Great Lakes Protection Fund

2013 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 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 2013, the Fund has made a total of 253 grants and program-related investments, representing a $68.8 million commitment to protecting and restoring the ecological health of the Great Lakes ecosystem. Additionally, the Fund has paid $45.2 million directly to its seven member states to support their Great Lakes priorities. Over the course of the past 24 years, the Great Lakes ecosystem has benefited from the States' initial investment of $81 million with an overall commitment of $114 million to date.

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 2013

In the past year, the Fund generated over $5.4 million in investment income from the endowment. The Fund returned over $1.3 million to its member states to support their Great Lakes priorities. The Fund paid $2.6 million to support regional projects. Audited financial statements can be found in Appendix 1.

The Fund entered 2013 with 21 active projects focused on efforts to prevent biological pollution, restore natural flow regimes, engage market forces, and provide leadership for ecosystem restoration in the Great Lakes Basin. These projects represented an investment by the Fund of $13.2 million.

Over the course of the year, work was completed on four 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.

During 2013, the Fund developed and supported five new projects, maintaining the portfolio of active, supported work at over $14.3 million. The new projects for 2013 include an effort that will help reduce levels of phosphorus in basin streams and rivers by designing and piloting a novel pay-for-performance program that will aggregate the conservation actions of farmers in a watershed and create a mechanism to reward those farmers for the amount of phosphorus they remove from surface waters. Another team is addressing the phosphorus issue by developing a novel feed management and nutritional accounting system that will intervene directly in farm feed management practices to streamline dairy operations and reduce nutrient waste. With an estimated three million dairy cows in the Great Lakes region, this team expects to reduce annual contributions of phosphorus by 20,000 metric tonnes per year.

These projects will help to achieve the Governors' objective of controlling pollution from diffuse sources into water, land and air. The complete portfolio of supported work, including new projects awarded in 2013, can be found in Appendix 3.

Evaluation of the Corporation's Performance

The Fund accomplished its objectives in 2013. Regional projects were designed and funded to address key gubernatorial priorities—especially the sustainable use of Great Lakes water and stopping invasive species. Ongoing regional efforts were monitored, adjusted when required, and closed out when appropriate. Significant funds 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 will continue its multi-year research agenda in support of these priorities. In the near term, the Fund is likely to focus on continued development of significant, new technological tools to help protect and restore the resources of the Great Lakes. These include tools that effectively manage networks of distributed water infrastructure as well as new tools to trace contaminants, certify "clean" practices, and identify invasive species.

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 2013

Governor of Illinois

Pat Quinn

Governor of Michigan

Rick Snyder

Governor of Minnesota

Mark Dayton

Governor of New York

Andrew Cuomo

Governor of Ohio

John Kasich

Governor of Pennsylvania

Tom Corbett

Governor of Wisconsin

Scott Walker

Board of Directors in 2013

Michael Batchelor (Fairview, PA)

Patricia Birkholz (Saugatuck, MI)

Lori Boughton (Meadville, PA)

Kathleen Brown (Chicago, IL)

Vita DeMarchi (Syracuse, NY)

Matthew Driscoll (Syracuse, NY)

Frederick Dudderar (Duluth, MN)

Michael Elmendorf (Albany, NY)

Patricia Glaza (Birmingham, MI)

Peter Gove (St. Paul, MN)

Edwin Hammett (Toledo, OH)

Richard Hylant (Toledo, OH)

Kenneth Johnson (Madison, WI)

Jeffrey Logan (Mechanicsburg, PA)

Richard Meeusen (Pewaukee, WI)

Debra Shore (Chicago, IL)

Maureen Smyth (Traverse City, MI)

Great Lakes Protection Fund Staff in 2013

Shannon Donley – Project Implementation Manager

Amy Elledge – Communications Administrator

Robert Eder – Director, Finance and Administration

Mariela Lawrence – Office Administrator

Stephanie Lindloff – Project Development Manager

Janis Post – Office Manager

David Rankin – Program Director

Russell Van Herik – Executive Director

Appendix 1

2013 Audited Financial Statements

Great Lakes Protection Fund

Financial Report
December 31, 2013

Contents

McGladrey

Independent Auditor's Report

To the Board of Directors
Great Lakes Protection Fund
Chicago, Illinois

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, 2013 and 2012, and 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 of 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, 2013 and 2012, and the results of its changes in net assets and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

McGladrey LLP

Chicago, Illinois
March 14, 2014

Great Lakes Protection Fund

Statements of Financial Position
December 31, 2013 and 2012

	2013	2012
Assets		
Cash and cash equivalents	**$ 7,854,868**	$ 8,620,254
Investments	**123,345,997**	107,941,168
Accrued interest	**101,069**	106,068
Other assets	**37,941**	22,723
Furniture, equipment and leasehold improvements, net of accumulated depreciation of $265,589 and $264,658 in 2013 and 2012, respectively	**6,512**	4,452
	$ 131,346,387	$ 116,694,665
Liabilities and Net Assets		
Liabilities		
Grant commitments	**$ 247,800**	$ 172,258
Member state shares payable	**1,320,990**	1,005,865
Accrued expenses	**263,799**	231,347
Accrued pension contribution	**6,788**	5,802
Accrued postretirement health benefits	**90,785**	307,771
	1,930,162	1,723,043
Net Assets		
Unrestricted	**5,092,125**	5,064,641
Temporarily restricted	**43,324,090**	28,906,971
Permanently restricted	**81,000,010**	81,000,010
	129,416,225	114,971,622
	$ 131,346,387	$ 116,694,665

See Notes to Financial Statements.

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Great Lakes Protection Fund

Statements of Activities
Years Ended December 31, 2013 and 2012

	2013				2012			
	Unrestricted	Temporarily Restricted	Permanently Restricted	Total	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Revenue:								
Investment income	$ 33,015	$ 5,428,315	$ -	$ 5,461,330	$ 32,805	$ 4,591,221	$ -	$ 4,624,026
Miscellaneous revenue	-	5,117	-	5,117	-	-	-	-
Net assets released from restrictions	5,443,811	(5,443,811)	-	-	4,839,886	(4,839,886)	-	-
	5,476,826	(10,379)	-	5,466,447	4,872,691	(248,665)	-	4,624,026
Expenses:								
Program grants	2,629,990	-	-	2,629,990	2,217,690	-	-	2,217,690
Other program activities	812,822	-	-	812,822	701,389	-	-	701,389
Member state shares	1,320,989	-	-	1,320,989	1,005,866	-	-	1,005,866
Investment management and advisory fees	184,604	-	-	184,604	154,336	-	-	154,336
Administrative expenses	717,923	-	-	717,923	750,704	-	-	750,704
	5,666,328	-	-	5,666,328	4,829,985	-	-	4,829,985
Increase (decrease) in net assets before other items	(189,502)	(10,379)	-	(199,881)	42,706	(248,665)	-	(205,959)
Change in unrealized gains and losses relating to assets still held at end of year	-	14,427,498	-	14,427,498	-	10,421,724	-	10,421,724
Change in other postretirement benefit obligation	216,986	-	-	216,986	(9,901)	-	-	(9,901)
Increase in net assets	27,484	14,417,119	-	14,444,603	32,805	10,173,059	-	10,205,864
Net assets:								
Beginning of year	5,064,641	28,906,971	81,000,010	114,971,622	5,031,836	18,733,912	81,000,010	104,765,758
End of year	$ 5,092,125	$ 43,324,090	$ 81,000,010	$ 129,416,225	$ 5,064,641	$ 28,906,971	$ 81,000,010	$ 114,971,622

See Notes to Financial Statements.

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Great Lakes Protection Fund

Statements of Cash Flows
Years Ended December 31, 2013 and 2012

	2013	2012
Cash Flows from Operating Activities		
Increase in net assets	**$ 14,444,603**	$ 10,205,864
Depreciation and amortization	**3,127**	3,270
Realized gain on sales of investments	**(1,994,775)**	(543,896)
Change in unrealized gain on investments	**(14,427,498)**	(10,421,724)
Changes in:		
Accrued interest	**4,999**	(8,242)
Other assets	**(15,218)**	25,829
Grant commitments	**75,542**	172,258
Member state shares payable	**315,125**	555,398
Accrued expenses	**32,452**	15,786
Accrued pension contribution	**986**	984
Accrued postretirement health benefits	**(216,986)**	74,111
Net cash used in operating activities	**(1,777,643)**	79,638
Cash Flows from Investing Activities		
Purchases of investments	**(9,264,444)**	(37,029,319)
Proceeds from sales of investments	**10,281,888**	34,561,279
Purchases of furniture, equipment and leasehold improvements	**(5,187)**	(519)
Net cash provided by (used in) investing activities	**1,012,257**	(2,468,559)
Decrease in cash and cash equivalents	**(765,386)**	(2,388,921)
Cash and cash equivalents:		
Beginning of year	**8,620,254**	11,009,175
End of year	**$ 7,854,868**	$ 8,620,254

See Notes to Financial Statements.

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Great Lakes Protection Fund

Notes to Financial Statements

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 goals of the Great Lakes Toxic Substances Control Agreement and the binational Great Lakes Water Quality Agreement, so as to advance 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 each of the three classes: permanently restricted, temporarily restricted, or unrestricted based on the existence or absence of donor-imposed restrictions.

Cash and cash equivalents: For purposes of the statements of cash flows, the Fund considers all highly liquid debt instruments purchased with a maturity of three months or less to be cash equivalents.

The Fund maintains cash accounts at financial institutions, which at times, may exceed $250,000. Certain non-interest bearing accounts were insured by the Federal Deposit Insurance Corporation (FDIC) without limit through December 31, 2013. A significant portion of cash equivalents is invested in interest-bearing money market accounts. Such amounts are insured by the FDIC 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 all other investments are computed using the first-in, first-out method.

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, software and leasehold improvements: Furniture, equipment, software 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 contingencies have been met.

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.

Postretirement benefits: The Fund provides certain health care benefits for certain retired employees that meet eligibility requirements. The Fund’s share of the estimated costs that will be paid after retirement is generally being accrued by charges to expense over the employees’ active service periods to the dates they are fully eligible for benefits.

Great Lakes Protection Fund

Notes to Financial Statements

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

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 percent likelihood of being realized upon ultimate settlement. The guidance on accounting for uncertainty in income taxes also addresses de-recognition, classification, interest and penalties on income taxes, and accounting in interim periods. At December 31, 2013 and 2012, there were no unrecognized tax benefits identified or recorded as liabilities.

Subsequent events: The Fund has evaluated subsequent events for potential recognition and/or disclosure through March 14, 2014, the date the financial statements were available to be issued.

Note 2. Investments

Investments consist of the following:

	2013	
	Cost	Market
Common stocks and stock equivalents - domestic equity	$ 7,229,142	$ 9,423,571
Mutual funds		
Domestic equity:		
Large cap blend	16,896,360	29,161,214
Large cap growth	3,459,112	4,455,377
Small cap value	2,859,396	2,817,661
International equity:		
International value	13,942,112	19,182,926
International growth	16,873,654	20,173,382
Fixed income:		
Total return	32,823,932	33,098,815
Short-term high yield	5,045,237	5,033,051
	$ 99,128,945	$ 123,345,997

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Note 2. Investments (Continued)

	2012	
	Cost	Market
Common stocks and stock equivalents - global equity	$ 7,609,358	$ 8,241,943
Mutual funds		
Domestic equity:		
Large cap blend	18,242,466	24,119,718
Large cap growth	5,000,000	4,980,994
Small cap value	4,228,518	3,400,484
International equity:		
International value	13,942,112	16,548,651
International growth	18,059,990	18,188,158
Fixed income:		
Total return	26,023,931	27,415,983
Short-term high yield	5,045,237	5,045,237
	98,151,612	107,941,168

Gains and losses (realized and unrealized) are reported as follows:

	2013	2012
Interest and dividends	$ 2,548,907	$ 3,234,846
Realized gains on securities sold	1,994,775	543,896
Mutual fund realized gain distributions	917,648	845,284
Total investment income included in operating revenue	$ 5,461,330	$ 4,624,026
Change in unrealized gains relating to assets still held at end of year	$ 14,427,498	$ 10,421,724

Note 3. Fair Value Disclosures

The Fund follows accounting guidance related to fair value measurements, which provides a framework for measuring fair value under generally accepted accounting principles. This guidance 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 at the measurement date and sets out a fair value hierarchy. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). Inputs are broadly defined under this guidance as assumptions market participants would use in pricing an asset or liability. The three levels of the fair value hierarchy under this guidance are described below:

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 and mutual funds. Valuations are obtained from readily available pricing sources for market transactions involving identical assets or liabilities.

Note 3. Fair Value Disclosures (Continued)

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 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 highest 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 year ended December 31, 2013, the application or valuation techniques applied to similar assets and liabilities has been consistent. 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, 2013 and 2012, there were no such instances. The following section describes the valuation methodologies used by the Fund for instruments 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 following tables present the Fund's fair value hierarchy for those assets measured at fair value on a recurring basis as of December 31, 2013 and 2012. The Fund does not have financial liabilities that are adjusted to fair value.

	December 31, 2013			
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Common stocks and stock equivalents - domestic equity	$ 9,423,571	$ -	$ -	$ 9,423,571
Mutual funds				
Domestic equity	36,434,253	-	-	36,434,253
International equity	39,356,307	-	-	39,356,307
Fixed income	38,131,866	-	-	38,131,866
Total assets	$ 123,345,997	$ -	$ -	$ 123,345,997

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Note 3. Fair Value Disclosures (Continued)

	December 31, 2012			
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Common stocks and stock equivalents - global equity	$ 8,241,943	$ -	$ -	$ 8,241,943
Mutual funds				
Domestic equity	32,501,196	-	-	32,501,196
International equity	34,736,809	-	-	34,736,809
Fixed income	32,461,220	-	-	32,461,220
Total assets	$ 107,941,168	$ -	$ -	$ 107,941,168

The carrying amounts of financial instruments, including cash and cash equivalents, receivables, investments, accrued interest receivable, other assets, member state shares payable, and accrued expenses approximate fair value due to the short maturity of these instruments.

Note 4. Member State Shares

In accordance with the articles of incorporation, the Fund is required to disburse to the member states one-third of its realized investment 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. Accrued member state shares were, respectively, $1,320,990 and $1,005,865 at December 31, 2013 and December 31, 2012.

Note 5. Grants Committed

Grant activity for 2013 and 2012 is as follows:

	Grants Approved	Grants Paid	Grants Committed December 31
2013	$ 2,679,500	$ 2,554,448	$ 247,800
2012	$ 3,551,000	$ 2,045,432	$ 172,258

As of December 31, 2013, total grants approved since the Fund's inception amounted to $68,845,815 of which $6,022,710 related to grants for which the contingencies have not been met and, therefore, the grant expenses have not been recognized. Upon satisfaction of the contingencies by the recipients, the Fund will recognize the grant expenses and disburse the remaining payments.

Note 6. Net Assets

Unrestricted

Unrestricted net assets represent amounts that are not subject to externally-imposed purpose or time restrictions. Certain unrestricted net assets have been designated by the Board of Directors as a Sequestration Fund; representing an estimate of amounts sufficient to provide for commitments and obligations of the Fund. The balance of $5,092,125 in unrestricted net assets represents the unspent portion of the Sequestration Fund of $5,000,000 plus accrued interest.

Temporarily Restricted

Temporarily restricted net assets are comprised of endowment fund earnings that have not yet been appropriated for expenditure by the Fund.

Permanently Restricted

Permanently restricted net assets 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, which were as follows:

Illinois	$ 15,000,000
Michigan	25,000,000
Minnesota	1,500,000
New York	12,000,000
Ohio	14,000,000
Pennsylvania	1,500,000
Wisconsin	12,000,000
	$ 81,000,000

There is no due date for the contribution payable by Indiana, which has not yet joined the Fund.

In accordance with its articles of incorporation, the Fund charges interest to states electing to extend the time to make the required contributions. No such interest was charged in 2013 or 2012. No interest is due from the State of Indiana until such time as it elects to join the Fund and the time to make its required contributions is determined.

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.

Note 7. Endowment Net Assets (Continued)

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 gift as of the gift date of the donor-restricted endowment funds absent explicit donor stipulations to the contrary. As a result of this interpretation, the Fund classifies as permanently restricted net assets (a) the original value of gifts donated to the permanent endowment, (b) the original value of subsequent gifts to the permanent endowment, and (c) accumulations to the permanent endowment made in accordance with the direction of the applicable donor gift 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:

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 2013 and 2012:

	2013		
	Temporarily Restricted	Permanently Restricted	Total
Endowment net assets, beginning of year	$ 28,906,971	$ 81,000,010	$109,906,981
Investment income	5,428,315	-	5,428,315
Miscellaneous revenue	5,117	-	5,117
Unrealized gains on investments	14,427,498	-	14,427,498
Amounts appropriated for expenditure	(5,443,811)	-	(5,443,811)
Endowment net assets, end of year	$ 43,324,090	$ 81,000,010	$124,324,100

	2012		
	Temporarily Restricted	Permanently Restricted	Total
Endowment net assets, beginning of year	$ 18,733,912	$ 81,000,010	$ 99,733,922
Investment income	4,591,221	-	4,591,221
Unrealized gains on investments	10,421,724	-	10,421,724
Amounts appropriated for expenditure	(4,839,886)	-	(4,839,886)
Endowment net assets, end of year	$ 28,906,971	$ 81,000,010	$109,906,981

Note 7. Endowment Net Assets (Continued)

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 percent and a real return of 4 percent in excess of the Consumer Price Index. 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. A change in the target asset allocation was approved by the Board December 6, 2013.

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.

Note 8. Commitments

The Fund is obligated under an office lease expiring in December 2019.

Rent expense totaled $142,898 and $145,036 for 2013 and 2012, respectively.

Minimum payments required under the lease are as follows:

2014	$ 135,594
2015	150,660
2016	153,171
2017	155,682
2018	158,193
Thereafter	160,704
	$ 914,004

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. All employees are eligible to participate upon commencement of employment. The Fund makes contributions equal to 10 percent of each employee's compensation. Effective January 1, 2013, for any employees for whom matching contributions could not be made directly into the Fund's 457(b) deferred compensation plan due to applicable contribution limits under Section 457(b) of the Internal Revenue Code, the Fund made matching contributions to the plan in the amount of 100% of the employee's deferral contributions to the Fund's 457(b) deferred compensation plan, up to a limit of 6% of the employee's compensation for the year. Effective January 1, 2014, the Fund will make these matching contributions to the plan for all employees. Employees cannot contribute to the plan. The Fund contributed $68,059 and $60,929 to the plan for 2013 and 2012, 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 applicable to governmental retirement plans. All employees are eligible to participate upon commencement of employment. Participants can elect to participate in the deferred compensation plan. The Fund makes discretionary matching contributions in the amount of 100% of each employee's deferral contributions, up to a limit of 6% of salary, and as permitted by applicable contribution limits under Section 457(b) of the Internal Revenue Code. Effective January 1, 2014, the Fund will make such matching contributions into the Fund's 401(a) retirement plan, and will no longer make matching contributions into the 457(b) deferred compensation plan. The Fund contributed $39,160 and $35,720 to the plan for 2013 and 2012, respectively.

Note 11. Board-Designated Additional Compensation Plan

The Fund maintains a plan of additional compensation to maintain competiveness with comparable positions in comparable organizations. Certain employees (Executive Director, Vice President – Program, and Vice President – Finance and Administration) are eligible to participate. The additional compensation is contributed to the 401(a) Retirement Plan. The Fund contributed $39,000 to the plan for both 2013 and 2012.

Note 12. Postretirement Health Benefits

The Fund maintains a retiree health plan to provide certain health care benefits to certain retired employees. Prior to December 2013, employees who retired at age 65 or older with at least 10 cumulative years of service were eligible to participate in the plan. In December 2013, the Board voted to modify the plan. Benefits under the plan were restricted to those employees (3) who currently had at least 10 cumulative years of service and benefits were limited to $2,000 per year.

The postretirement benefit obligation of $90,785 and $307,771 is accrued as a liability in the statements of financial position at December 31, 2013 and 2012, respectively.

Appendix 2

Projects Completed in 2013

Projects Completed in 2013

Economic and Environmental Benefits of Industrial Water Use Efficiency ($324,000)

This project tested the benefits of industrial water use efficiency within the Great Lakes watershed. The team worked with five industrial facilities from around the region that use public water supply and wastewater treatment services, and helped them discover cost-effective water efficiency strategies for their processes, identified barriers to implementing these strategies and developed methods to overcome them, and evaluated the ecological benefits of increased industrial water efficiency to the Great Lakes basin. From their work, the team laid the foundation for the development of a basin-wide assistance program that will advance industrial water conservation and provide technical and financial assistance to industries in the basin.

This project took a close look at several issues related to water conservation that are currently being debated: the relationship between energy and water, the environmental benefits of water conservation, the difficulties of paying for conservation in light of lost revenues to utilities, the value of deferred infrastructure needs to utilities, and the value and impact of conservation in a water rich region.

Alliance for Water Efficiency
Contact: Mary Ann Dickinson | 773-360-5100 | maryann@a4we.org

Improving Water Management in the Great Lakes Basin ($75,000)

This was a planning and design grant in which the team developed a project to identify the ecological benefits and explore the financial rationale for pursuing water conservation and green infrastructure practices, and test how this information—when combined with effective knowledge transfer techniques—can drive better water management throughout the Great Lakes region.

The team collected and extensively analyzed data on different municipalities around the basin—an exercise that helped the team identify the challenges and opportunities of working in various municipalities and a better understanding of their audience of small to mid-sized local units of government. A key project outcome was the design of a demonstration project and the recruitment of six pilot communities for the implementation phase. The identified communities face challenges common throughout the basin: shallow groundwater overdraft, stream impacts from water withdrawal and discharge, and impacts related to stormwater runoff.

In December 2012, this team received an award of up to $562,000 to implement their approach. The lessons learned in the pilot communities in the U.S. and Canada will be important to other similar-sized municipalities throughout the region.

Great Lakes United
Contact: John Jackson | 716-886-0142 | jjackson@web.ca

Redeveloping Vacant Land as Green Infrastructure in Great Lakes Cities ($167,000)

This was a planning and convening grant in which the team assessed the regional interest in reusing vacant lands as green infrastructure in major Great Lakes cities, and investigated the environmental, economic, and social value that this would provide. The team recruited leaders from fourteen Great Lakes cities and held a series of meetings, workshops, and site visits to assess the status of vacant urban lands in these cities, the status of wastewater infrastructure, the status of redevelopment efforts, and identified possible locations for demonstration projects.

The relationships and networks developed enabled the team to lay the groundwork for a community of practice for green infrastructure on vacant lands that will continue to expand as the team implements the second phase demonstration project. In December, 2012, the team received an award of up to $902,000 to establish a neighborhood-based network of vacant small-parcel green infrastructure projects in Cleveland, Buffalo and Gary that will determine the potential for vacant urban lands to serve as viable locations for effective green infrastructure and stormwater management.

Cleveland Botanical Garden
Contact: Sandra Albro | 216-707-2860 | salbro@cbgarden.org

Risk Assessment and Management of Great Lakes Species ($1,090,000)

The goal of this project was to move towards the elimination of new introductions of aquatic invasive species (AIS) into the Great Lakes. It also aimed to halt the further spread of AIS from the Great Lakes to other waters of North America. To accomplish their goals, the project team:

- developed the scientific basis for assessing invasion risk of vessels entering the Great Lakes based on global ports they had previously visited,
- developed genetic tools to detect harmful species in ballast water, (an effort that was successfully transitioned to a separate Fund-supported project), and
- created alternative management actions to reduce lake-to-lake spread of AIS via recreational boaters.

By using data from over 6,000 ports from around the world, the team identified those ports most similar to the Great Lakes, and determined which would pose the greatest risk of being the source of future invaders to the Great Lakes. The team found that most ports of the world are connected to the Great Lakes by no more than two ship movements. From this work the team has determined that the Great Lakes remain under significant threat of invasion from shipping.

The second focus of the grant, to assess and mitigate invasion risk from the Great Lakes to other inland lands via recreational boaters, has strongly influenced the management actions of some state and federal agencies. From their research, this team developed a “containment” strategy for infected lakes which is far different than the traditional management practices that focused resources on protecting high value waters to prevent invasions into them.

The team also tested the effectiveness of different intervention techniques ranging from power washing to visual inspection and hand removal (especially for aquatic plants). From this work the team was able to provide the first comprehensive guidance to government agencies and lake association groups on the effectiveness of different cleaning approaches for boats.

The impact of this work was felt well before the project was over. The U.S. Forest Service, the U.S. Fish and Wildlife Service, and several state agencies changed practices at boat landings to focus resources on boaters leaving waterways that are infected. The Wisconsin Department of Natural Resources now uses the phrase “culture of containment” and is leading other states into following suit.

University of Notre Dame
Contact: David Lodge | 574-631-6094 | lodge.1@nd.edu

Appendix 3

Portfolio of Projects as of December, 2013

Portfolio of Projects as of December, 2013

A Phosphorus Soil Test Metric for Reducing Dissolved Phosphorus Loads ($947,000)

The objectives of this project are to:

- Develop a surficial phosphorous (SurP) soil test to measure the level of phosphorous currently available in the soil
- With certified crop advisors, the fertilizer community and local farmers, create management options for taking action based on detected phosphorous levels
- Measure phosphorous inputs to tributaries in Ohio, and share the results and lessons learned with groups in Saginaw Bay, MI; Green Bay, WI; and Ontario
- Develop a SurP metric that describes the level of reactive phosphorous in the soil and the likelihood of increased phosphorous loads into nearby tributaries (this should motivate changes that lead to ecosystem improvements in the Lakes)

The talents of all members of the agricultural supply chain will be tapped to accomplish a significant goal: a fifty percent reduction of dissolved, reactive phosphorous in the Ohio Lake Erie Basin within the next ten years. The team will also deliver the tools needed to achieve similar results in Saginaw Bay, Green Bay and Ontario. The successful reduction of phosphorous levels will drive down eutrophication in Lake Erie, reduce the outbreak of harmful algal blooms, and improve aquatic health.

Heidelberg College
Contact: David Baker | 419-448-2941 | dbaker@heidelberg.edu

AIS Mutual Aid Agreement ($120,500)

Awarded in 2013, the goal of this project is to develop a framework for a mutual aid agreement between states and provinces that will streamline the response to an outbreak of new aquatic invasive species (AIS) by enabling the sharing of staff, expertise and resources. The governors and premiers resolved to create this mutual aid agreement at the 2013 Council of Great Lakes Governors Leadership Summit. This effort has been driven, in part, by the difficulties the states experienced in contributing staff, equipment and other assistance to the 2009-2010 actions to halt the advance of Asian carp species in the Chicago Area Waterway System.

Council of Great Lakes Governors, Inc.
Contact: David Naftzger | 312-407-0177 | dnaftzger@cglg.org

Applying Water Stewardship Tools in the Great Lakes Basin ($449,000)

Building off prior Fund-supported work, this team will create a new Great Lakes-specific water stewardship toolkit that will prevent or reduce ecosystem impacts by advancing the sustainability of the

Basin's water resources, and be compatible with industry needs. For this project, the team will work closely with the Alliance for Water Stewardship (AWS) to pilot the draft International Water Stewardship Standard – and using these results and the results of their prior pilot work will build a set of tools, suitable for use in the basin that will advance water stewardship. The team will pilot the AWS draft standard and the toolkit at the four high volume industrial facilities the team worked with in the prior phase; a fifth pilot facility will be added that draws its supplies from the headwaters of the Kalamazoo River, a potentially hydrologically vulnerable location.

The team will implement a robust capacity building and outreach program, including hosting a series of workshops, to build anticipation for the project's products and tools among state and provincial water resource managers, water tool developers and users, water stewardship advocates and Great Lakes industries.

Council of Great Lakes Industries
Contact: Kathryn Buckner | 734-663-1944 | kabuckner@cgli.org

Automated Ballast Treatment Verification Project ($823,000)

This project will reduce the likelihood of new invasive species entering the Great Lakes. The team will accomplish this by creating an automated, shipboard, rapid-testing system that will be able report, in real time, the presence of any live organisms in ballast water following treatment. If successful, this effort will eliminate one of the greatest challenges facing invasive species control—the ability to capture sufficient volumes of water to properly assess the efficacy of ballast treatment methods and compliance with ballast standards.

The team will work closely with leaders in the ballast monitoring field including university experts, state and federal agency staff, shippers, carriers, and equipment manufacturers, and will convene at least annually a regional ballast verification management workshop. The team will also maintain an informal network of stakeholders and interested parties and will promote the work at regional, national and international meetings.

Wayne State University
Contact: Dr. Jeffrey Ram | 313-577-1558 | jeffram@med.wayne.edu

Characterizing the Risk-Release Relationship for Aquatic Invasive Species in the Great Lakes ($1,027,000)

Awarded in 2011, this project will develop new scientific methods to estimate the risk of establishment of aquatic invasive species (AIS). The team will determine how the invasion risks vary with the numbers of invasive organisms released into the environment. The project responds directly to a key research need identified by the National Academies of Sciences (NAS), and includes many of the members of that panel on the project team.

The team will convene a panel of international experts on invasion biology to provide advice and peer review throughout the project's duration. With the expert panel, the team will detail experimental designs, analytic protocols, and statistical data treatments for two types of assessments: lab assays and field surveys. The lab assays will use large-scale mesocosms designed to estimate how many invaders are needed to successfully establish a permanent population. The field surveys will complement the lab work by sampling the biota in the ports following ship discharges. They will analyze the variability in the sampling and analytic methods; develop models that link the discharge concentrations to establishment in harbors; and develop a database of species present in ship discharges to Great Lakes harbors.

Northeast-Midwest Institute
Contact: Allegra Cangelosi | 202-464-4014 | acangelo@nemw.org

The Great Lakes Clean Communities Network ($690,000)

This team will develop a new collaborative approach to stormwater management in this region that will accelerate the local initiatives currently being implemented by single communities. For this project, the team will create a community of practitioners who will work together to implement stormwater projects at a larger scale than would be possible if working alone, and who will be supported by online resources. The team will pilot this approach in Grand Rapids, Michigan; Milwaukee, Wisconsin; Niagara Falls, New York; and in the Flint River watershed.

In addition to linking communities together, the project team will provide online information and guidance, as well as environmental tools and models to help communities target effective types and placement of stormwater runoff practices, estimate pollutant reductions, and map and track positive environmental impacts. The team will use a combination of marketing and rollout strategies to build a community of practitioners that will support and use the system. Ultimately, the project will create a vibrant learning community that will change the way stormwater is managed in the region.

Michigan State University
Contact: Jeremiah Asher | 517-432-5586 | asherjer@msu.edu

Great Lakes River Mouths and the Region's Economic and Environmental Future ($65,000)

Awarded in 2011, this is a 9-month planning grant that will seek to develop a project that creates a new regional approach to Great Lakes river mouth redevelopment founded on restoring hydrological and ecological services, creating sustainable economic activity, and managing Great Lakes river mouths as a network. The team will document how the river mouths are currently being used and explore how they may be used sustainably in the future. Specifically, the team will look at: 1) critical hydrological and ecological services provided by Great Lakes river mouths and the importance of each; 2) social drivers governing Great Lakes river mouth development; 3) key current economic and transportation uses of Great Lakes river mouths and likely future trends; 4) current development patterns and compatibility with ecological and hydrological services; and 5) examples of sustainable individual and network river mouth development found within and outside the region.

Northeast-Midwest Institute
Contact: Allegra Cangelosi | 202-464-4014 | acangelo@nemw.org

Implementation and Evaluation of Accurate Dairy Feeding ($690,000)

Awarded in 2013, this project will reduce the dairy industry's contribution of excess nutrients, particularly phosphorus, to the Great Lakes. With an estimated three million dairy cows in the Great Lakes region, the team expects to reduce annual contributions of phosphorus by 20,000 metric tonnes per year. (To put this into perspective, the Great Lakes Water Quality Agreement of 2012 specified the combined maximum phosphorus loading target for all of the Great Lakes at 31,360 metric tonnes per year.) The team will do this by developing a novel feed management and nutritional accounting system that will intervene directly in farm feed management practices to streamline dairy operations and reduce nutrient waste. The cloud-based system will interact with feeding systems already available in the market-place. In its final form, the system will consist of a series of modules (mixing, feed inventory, animal inventory and production), and a custom analytical engine that will perform statistical analysis and reporting and provide real-time feedback to on-farm decision-makers. The team will pilot the system on ten large dairy farms in Ontario, Ohio, Wisconsin, and New York.

AgModels LLC
Contact: Michael Barry | 607-423-9417 | mcb4@cornell.edu

Implementing Real-Time Resource Use Feedback to Motivate and Empower Conservation ($812,000)

Water and electricity users will experience a new and immediate connection to the consequences of their actions, as a result of this project which seeks to change individual activity through social accountability. The project team seeks to "engage, educate, motivate and empower" resource consumers to change their behavior in 138 residential and commercial spaces on or near the Oberlin College campus.

The team will develop, deploy and evaluate a monitoring system that provides users real-time feedback on the amount of water and electricity they use, as well as direct consequences of that use. They propose that this will reduce residential power and water use, and in turn, reduce air emissions and restore stream flows in the Plum Creek watershed, which runs through Oberlin and is part of the Black River watershed that drains into Lake Eerie.

The team will install displays in student dormitories, apartment buildings, and mixed-use housing that show what is being consumed, how much it costs, and what the effect is upon air and water resources. They will also build an automated monitoring network that will assess changes in flow due to water withdrawals and discharges, as well as air quality and power sold. The team expects to provide information at the residence, neighborhood, city and watershed scales.

Oberlin College
Contact: John Petersen | 440-775-6692 | john.petersen@oberlin.edu

Improving Water Management in the Great Lakes Basin – Phase II ($562,000)

Building off of their planning grant, this team will identify and test the environmental and financial rationales for municipalities to pursue water conservation and green infrastructure practices, and test how this information—when combined with effective knowledge transfer techniques—can drive innovation in water management throughout the Great Lakes region. The team will approach this work from the viewpoint that water conservation, to be effective in the Great Lakes region, must include municipal supply, storm- and wastewater, and engage a different set of stakeholders than traditional water conservation strategies.

The team will complete a detailed impact and infrastructure assessment in six pilot communities; develop of a set of management actions for each community that will reduce environmental impacts and decrease costs; track the rate at which the pilot communities implement the recommended actions and calculate the environmental and financial impacts; and create and test a series of knowledge transfer strategies that will help communities teach other communities. The team will transfer the tools created in the pilots to communities throughout the basin. New communities of practice will be created around the most promising techniques that have ecological importance and basin-wide applicability.

Great Lakes Commission
Contact: John Jackson | 716-886-0142 | jjackson@web.ca

Launching GLIN Labs ($81,000)

This project will begin the redesign of the Great Lakes Information Network (GLIN), a creation ultimately intended to lead to positive results for the Great Lakes such as decreased invasions of exotic species, less harmful runoff from farms and cities, and reduced air and water pollution. The team will begin this effort by launching an innovation platform called "GLIN Labs" that will:

- Create new software
- Help users create new information products
- Host a small set of strategy experiments for what GLIN should become

The project team will upgrade how the network's data is made available and coordinate a series of design and piloting workshops to explore the potential capabilities of a re-energized GLIN. The team will update its strategic and operating plans for GLIN to incorporate what has been learned in this work and pursue next steps in a future proposal.

Great Lakes Commission
Contact: Tim Eder | 734-971-9135 | teder@glc.org

Market Based Approaches to Green Infrastructure to Restore Hydrologic Function ($692,000)

Awarded in 2011, the goal is to develop a method to access new capital for sustainable stormwater solutions. The team will evaluate the types of financial transactions possible, and will set up models for financial transactions between an investor who builds green infrastructure and a buyer who requires the stormwater benefits. The team will develop an innovative on-line financial trading platform that will establish the means of transfer and payment structure, and which will allow the sellers and buyers to assess the value of the green infrastructure and the environmental benefits is provides.

The team will prepare training materials that will describe the transactions, the process for developing them, and will contain a blueprint for a market-based system. The team will also hold a workshop where regulators, investors, sellers and buyers will be instructed in the elements of the trading program.

Environmental Consulting & Technology, Inc.
Contact: Jeffrey Edstrom | 312-421-0444 | jedstrom@ectinc.com

Piloting a Paradigm for Adaptive Management of Great Lakes Watersheds ($400,000)

This team will create, test, refine and deploy a new set of analytic tools to explore the many uses of the basin's waters. The team will also identify where, when, and by what degree water uses impact ecological health, and it will identify the economic value created by such uses. The team will develop quantitative relationships between use, impact and economic value in three "trial" watersheds, vet analyses in workshops with water users and regulators, create a set of tools for those audiences and prepare a strategy to further refine their approach. This work takes advantage of information developed in a large National Science Foundation-supported project that is assessing the economic value of Great Lakes water. It provides the best chance to link that effort to the state and provincial initiatives driven by the Great Lakes Water Resources Compact and companion Regional Agreement, especially assessments of cumulative impacts and revisions to the Decision standard to be undertaken in 2013.

Michigan Technological University
Contact: Alex Mayer | 906-487-3372 | asmayer@mtu.edu

Real-Time Energy Impact Monitors for Residential, Industrial and Policy Use ($557,000)

Awarded in 2013, this project will significantly reduce the emission of mercury and other toxic substances by power plants into the basin. The team will do this by refining, testing and marketing a novel technology—pioneered in a Fund-supported project—that interacts with the power grid to precisely estimate the emissions associated with current power uses and signals when cleaner forms of energy are available. Referred to as LEEM (Locational Electricity Emissions Methodology), this technology determines, in real-time, the fuel sources (e.g. coal, natural gas, nuclear, wind) that are being used to generate electricity and the emissions from those sources, and provides users the ability to reduce emissions by changing the timing of their electricity use.

In their previous work with the Fund, the team has developed a fully functional alpha version of LEEM and deployed it in two distinct products: HERO, a phone and web application for individual consumers, and PEPSO, a software program designed to optimize pump operations at water utilities. In this project the team will explore the potential for embedding the technology into 'smart' appliances and building systems, integrating it into the electric vehicle market, and incorporating into energy standards and programs.

Wayne State University
Contact: Carol Miller | 313-577-3790 | cmiller@eng.wayne.edu

Real-Time System Optimization for Sustainable Water Transmission and Distribution ($1,480,000)

To minimize air emissions created by water supply systems, this project seeks to optimize water movements within the supply, collection and treatment system. This effort could also reduce water withdrawals, effluent discharges and impacts of overflows that cause unintentional releases.

Proposed in-system storage capacity will allow the utility to alter the timing and magnitude of water withdrawals, shifting the system pumps' demand for electricity away from peak times when the power system requires the use of high-emission generating sources.

The team will also install pump monitors and flow meters for real-time information on the hydraulic characteristics of the system. New software will use this information to optimize the use of pumps and track the resulting changes in power demand, energy costs, withdrawal timing, storm-holding capacity and other measures. Software and training will be made available to water utilities at no charge.

Wayne State University
Contact: Carol Miller | 313-577-3790 | cmiller@eng.wayne.edu

Reducing Phosphorus Loads from Agriculture: Creating a Pay-for-Performance Program Using Field-Specific Information ($957,000)

Awarded in 2013, this project will lead to reductions of harmful algal blooms in the Great Lakes by reducing levels of phosphorus in basin streams and rivers. The team will do this by designing and piloting a novel pay-for-performance program that will aggregate the conservation actions of farmers in a watershed and create a mechanism to reward those farmers for the amount of phosphorus they remove from surface waters. Through this work the team will create a series of organizing, modeling, negotiating, contracting, and assessment tools that will allow others to create their own "pay-for-performance" conservation program.

Building on their relationships with farmers in the pilot area, the team will facilitate the development of a farmer-led watershed council that will take on a leadership role in delivering phosphorus reductions. Working with and through the council, the team will establish field-level baseline conditions, assess the cost effectiveness of status quo conservation, and create a portfolio of possible actions for each participating farmer to take to reduce phosphorus. The team will design the structure of the pay-for-performance program that will identify what level of phosphorus removal can be attained, and will design simple contracts for each farmer/producer.

Changes in phosphorus exports from participating farms will be measured through a network of in-stream and edge-of-field sampling locations. The team will use this monitoring information to refine its water quality models, its field assessments and its producer contracts. They will use the lessons learned to prepare a detailed tool kit for others to use available water quality models, coupled with minimal monitoring, to build pay-for-performance projects elsewhere in the basin.

Winrock International Institute for Agricultural Development
Contact: Jonathan Winsten | 802-343-3037 | jwinsten@winrock.org

Ship-Mediated Harmful Microbes: Protecting the Great Lakes Ecosystem ($1,029,000)

"Microbial stowaways" on Great Lakes ships will be the target of this project, which will:

- Develop, test, and make widely available a set of new research techniques for microorganisms that threaten human health, wildlife health, or are otherwise ecologically or economically important
- Inventory the bacteriological content of ships' ballast water; and develop an institutional blueprint for monitoring microbes in the Great Lakes Basin

In parallel, and without Fund support, the Great Ships Initiative will start to test disinfection methods to create a "rapid treatment response" capacity to prevent ships operating in the Lakes from releasing harmful microbes. All of these actions will improve the ability of the Great Lakes region to identify and respond to threats posed by such stowaways on vessels or in basin ports.

Northeast-Midwest Institute
Contact: Allegra Cangelosi | 202-464-4014 | acangelo@nemw.org

Transforming our Approach to Generate Conservation Benefits from Agriculture ($622,000)

This team hopes to displace the low-margin fertilizer sales business with advisory services. The team will offer performance guarantees for farmers, and it will connect suppliers and advisors to federal subsidies that make offering these technical services attractive as a line of business. The team's work will focus in areas where farmers have yet to implement complete conservation practices on their fields. In this pilot phase, the team is working with farmers to reduce annual field contributions of phosphorus by over 17,000 pounds, nitrogen by over 67,000 pounds, and sediment by over 4,000 tons in two pilot areas. The team will also apply these lessons to other watersheds in New York, Michigan and/or Wisconsin's Great Lakes basin.

The IPM Institute of North America, Inc.
Contact: Thomas Green | 608-232-1410 | ipmworks@ipminstitute.org

Using Active Management of Drain Networks to Improve the Great Lakes Ecosystem ($355,000)

Awarded in 2013, this project will lead to reductions in nutrients and sediment in Great Lakes tributaries and coastal areas with the development and application of a novel, automated, real-time drain tile management network. Regions around the Great Lakes with the most serious nutrient issues, such as Saginaw Bay and Western Lake Erie, have some of the densest drain tile networks in the U.S. Recent research indicates that drain tiles are often the largest single source of biologically available phosphorus but that active drain management can be an important practice for controlling that phosphorus.

The team will examine techniques and potential environmental and agronomic impacts, explore the opportunities in the Great Lakes basin, identify the physical settings where a "smart drain network" can reduce nutrients, and evaluate the potential market for such services. They will explore the feasibility of combining two different technologies: an active drain tile management technology and an optimization software that allows for real-time, wireless management of networks of sensors and control structures. In its final form the system will consist of a network of real-time sensors (installed at the field and sub-watershed scales) and drain control structures that will be integrated with an optimization system and a wireless communication network.

The Nature Conservancy
Contact: Dennis McGrath | 517-316-2251 | dmcgrath@tnc.org

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

This project will lead to improved water quality in the Great Lakes by reducing stormwater runoff and the incidence of combined sewer overflows. To accomplish this, the team will establish a neighborhood-based network of small-parcel green infrastructure (GI) projects on vacant land in three Great Lakes cities. They will determine the potential for urban neighborhoods with an abundance of vacant land to serve as a GI network. This project will be the first to test the effectiveness of aggregated small parcels as a viable strategy for effective GI and stormwater management. It will also be the first to develop a simple GI portfolio that will be replicable across cities in the Great Lakes region. The team will work with local community partners in the cities of Buffalo, NY; Cleveland, OH; and Gary, IN—cities with high commercial and residential land vacancy; aging sewer/stormwater infrastructure; and a demonstrated interest and capacity for an interdisciplinary approach to green infrastructure.

This project is the result of a successful convening and planning phase which brought together experts from fourteen cities around the Great Lakes to assess the regional interest of reusing vacant urban lands as green infrastructure. The team will continue to develop this network by holding at least two regional meetings and by creating a regional community of practice—a Great Lakes Vacant Land and Green Infrastructure Collaborative that will engage stakeholders from the original fourteen cities and be expanded to include other stake holders from around the Great Lakes.

Cleveland Botanical Garden
Contact: Sandra Albro | 216-707-2860 | salbro@cbgarden.org

Watershed Ecological Sustainability Strategy – Transactions for Agricultural Ecosystem Services ($940,000)

Awarded in 2011, the team will design and test different transaction frameworks that will tie resources and funding flows to water stewardship outcomes. Specifically the team will: 1) design and test new ways to reduce drainage assessments for those farmers keeping soil and nutrients out of the drainage network; 2) explore and test new certification schemes for farmers and/or their products to attract new payments for ecosystem services; and 3) test how watershed-based performance incentives can be added to Michigan's MAEAP program. The team will demonstrate how these different transactions can reward farmers by linking farmer payments to ecosystem improvements.

The team will build on existing water quality models (developed by team members with support from the NRCS, USACE and others) that will allow the team to predict impacts in a watershed based on actions on the land. The product from this work will be a prototype, low-cost, web-based tool that will identify the best type, placement and number of stewardship practices to meet desired ecological outcomes, and methods that link payments to those outcomes.

The Nature Conservancy
Contact: Dennis McGrath | 517-316-2251 | dmcgrath@tnc.org

Great Lakes
Protection Fund

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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To start a conversation, discuss a project idea, or inquire about our proposal process, email at:
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