Assessing the Investment:
The Economic Impact of the Great Lakes Restoration Initiative

PROJECT SUMMARY REPORT

SEPTEMBER 2018

Executive Summary

This report summarizes findings from a study that quantified the economic impact of the Great Lakes Restoration Initiative (GLRI) using an integrated approach that includes both quantitative modeling and analysis to determine the GLRI's region-wide impact and detailed case studies that illustrate the impacts from the perspective of specific Great Lakes communities. Researchers used rigorous economic analysis to produce a comprehensive, evidence-based estimate of the economic benefits generated by GLRI spending between 2010 and 2016 and the additional economic activity that will result through 2036. The case studies are based on interviews of local leaders and extensive research and data collection in eight Great Lakes communities that benefitted from significant GLRI spending.

The GLRI was designed to be an environmental restoration program, not an economic development program, but it nonetheless has produced substantial economic benefits for the Great Lakes region. The federal government spent $1.4 billion on GLRI projects in the Great Lakes states from 2010 through 2016, triggering $360 million in matching funds from state and local governments and industry. These investments generated additional economic activity in the region each year from 2010 to 2016, reaching a peak of over $500 million in 2015.

The economic activity generated by the GLRI will continue as restoration and development activities are completed, the Great Lakes ecosystem continues to recover, and additional benefits manifest in communities affected by the program. The economic modeling conducted in this study suggests that every dollar of federal spending on GLRI projects between 2010 and 2016 will produce $3.35 in additional economic activity in the Great Lakes region through 2036. Some communities will benefit even more; older industrial cities, such as Buffalo and Detroit, may see more than $4 in additional economic activity through 2036 for every GLRI project dollar spent between 2010 and 2016.

The GLRI also has greatly improved the tourism economy in the Great Lakes region, which is particularly important for coastal communities. Every case study community reported a resurgence in traditional recreational activities such as recreational boating, sailing, fishing, and canoeing and the emergence of a new type of tourism focused on kayaking, kitesurfing, and paddle-boarding due to the environmental improvements accomplished under the GLRI. Across the region, existing businesses have prospered and new businesses have emerged to serve growing numbers of residents and tourists visiting revitalized waterfront areas. And increased tourism will continue to grow the regional economy in the decades to come. Every dollar of GLRI spending from 2010 through 2016 will generate $1.62 in economic value in tourism industries through 2036. This is nearly half of the $3.35 total anticipated increase in economic activity generated by GLRI spending during this period.

Finally, the GLRI also has improved the quality of life of people living in the Great Lakes region. New opportunities resulting from GLRI project spending, such as new businesses, more jobs, and more water-based recreation, enable residents to enjoy local water resources in new ways. The value of homes in coastal communities increased due to GLRI investments, which means that people place a higher value on living in those communities because of GLRI projects. As measured in housing values, every dollar of GLRI spending between 2010 and 2016 produced improvements in quality of life in Great Lakes communities worth $1.08 to local residents.

Background

The Great Lakes ecosystem and the Great Lakes regional economy have been fundamentally connected for centuries. Rich, arable land and the region's abundant timber and other natural resources supported human development, and vast mineral deposits facilitated the growth of the region's traditional industries such as automotive and other durable goods manufacturing, steel, chemical, machine tool, electronics, and paper production. The Great Lakes and their tributaries formed natural infrastructure for transportation and commerce, and manmade canals and railroads accelerated economic growth. Factory-based industries created wealth for the region's citizens and fueled the rise of major industrial cities – such as Buffalo, Cleveland, Detroit, Milwaukee, Chicago, and Duluth.[1]

The Great Lakes supplied vast amounts of fresh water to nourish the growth of the regional economy, but the environmental health of the lakes was compromised in the process. The ecosystem has suffered serious impacts from human development, invasive species, habitat destruction, and a legacy of pollution caused by historic industrial practices and municipal and agricultural discharges. For decades, the region benefitted from the Great Lakes but did not do enough to protect the lakes or prevent environmental damage.[2]

The Great Lakes economy also has experienced serious challenges in recent decades. Once the

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[1] *The Vital Connection: Reclaiming Great Lakes Economic Leadership in the Binational U.S. Canadian Region* (Brookings Institution, March 2008).

[2] *Great Lakes Regional Collaboration Strategy to Restore and Protect the Great Lakes* (December 2005), available at https://www.glrc.us/.

"king of the factory economy," the region substantially lagged the U.S. in employment growth from 1970 to 2000 and experienced a full-blown, if slow-moving, employment crisis from 2000 to 2010.[3] Population growth in the Great Lakes region also lagged the rest of the U.S. during this period, with population growth in the eight Great Lakes states between 1970 and 2010 representing only a fraction of the growth experienced by the rest of the country.

For these reasons, restoring the Great Lakes and leveraging them as an environmental and economic asset has been a longstanding priority for leaders in the Great Lakes region. In 2004, President Bush recognized the Great Lakes as a "national treasure" and initiated the Great Lakes Regional Collaboration to develop a comprehensive restoration strategy for the lakes. Building on this momentum, President Obama established the Great Lakes Restoration Initiative (GLRI) in 2010 to implement the regional restoration strategy. Since that time Congress has appropriated funding annually for the GLRI program, which has been implemented by the U.S. Environmental Protection Agency in collaboration with other federal agencies, the eight Great Lakes states, tribes, and innumerable local communities, conservation groups and other partners.

The GLRI is not a traditional economic stimulus program -- it was created to protect, enhance and restore the environmental health of the Great Lakes and the rivers that feed into them.[4] The program focuses on five key areas: cleaning up the most heavily degraded areas (known as "Areas of Concern"); preventing and controlling invasive species; reducing polluted runoff that contributes to harmful algal blooms; restoring habitat to protect native species; and promoting long-term stewardship for the lakes. The 15 federal agencies that administer the program track GLRI's notable environmental accomplishments in annual reports to the U.S. Congress and the President.[5]

While the GLRI clearly has generated measurable environmental improvements in the Great Lakes, the program's economic impact has not been clearly tracked. The findings of this study address a gap in understanding by demonstrating through rigorous and multi-faceted analyses that the GLRI has generated

GLRI Accomplishments, 2010-2016

- **Cleaned up and restored harbors and coastal areas that were contaminated by decades of legacy pollution and completed cleanup work in six of the most heavily degraded "Areas of Concern"**
- **Controlled invasive species on approximately 115,000 acres**
- **Prevented 402,000 pounds of phosphorus from entering the Great Lakes**
- **Protected, restored and enhanced 642 miles of shoreline and riparian corridors, 17,500 acres of coastal wetlands, and more than 180,000 acres of habitat.[6]**

Great Lakes RESTORATION

[3] *Socioeconomic Impacts of the Great Lakes Restoration Initiative* (University of Michigan Research Seminar on Quantitative Economics, 2018), available at bit.ly/GLRIEconomicImpact.

[4] Water Pollution and Control Act, as amended by the Water Infrastructure Improvements for the Nation Act (December 16, 2016), 33 U.S. Code § 1268(c)(7).

[5] U.S. EPA's annual reports to Congress and the President are available at https://www.glri.us/documents.

[6] U.S. EPA, Great Lakes Restoration Initiative Report to Congress and the President, Fiscal Year 2016 (August 2017) (available at https://www.glri.us/pdfs/fy2016-glri-progress-report-to-congress-and-president-20170803-35pp.pdf).

economic impacts similar to impacts generated by targeted economic stimulus programs even though funds were deployed solely to improve environmental health. This report shows that the GLRI had a substantial impact on the region's economy and a significant revitalizing effect on Great Lakes communities, both of which will continue to contribute to the region's economic prosperity well into the future.[7]

Methods

This project commenced in June 2017 to derive a comprehensive, evidence-based estimate of the economic benefits generated by the GLRI using actual GLRI spending and county-level economic data. In two project phases, researchers used rigorous economic analysis to quantify the GLRI's regional economic impacts and conducted stakeholder interviews to collect information about impacts in local communities where significant amounts of GLRI funding were spent.[8] This two-part methodology quantified the GLRI's impacts in conventional economic terms and showed how the benefits have manifested "on the ground" in local Great Lakes communities.

From June to October 2017, the research team collected data about GLRI project spending and analyzed it using a customized dynamic economic input/output model developed by Regional Economic Models, Inc. (REMI) to provide a "rough cut" estimate of the GLRI's economic impacts. Project spending data came from U.S. EPA's Environmental Accomplishments in the Great Lakes (EAGL) database, which contained detailed information on 3,652 projects that were awarded $1.8 billion nominal (i.e., not inflation-adjusted) under the GLRI.[9] After adjusting for inflation, confirming that projects were located in the Great Lakes region, and eliminating projects with incomplete data, the research team focused its analysis on $1.4 billion of GLRI project spending that occurred during the study period (2010 through 2016) (Figure 1).[10]

Using this project-level spending data and the customized REMI model, the research team produced preliminary information about the types of economic metrics that reflected the effect of the GLRI program on the region's economy and the areas of potential economic

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[7] This study differs in important ways from the report titled *Healthy Waters, Strong Economy: The Benefits of Restoring the Great Lakes Ecosystem* (Washington: Brookings Institution, 2007), and its companion report, *America's North Coast: A Benefit-Cost Analysis of a Program to Protect and Restore the Great Lakes* (September 2007). These two reports laid out the economic case for $26 billion in Great Lakes restoration before GLRI was initiated, calculating a benefit-to-cost ratio for an entire program of Great Lakes restoration activity before any investments were made. This study, by contrast, evaluated the impact of known GLRI spending between 2010 and 2016 on the economy and projected the future impact of the spending through 2036. Regional economic output is related to the type of benefits projected by *Healthy Waters, Strong Economy*, but the two measures are conceptually distinct and not numerically comparable.

[8] For detailed information about the analytical methods used in this study, *see Socioeconomic Impacts of the Great Lakes Restoration Initiative* (University of Michigan Research Seminar in Quantitative Economics, 2018), available at bit.ly/GLRIEconomicImpact.

[9] Almost $500 million of the GLRI funding appropriated by Congress is not included in the EAGL database that the research team received in mid-2017. This is because the funds were spent on projects undertaken by agencies not required to report data to the EAGL database or were used for other program-related expenditures (e.g., to support U.S. EPA's Great Lakes National Program Office). Congress appropriated a total of $2.26 billion under the GLRI in fiscal years 2010 through 2016.

[10] Unless otherwise indicated, dollar values reported in this document have been adjusted for inflation and are reported as 2009 dollars. This is a standard approach and helps keep all reported figures in the same units, avoiding appearances of rising or declining effects over time that are due solely to inflation.

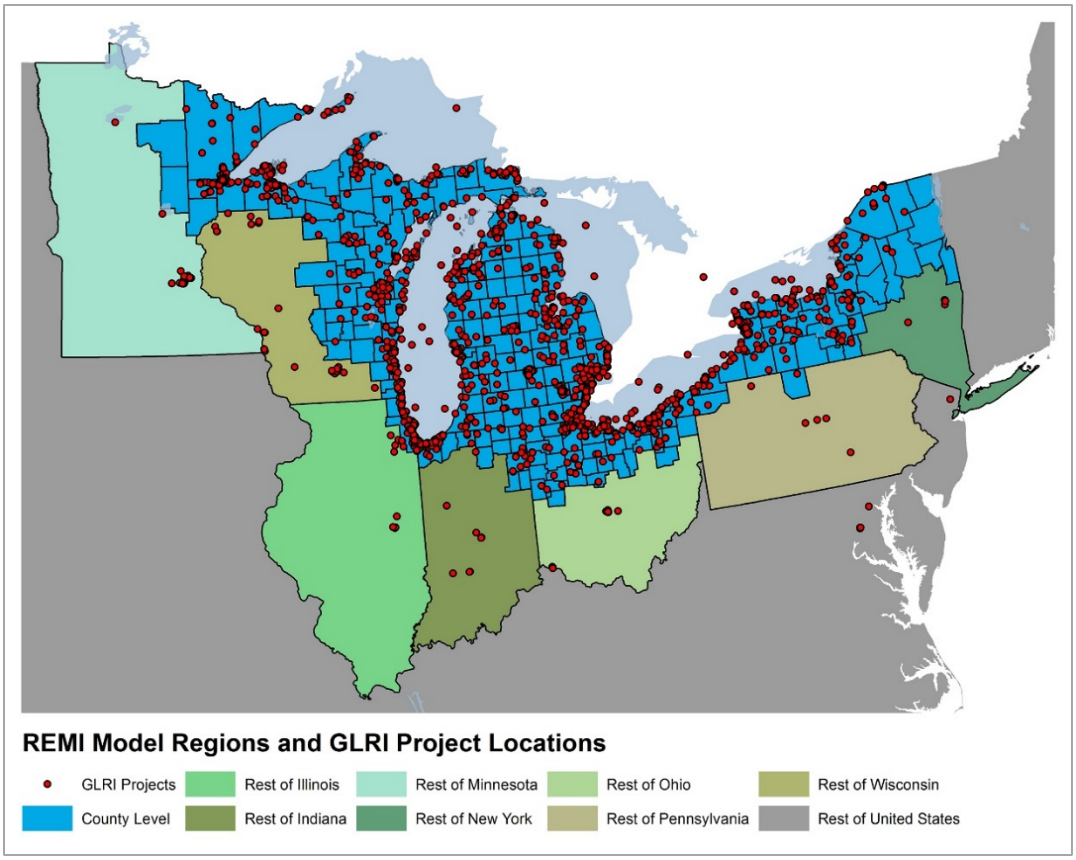

Figure 1. Geographic Distribution of GLRI Projects

impact that could be explored through additional analysis. Researchers also conducted semi-structured qualitative stakeholder interviews in four communities where GLRI investments were significant to determine how communities in the region experienced and characterized the GLRI's economic impacts. The stakeholder interviews informed the assumptions underlying the economic modeling and provided information about the GLRI's "on the ground" economic impacts.

The preliminary analysis undertaken in this study shows that the GLRI had positive economic impacts across the region during the study period. The economic analysis showed that GLRI project spending:

- created or supported thousands of short-term jobs--approximately the same number that would be created by conventional federal stimulus programs that, unlike the GLRI, are primarily intended to create jobs
- increased personal income for Great Lakes residents
- attracted or retained residents in the eight Great Lakes states, including millennials and young families who were drawn by the region's improved quality of life

The initial interviews conducted in this study illustrate that the GLRI has had positive economic impacts in local communities. Stakeholders reported that the program:

- has been a "catalyst" for new real estate and commercial development, especially in waterfront communities challenged by decades of decline

- improved community awareness of, and access to, Great Lakes water resources
- deepened perceptions of "community" and optimism for the future in "rust belt" areas
- helped communities tackle problems they previously believed were insurmountable obstacles to development
- generated growth in the tourism sector and changed stakeholder perceptions of the value of their communities for water-based tourism

From November 2017 to September 2018, the research team used these early results to refine the economic modelling and identify additional analyses that would generate a more comprehensive estimate of the GLRI's economic impact. The refined analytical scope included developing a regional economic multiplier to estimate the overall impact the GLRI will have on the Great Lakes economy through 2036; an estimate of the amount of increased tourism that resulted from GLRI project spending; and a mechanism for quantifying quality of life improvements that resulted from GLRI project spending.

To complement the additional economic analysis, the project includes quantitative case studies that highlight the economic impact of the GLRI in eight Great Lakes communities where significant funds were invested: Duluth, MN/Superior, WI; Sheboygan, WI; Waukegan, IL; Muskegon, MI; Detroit, MI; Ashtabula, OH; Erie, PA; and Buffalo, NY (Figure 2). At each case study location, researchers conducted interviews with community leaders to identify the local economic impacts resulting from GLRI project spending. The researchers obtained quantitative data from a variety of sources to supplement the interviews and developed narratives that "tell the story" of the GLRI's economic impacts in each community. The case study findings are summarized in a series of factsheets that accompany the study report.

Figure 2. Location of Case Study Communities

Findings and Results

Overall Growth in the Great Lakes Regional Economy

Although the GLRI was originally conceived as an environmental restoration program and not an economic development program, it has nonetheless produced substantial economic benefits for the Great Lakes region. The federal government spent a total of $1.4 billion on GLRI projects in the Great Lakes states from 2010 through 2016, triggering $360 million in matching funds from state and local governments and industry. These investments generated additional economic activity in the region each year from 2010 to 2016, reaching a peak of over $500 million in 2015.

Findings and Results

The GLRI has provided substantial benefits to the economy of the Great Lakes region.

- **Every dollar spent on GLRI projects from 2010–2016 will produce $3.35 in additional economic output in the Great Lakes region through 2036.**
- **In certain case study communities, the longer-term impact will be even greater: every dollar of federal GLRI spending from 2010-2016 will produce more than $4 of additional economic activity through 2036.**
- **Additional tourism activity generated by the GLRI will increase regional economic output by $1.62 from 2010–2036 for every dollar spent on GLRI projects from 2010 to 2016. This is nearly half of the total increase in economic output documented by the study.**
- **Every dollar of GLRI spending from 2010–2016 increased local house values by $1.08, suggesting that GLRI projects provided amenities that were valuable to local residents and improved the region's quality of life.**

The case studies illustrate the regional economic impact of the GLRI from the perspective of local communities. These impacts include:

- **millions of dollars of new real estate and commercial development, particularly in waterfront areas;**
- **a resurgence of traditional recreational activities and the emergence of new opportunities such as kayaking, kitesurfing, and paddle-boarding;**
- **increased tourist visits and growth in revenues earned by tourism-related businesses;**
- **improved quality of life as shown by new residential housing, growing numbers of young people choosing to stay in or relocate to Great Lakes communities, and the marketing of water-related amenities as a recruiting tool for employers.**

New Real Estate and Commercial Development

Erie – Harbor Place, a $150 million development with hotels, shops, condos, and an outdoor ice rink; and a new $20 million Hampton Inn and Suites to serve tourists and other visitors.

Duluth – Pier B Resort, a $32 million hotel complex constructed on a former shipping pier, two other new hotels, and five breweries on or near the city's waterfront.

Muskegon – $47 million in new waterfront development projects and a new corporate headquarters for KL Outdoors, the world's largest kayak manufacturer, that is investing $9 million and creating 150 new jobs.

Buffalo – A multi-million-dollar entertainment complex built on an old industrial site, offering a restaurant, ziplining, climbing wall, kayak and paddleboard rentals, hockey rink, and roller derby facilities; and a 105-acre commercial park on a former ship canal.

Waukegan – Bay Marine Chicago Yachting Center, a $5 million development that serves pleasure boaters, opened in 2018.

Sheboygan – $2 million facility that opened in Sheboygan in 2018 and houses SEAS, an association that teaches sailing.

Ashtabula – 27 new businesses have opened in the Harbor Business District since 2010.

The additional economic activity triggered by the GLRI is reflected in the new real estate and commercial development that has occurred in the case study communities. Stakeholders in every community described millions of dollars of new development that they connect to the environmental improvements created by the GLRI. Case study communities also report that manufacturers and other employers are attracted to the water quality improvements and increased amenities generated by the GLRI.

The economic activity generated by the GLRI will continue as additional restoration and development activities are completed, the Great Lakes ecosystem continues to recover, and water-related development expands to take advantage of new opportunities and public interest. According to this study's economic modeling, every dollar of federal spending on projects funded under the GLRI during the period 2010 through 2016 will produce an additional $3.35 of additional economic activity in the Great Lakes region through 2036. In certain case study communities, the longer-term impact will be even greater: every dollar of federal GLRI spending in older industrial cities such as Buffalo and Detroit from 2010 through 2016 will produce more than $4 of additional economic activity in those locations through 2036.

City and county planning departments are actively planning for continued economic improvement in waterfront areas. Strategic planning documents that prioritize Buffalo's waterfront include a multi-stakeholder plan entitled *One Region Forward* (2015) and Buffalo-Niagara's *Strategic Plan for Prosperity* (2017). Erie County, PA produced *Destination Erie* (2015), which identifies the long-term goal of seeking national and international designations for Erie's natural assets, such as inclusion on the UNESCO World Heritage list. The city of Erie produced a strategic plan in 2016 that includes "transforming the bayfront into a 'mixed-use urban experience that leverages a world-class asset'." In Ashtabula, OH both Ohio State University and a local community association have prepared business development and revitalization plans for the harbor district.

Economic Benefits from Increased Tourism

The GLRI has improved the tourism economy in the Great Lakes region. Every case study community reported a resurgence in traditional recreational activities such as boating, sailing, fishing, and canoeing and the emergence of a new type of tourism focused on kayaking, kitesurfing, and paddle-boarding due to the environmental improvements generated by the GLRI. Across the region, existing businesses have prospered and new businesses have opened to serve growing numbers of waterfront visitors.

One new exciting economic opportunity for coastal communities is hosting cruise ships. In 2015, the Pearl Mist cruise ship docked in Muskegon by mistake due to a scheduling conflict at its originally planned stop in Holland, MI. But when the vessel docked and the passengers disembarked, the impression left by the city's waterfront was so positive that Muskegon is now included as a regularly scheduled stop. The ship made nine stops in Muskegon in 2016, ten stops in 2017, and will make 10 stops in 2018. Passengers spent $50,000 in during their visit to Muskegon's waterfront area in 2016 alone.

All in all, GLRI spending from 2010 through 2016 generated or supported over 1,700 jobs in tourism-related industries in the Great Lakes region, which is almost a third of the GLRI's total impact on regional employment during that period. These new tourism jobs had a particularly significant impact in smaller Great Lakes communities. In Ashtabula, OH, for example, the GLRI accounted for nearly 10% of all observed job growth from 2010 through 2016. The GLRI also accounted for a substantial proportion of new jobs in Duluth/Superior and Sheboygan, WI from 2010 through 2016.

Increases in the tourism industry due to the GLRI will continue to grow the regional economy in the decades to come. This study shows that every dollar of GLRI spending from 2010 through 2016 will generate $1.62 of economic value in tourism industries through 2036. This is nearly half of the total increase in economic activity that will be generated by the GLRI during this period.

Growing Tourism

Ashtabula – Pleasure boat registrations increased by 42% and boat rentals by 28% between 2008 and 2017.

Erie – Fishing and other recreational activities went up 22% in Presque Isle Bay between 2006 and 2017, and general tourism spending grew by 11% between 2010 and 2016.

Waukegan – Thousands of people now converge annually for festivals and other activities on the waterfront.

Buffalo – More than 1.5 million people attended 1,000 events on the waterfront in 2016, a ten-fold increase from 2010.

Sheboygan – Visitor spending increased by 32% between 2010 and 2016, and in 2017 boaters spent 41% more at the Harbor Centre Marina than in 2014.

Muskegon – Customers using the city marina increased 19% since 2013 and hotel tax revenue in the city rose 45% between 2010 and 2017.

Detroit – Water-based recreation has become popular on the heavily industrialized Detroit River, with one kayak outfitter and tour company experiencing a 500% increase in business since 2013.

Economic Benefits from Improved Quality of Life

The GLRI has had a significant impact on the amenity value and quality of life of people living in Great Lakes coastal communities. The concept of quality of life in the context of a region or community encompasses such things as an area's physical appearance and condition; the availability and characteristics of parks, open spaces, and recreational opportunities; and access to shopping, dining, and entertainment.[11] This study quantified the impact of GLRI spending on intangible community characteristics like these by examining how GLRI spending affected local housing prices. This analysis is based on the theory that increasing the amenities that a community offers increases the amount of money people are willing to pay to live there and enjoy those amenities.

The results of this study show that GLRI project spending from 2010 through 2016 improved the amenities in coastal communities in the Great Lakes region, and that those improvements increased the value that residents place on living here. This study demonstrates this change in perception as reflected in local house prices. Every dollar of GLRI spending from 2010 through 2016 produced quality of life improvements in Great Lakes coastal communities worth $1.08 to residents. These results mean that people place a higher value on living in those communities because of GLRI projects.

The case studies illustrate the impact of improvements in the region's quality of life and the increased value people place on living in Great Lakes communities. New apartments, condos and other housing options have gone up in each of the case study communities since GLRI investments began in 2010.

New Waterfront Housing

Duluth – A new $38 million residential and mixed-use development opened on Duluth's waterfront in 2017.

Buffalo – A former shipping facility was redeveloped into an $18 million apartment building.

Detroit – More than $100 million has been invested in new or renovated waterfront residential buildings.

Sheboygan – More than 400 new housing units are under development along the waterfront, reflecting nearly $70 million in investment.

Residents report increased enjoyment of their communities due to the environmental improvements and increased shoreline amenities generated by the GLRI. Stakeholders in Buffalo report a definite connection between the improved perception of Buffalo's waterways and the "entire self-esteem of the city." Before the GLRI-funded cleanup in Sheboygan, WI, residents viewed the waterfront as "a black eye on the community." Now residents are celebrating the waterfront as one of the community's most valuable features. And the growing number of new restaurants in the harbor district in Ashtabula, OH have earned the area a reputation among residents as a "foodie destination."

[11] The Center for Community Progress recommends that communities consider 25 "quality of life" elements when framing a strategy for increasing the amenity value and quality of life in neighborhoods. *See* Center for Community Progress, https://www.communityprogress.net/increasing-the-amenity-value-and-quality-of-life-pages-241.php.

Employers in the case study communities are using the region's improved quality of life as a means of attracting and maintaining talent. Employers in Erie, PA use improved waterways and access to beaches as a tool for recruiting younger residents. In turn, millennials in Erie, PA report a new sense of optimism for the community and a growing interest in contributing to its continued revitalization. And the city of Sheboygan, WI is using access to the waterfront and the availability of attractive waterfront housing to recruit new residents to fill open jobs, specifically targeting young people interested in livable, recreation-oriented places.

These efforts appear to have been successful in the case study communities, which report that young people find improvements in the region's quality of life particularly valuable and important. Listening sessions in the city of Superior, WI were heavily attended by millennials who reported that they are interested in living in Duluth/Superior because they identify with and feel a connection to Lake Superior. Case study interviewees reported that millennials in Waukegan, IL, who previously tended to relocate to the north shore communities of Chicago, are staying in Waukegan to enjoy the waterfront and because they feel a connection to its environmental significance. Millennials in Detroit, who now constitute 22% of the city's population (a higher percentage than in Michigan overall), report an appreciation for the city's natural assets and are expected to drive continued environmental restoration as the city's future leaders.

Conclusion

This study analyzed project spending under the GLRI from 2010 through 2016 and documented "on the ground" impacts of GLRI investments through case study interviews with community leaders. The study determined that every dollar of GLRI spending during this period will generate an additional $3.35 in economic activity for the region through 2036. The study results further support the conclusion that the GLRI program generated positive economic benefits for the Great Lakes region in terms of improved quality of life and growth in tourism.

The results illustrate a markedly positive trend in environmental, economic and social health in the Great Lakes region – and in the eight case study communities in particular – that contrasts with the economic decline that has characterized the region in recent decades. While other factors certainly are at play, the GLRI clearly contributed to this positive trend. The GLRI's impacts highlight the importance of programs that stabilize Great Lakes communities by supporting jobs, creating new amenities to improve the quality of life, and providing opportunities and a "sense of place" that help to retain and attract residents.

Project Team and Acknowledgments

The project team was led by the Council of Great Lakes Industries and the Great Lakes Commission, and included the Alliance for the Great Lakes, the National Wildlife Federation, the Great Lakes Metro Chambers Coalition, the University of Michigan Water Center, and the Michigan Office of the Great Lakes.

Researchers included Dr. Gabriel Ehrlich, Dr. Michael McWilliams, and Don Grimes of the Research Seminar in Quantitative Economics at the University of Michigan. Dr. Marcello Graziano, Dr. Matt Liesch, and Leila Irajifar of Central Michigan University; Dr. Michael Moore of the University of Michigan, and Dr. Robyn Meeks of Duke University contributed to the research that underlies the study.

Nina Ignaczak and Patrick Dunn of Issue Media Group, Inc. conducted research and interviews in the eight case study locations and prepared quantitative case study narratives.

The project team acknowledges the contribution of a panel of economists that reviewed and provided an impartial critique of the research and ensured methodological rigor. The panel included nationally recognized experts from outside the Great Lakes region with experience and knowledge about the research methods employed in the study.

- Patrick Barkey, Director, Bureau of Business and Economic Research, University of Montana
- Craig Bond, Senior Economist, Rand Corporation
- Nicholas Burger, Senior Economist, Rand Corporation
- Colby Lancelin, Principal Planning Coordinator, Atlanta Regional Commission, Research Analysis Division
- Robert Litan, Visiting Senior Policy Scholar, McDonough School of Business, Georgetown University
- Bryce Ward, Associate Director at the Bureau of Business and Economic Research, University of Montana

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- John Austin, Director, Michigan Economic Center
- Jade Davis, Vice President, External Affairs, Port of Cleveland
- John Dickert, President and CEO, Great Lakes and St. Lawrence Cities Initiative
- Steve Fisher, Executive Director, American Great Lakes Ports Association
- Kim Foreman, Executive Director, Environmental Health Watch
- George Heartwell, former Mayor of Grand Rapids, Michigan
- Michael "Mic" Isham, Executive Administrator, Great Lakes Indian Fish and Wildlife Commission
- Kim Marotta, Director of Sustainability, MillerCoors
- Cara Matteliano, Vice President, Community Impact, Community Foundation of Greater Buffalo
- Matt McKenna, Director of the Great Lakes Washington Program, Northeast-Midwest Institute
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- Bill Steers, General Manager, Communications & Corporate Responsibility, ArcelorMittal

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A team led by the Great Lakes Commission and the Council of Great Lakes Industries coordinated this study. The team included the Alliance for the Great Lakes, the National Wildlife Federation's Great Lakes Regional Center, the Great Lakes Metro Chambers Coalition, Michigan's Office of the Great Lakes, and the University of Michigan's Water Center. Research was led by the University of Michigan's Research Seminar in Quantitative Economics and overseen by a panel of economists and other experts from outside the Great Lakes region. The case studies were developed by the Issue Media Group and a panel of Great Lakes stakeholders provided guidance on the scope of the project and helped articulate the outcomes. Funding for the study was provided by the Charles Stewart Mott Foundation, the Fred A. and Barbara M. Erb Family Foundation, the Joyce Foundation, and the Wege Foundation, the Fund for Lake Michigan, Michigan Department of Natural Resources' Office of the Great Lakes, and the Pennsylvania Department of Environmental Protection's Office of the Great Lakes.

Great Lakes Commission des Grands Lacs

CGLI Council of Great Lakes Industries