response recruiters to demonstrate that more customers will be drawn to demand response programs with the addition of AER. The project will run two distinct pilots: one for residential electricity customers, the other for commercial electricity customers. Both pilots will involve software engineering; pilot implementation; and scaling efforts. Four utilities in the region; ComEd, Xcel Energy, DTE Energy, and Consumers Energy, have all agreed to participate in the project.

#### **Team Composition:**

WattTime (Fiscal Agent)  
Rocky Mountain Institute  
OhmConnect  
UC Berkely Center for the Built Environment

### **Healthy Port Futures (\$1,590,000)**

Awarded in 2017, this team will pilot new passive sediment management strategies at river mouths that will create critical wetland habitat, improve water quality, support local economies, and greatly reduce the cost and environmental impacts from dredging. Specifically, working with the US Army Corps of





Engineers, a number of medium-sized port authorities and the Ohio EPA, the team will pilot passive sediment management (PSM) strategies in Ashtabula, Ohio creating over forty acres of new, publicly accessible wetland habitat. A second pilot port community will be added once Ashtabula is underway. PSM directs sediment through natural processes to shorelines and shallow zones and out of deep channels. This creates healthy wetland and benthic habitat benefiting both aquatic and terrestrial wildlife, creates recreational and tourism opportunities in the ports, and greatly reduces the need for dredging.

If successful basin-wide, this project will result in the adoption of landscape-based strategies and practices for PSM in the over forty medium-sized port communities through all states in the Great Lakes Basin.

#### **Team Composition:**

University of Pennsylvania (Fiscal Agent)  
Cornell University  
University of Minnesota  
USGS Great Lakes Science Center  
Michigan Aerospace  
Anchor QEA  
Ohio Environmental Protection Agency  
U.S. Army Corps of Engineers  
University of Wisconsin – Sea Grant Institute  
Port of Toledo  
Kurtz Brothers  
Great Lakes Commission

#### **Advancing Systematic and Fundamental Changes in Agricultural Water Resources Management (\$1,135,000)**

Awarded in 2016, this project will reshape traditional agricultural operations by demonstrating approaches that merge drainage management authority objectives with conservation services that follow circular economy principles. The project aims to improve water quality, rebuild soil health and increase crop resiliency, while benefiting farm economics and creating new business opportunities throughout the region.

Agricultural landowners in legal drainage districts must pay assessments to maintain and improve the public drainage systems that serve them. These assessments are generally based purely on acreage and/or linear extent of the adjacent drainage. This project will test new methods for calculating drain assessments that reward farmers who implement land management practices that improve soil and water quality. This adaptive drain fee assessment model presents the opportunity to test market-based approaches that work in support of the model.

Three treatment approaches will be tested in this project with pilot locations in Van Buren County, Michigan, Milwaukee River watershed, Wisconsin and a to-be-finalized location in Indiana. These pilots will yield information on both water quality benefits and economic opportunities associated with phosphorus capture. The project will create and propel a community of practice that includes drainage



district authorities, conservation managers, agricultural retailers, commodity buyers, farmers, and food waste generators that will extend this work beyond the initial Great Lakes pilot locations.

**Team Composition:**

Kieser and Associates, LLC (*Fiscal Agent*)  
Agren, Inc.  
American Farmland Trust  
Cocoa Corp  
Newtrient, LLC  
University of Wisconsin – Milwaukee  
Van Buren Conservation District  
St. Joseph River Basin Commission

**Strategies to Engage Middle Adopter Farmers on Cover Crops (\$653,000)**

Awarded in 2015, this team, led by the National Wildlife Federation, will improve water quality in the Great Lakes by increasing adoption of conservation practices that improve soil health on agricultural lands throughout the basin. They will do this by identifying and testing strategies for engaging middle-to-late adopter farmers to implement conservation practices.

Current conservation outreach, policies and financial incentives strongly focus on innovators and early adopters, which comprises a small percentage (16%) of the farming population. This team will develop and test a series of outreach and communications strategies to engage the middle and late adopters (comprising 70% of farmers) that will address the fundamental cultural components of their decision making as it pertains to the implementation of conservation practices.

**Team Composition:**

National Wildlife Federation (*Fiscal Agent*)  
Seneca Conservation District  
No Till On The Plains  
Farmer Led Watershed Council  
Ohio State University  
Prairie Rivers Network  
Burleigh County Soil and Water Conservation District  
North American Climate Smart Alliance  
NEW Water, Green Bay Metropolitan Sewerage District  
Sustainable Agriculture Systems  
DuPont Pioneer  
Polk County Government Center

**Green Infrastructure – Private Capital (\$886,300)**

Awarded in 2015, the project will execute first-ever green infrastructure public-private partnership agreements (P3s) in several Great Lakes municipalities as a demonstration of a new approach to financing and optimizing the performance of distributed green infrastructure. The P3s are expected to be



large-scale (up to \$50 million) and enable aggregation of services, and optimization of performance, with the goal of making it economically feasible for governments and utilities to greatly expand green infrastructure throughout the Great Lakes region. The team will organize a project advisory committee, identify pilot communities, create and execute business plans, and—based on actual experience—create an implementation toolkit for other communities.

The project will implement an approach developed through previous Fund-supported work—a well-received business model development tool that describes how to form, market and position aggregation services to deliver high-performing green infrastructure services.

#### **Team Composition:**

Environmental Consulting & Technology, Inc. (Fiscal Agent)

Encourage Capital

Corvias Solutions

Milwaukee Metropolitan Sewerage District

City of Southfield, MI

City of Perrysburg, OH

City of Farmington Hills, MI

City of Racine, WI

Greenleaf Advisors, LLC

Skidmore Owings & Merrill

Storm and Stream Solutions, LLC

The Water Council

U.S. Environmental Protection Agency

Seattle Public Utilities

University of California, San Diego

Indiana Finance Authority

West Monroe Partners

Veolia North America

Great Lakes and St. Lawrence Cities Initiative



Great Lakes  
Protection Fund

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The Fund's mission is to identify, demonstrate, and promote regional action to enhance the health of the Great Lakes Ecosystem.

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Twitter/Facebook: @GLPFund