FINAL REPORT: Midpoint Evaluation of the National Fish and Wildlife Foundation's Great Lakes Business Plan

Submitted by
Environmental Policy Innovation Center, ECT and Broadview Collaborative

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Executive Summary

This summary presents key findings for each question included in the third-party mid-point evaluation report for the National Fish and Wildlife Foundation's (NFWF) 10-year Great Lakes Business Plan (2015-2025). The Great Lakes Business Plan is NFWF's strategy to guide its investments in streams, coastal wetlands, and water quality with the goals of improving habitat quality and connectivity and water quality in the region. Full implementation of the plan will require about $103 million in NFWF grant funding with 1:1 matching yielding $206 million in total funding. This evaluation reviewed 174 project funded at roughly $43 million. Findings were developed through a document and metrics review of projects awarded between 2016 and 2021 and interviews with over 50 grantees representing over half of the project set. The findings are aimed at an audience of NFWF staff with responsibility for implementing the business plan, NFWF's Board of Directors, funding partners, grantees, and others who are interested in NFWF's Great Lakes programs. Varying degrees of progress have been made toward reaching the goals of the Great Lakes Business Plan, which reflects a diverse portfolio of projects and approaches. This report includes recommendations that would further the attainment and sustainability of NFWF's goals, as well as more fully capture community benefits that grantees are already achieving.

Evaluation Question #1: What types of projects have yielded the greatest conservation benefits, in terms of addressing the specific goals of the Great Lakes Business Plan? What outcomes have they yielded?

Five years into the Great Lakes Business Plan, projects are progressing toward goals to varying degrees (see table).

Stream Metrics	**Goal**	**Progress**	**% of Goal**
Miles of stream with instream structures installed	40	165	413%
Miles of in-stream habitat restored or naturalized	20	71.26	356%
Miles of riparian habitat restored	100	100.9	101%
Fish passage barriers rectified	200	88	44%
Miles of stream reconnected for fish access	1500	538.1	36%
Wetlands Metrics	**Goal**	**Progress**	**% of Goal**
Acres of other wetland restoration	3,000	6,741	225%
# of wetland acres restored: invasive species removal/seeding native plants	10,000	13,548	135%
# of barriers rectified to provide access to wetlands	25	18	72%
Install/repair 25 water control structures	25	16	64%
Water Quality Metrics	**Goal**	**Progress**	**% of Goal**
Acres of agricultural land managed to reduce sediment and nutrient runoff	6,000	26,808	447%
Number of road-stream crossings replaced/improved	150	88	59%
Capture or treat 400 million gallons of stormwater runoff annually	400,000,000	230,311,478	58%
Square feet of green infrastructure installed	4,000,000	1,433,891	36%
Pounds of sediment prevented from entering basin waterways annually	30,000,000	7,655,272	26%
Pounds of phosphorus prevented from entering basin waterways annually	100,000	25,866	26%

Some targets have already been exceeded (green), others are on track to be met by 2025 (over 50% of the way to the target, blue), and others are lagging (less than 50% of the way to the target, red). Stream projects are farther ahead than wetlands or water quality projects in meeting business plan goals when looking at the number of metrics exceeding goals (3 of 5 stream metrics have already been met or exceeded). Two stream metrics and three water

quality metrics (in red) will require more funding and attention from NFWF over the next five years to fully reach their goals.

The extent to which projects are attaining the specific goals of the business plan is a function of the number of projects funded (i.e., enough or too few) and/or the scope of the funded projects (i.e., large enough or too small in terms of the outcomes achieved by the projects) relative to the magnitude of the goal. To achieve some of the business plan goals, NFWF will need to fund more, or larger (or both) projects. For example, 35 projects for removing sediment from waterways collectively achieved only 26% of the goal of 30 million pounds of sediment prevented; NFWF needed to approximately double either the size or number of those projects to reach the 50% mark in the first five years.

Evaluation Question #2: Are there common characteristics of projects that make significant contributions to the Great Lakes Business Plan goals? Are certain types of projects less successful?

Projects that made significant contributions to the business plan were more likely to be implemented by better resourced grantees (e.g., financial resources and established networks) with multiple Great Lakes Business Plan grants, primarily large national conservation NGOs or state and local government entities. For example, just 12 grantees were responsible for the 22 highest-contributing stream projects; and three large NGOs had two-thirds of the highest-contributing wetland projects. Further, there was a higher proportion of top-contributing stream and water quality projects run by government entities as compared to all stream/water quality projects. Characteristics, such as size of NFWF award, number of funding partners, and project area, varied widely among projects and did not consistently determine whether individual projects made significant contributions to the business plan. Some project types deliver only an incremental outcome relative to ambitious goals, making them appear less successful in terms of making contributions to the business plan. For instance, stream connectivity projects deliver on average 18 miles of stream each, against a goal of 1,500 miles. By contrast, projects associated with the goal of in-stream habitat restored average 4.5 miles each against a goal of 20 miles.

Evaluation Question #3: How sustainable are the conservation outcomes of NFWF's projects? What steps are grantees taking to support the outcomes' long-term sustainability? What risks to sustainability remain?

"Sustainable" conservation outcomes are defined as those that persist at least 10 years after the business plan ends. Five years into the business plan, sustainability of outcomes cannot be verified; however, NFWF and grantees are taking significant steps to identify and address challenges to sustainability. Over half of business plan projects have three to four sustainability measures–such as long-term monitoring plans and climate resilience planning–built into the project. One-third of projects have one to two measures; and virtually all have at least one measure:

- Most grantees are seeking to increase capacity and resources for sustaining outcomes beyond the grant period by (1) prioritizing robust and strategic partnerships and (2) linking project activities to larger planning and restoration frameworks.
- Roughly half of projects contain recreation and/or volunteer components, which ideally build sustainability through increased capacity in local communities.
- About 40% of projects involve invasive species treatment or removal. Invasive species are notoriously hard to eradicate and NFWF's Sustain Our Great Lakes funding for retreatment of invasive species acres will ideally continue addressing this sustainability challenge.
- Long-term monitoring and maintenance are necessary to ensure sustainability of project outcomes, especially for projects with activities such as tree planting and agricultural best management practices (BMPs); grantees

are addressing this need through partnerships with local counties and other entities with established maintenance budgets.

- Only about one-third of projects incorporate climate resilience considerations or designs. For example, grantees are designing culverts to absorb larger storm events, leading to resilient structures that ameliorate flood risk upstream of the culvert.

Evaluation Question #4: To what extent does the Great Lakes Business Plan align with new funding that became available after the plan was written or are there gaps in its goals and strategies? If so, which areas of the Business Plan could be adjusted to better reflect the impact of all NFWF's investments?

Since the adoption of the business plan, NFWF secured more than $16.5 million in funding to be directed toward green stormwater infrastructure strategies. Importantly, this funding was intended to invest in projects that achieve multiple benefits, adding significant stormwater storage while also delivering benefits to communities, including increasing public access to natural areas, educational, volunteer and employment opportunities, and longer-term community capacity building. Adding community-related metrics to the business plan under streams, wetlands, and water quality would allow NFWF to more fully capture and report on benefits delivered from investment in the region. Grantees currently collect metrics associated with community benefit goals; specifically, NFWF could add an action under each of the project types that appropriately captures the magnitude of community benefits as defined by one or more of the following metrics: (1) Number of public access points developed/improved, (2) Number of jobs created, (3) Number of volunteer hours, and/or (4) Number of people reached by outreach, training, or technical assistance.

Recommendations

1. **NFWF should direct remaining funding under the business plan to projects that can contribute to the metrics that are currently lagging.** For example, while projects have already exceeded 3 of 5 stream goals, the main goal of restoring fish access to 1,500 stream miles has not been met and should be prioritized.
2. **Consider longer-term investments.** Longer-term funding would benefit projects with higher sustainability challenges (green stormwater infrastructure/invasive species) or those goals that require landscape-scale investment (e.g., fish passage). Additional grants for planning, monitoring, and maintenance of project outcomes may prove beneficial.
3. **To increase the number of projects that incorporate climate resilience considerations or designs, consider grant-making to support projects that incorporate risk modeling, climate change forecasting, and resilient design.** Robust modeling and forecasting can help grantees see where project outcomes will overlap with threats such as frequent high water from flooding, new invasive species, and temperature swings, and can help them ensure sustainability through prioritizing resilient designs, site selection, and long-term maintenance.
4. **Provide more support towards community engagement and capacity building**. Community engagement incorporates community perspectives in the design and implementation of projects and are part and parcel of project sustainability. NFWF can support meaningful community engagement through 1) providing longer-term funding or additional funding for capacity building and community engagement, especially to projects that want to build out long-term monitoring or stewardship activities that rely on volunteer development; 2) funding capacity development for community organizations as well as grantees; and 3) looking for ways to fund community groups.

Background, Purpose, and Approach

Evaluation Purpose and Questions

In 2021, the National Fish and Wildlife Foundation (NFWF) sought a third-party mid-point evaluation of its 10-year Great Lakes Business Plan (2015-2025) to review grant-making to date, characterize the programs' successes, identify the characteristics of grants that achieve the highest impact and offer recommendations to NFWF for any business plan adjustments for its remaining 5 years. The evaluation report was prepared by a multidisciplinary team comprised of the Environmental Policy Innovation Center, ECT, Inc. and Broadview Collaborative, with expertise in data collection and analysis, restoration approaches, evaluation and strategic grant-making. The report is aimed at an audience of NFWF staff with responsibility for implementing the business plan, NFWF's Board of Directors, funding partners, grantees, and others who are interested in NFWF's Great Lakes programs.

For this mid-point evaluation, NFWF asked for responses to four evaluation questions:

1. What types of projects have yielded the greatest conservation benefits, in terms of addressing the specific goals of the Great Lakes Business Plan? What outcomes have they yielded?
2. Are there common characteristics of projects that make significant contributions to the Great Lakes Business Plan goals? Are certain types of projects less successful?
3. How sustainable are the conservation outcomes of NFWF's projects? What steps are grantees taking to support the outcomes' long-term sustainability? What risks to sustainability remain?
4. To what extent does the Great Lakes Business Plan align with new funding that became available after the plan was written or are there gaps in its goals and strategies? If so, which areas of the business plan could be adjusted to better reflect the impact of all NFWF's investments?

Methodology Overview

The evaluation team completed a document review, metrics review, and interviews with grantees and funders. The document review included reading the Great Lakes Business Plan; RFPs associated with the programs that support the business plan; and grant documents including the grant proposal, and interim and final reports where available, for 174 projects awarded during the program's first five years of grant-making: 2016 to 2021. Data from the document review was compiled into supplementary metrics to use in conjunction with the outcome metrics NFWF provided; together, these two datasets informed the metrics review. Fifty-one interviews were held with project grantees representing 87 projects (some grantees manage multiple projects). Additional details about the methods used are provided in the appendices.

Caveats

NFWF's diversified portfolio of projects under the business plan exhibit varying levels of risk, sustainability, timeliness of outcome delivery, and tracked outcomes that map directly to goals. Success in this environment can be highly subjective. For instance, projects with a primary focus on species outcomes may yield sustained long-term results that are evident only after the end of the NFWF grant period (and do not therefore appear in the outcomes metrics) while projects that appear immediately successful (e.g., invasive species removal) may suffer from long-term sustainability challenges that negate the acres restored outcome. Similarly, projects whose primary focus is not directly aligned with current business plan goals (e.g., a project that focuses on

community engagement for long-term stewardship) may appear less impactful because the acres restored may be lower than the number for projects that utilize a skilled contractor, but in the long-term may be more impactful because the long-term stewardship capacity built in the community through the project helps sustain outcomes.

Some of the data compiled from document review and/or interviews is less accurate in the absence of a reporting requirement for certain project details (i.e., grantees did not report certain details because they did not have to). Therefore, some of the conclusions may either under- or over-estimate the impact of certain project characteristics on business plan goals.

Finally, there is potential for single projects to deliver huge outcomes, such as with a particular agriculture BMP water quality project, but this is not the norm across most business plan projects.

Background

The Great Lakes region is the world's largest fresh surface water system[1], supplying more than 30 million people with drinking water, habitat for over 3,500 plant and animal species, including rare and unique species, and 150,000 stream miles. Over the past two centuries, this region has experienced extensive ecological impacts including coastal wetland losses, worsening water quality, and dams that restrict fish passage. These impacts affect the region's brook trout and sturgeon populations, and hundreds of millions of migratory birds. This ecological decline also has human impacts that threaten water quality and recreational opportunities and increase the risk of flood damage to property.

NFWF has been actively engaged in grant-making in the region for 16 years, with initial investments through Sustain Our Great Lakes (SOGL) augmented by subsequent contributions through the Chi-Cal Rivers Fund, Conservation Partners Program, Southeast Michigan Resilience Fund, and other NFWF programs.

Goals and Outcomes of the Great Lakes Business Plan

Adopted in 2015, the 10-year Great Lakes Business Plan guides NFWF's grant-making throughout the Great Lakes region in support of addressing some of these ecological impacts. The business plan draws on priorities set by the Great Lakes Restoration Initiative (GLRI) and other regional restoration efforts. The business plan is focused on increasing the numbers and range of fish, birds, and other wildlife—in particular, indicator species that signal habitat health—and reducing pollution from agricultural, urban and roadway runoff to improve water quality.

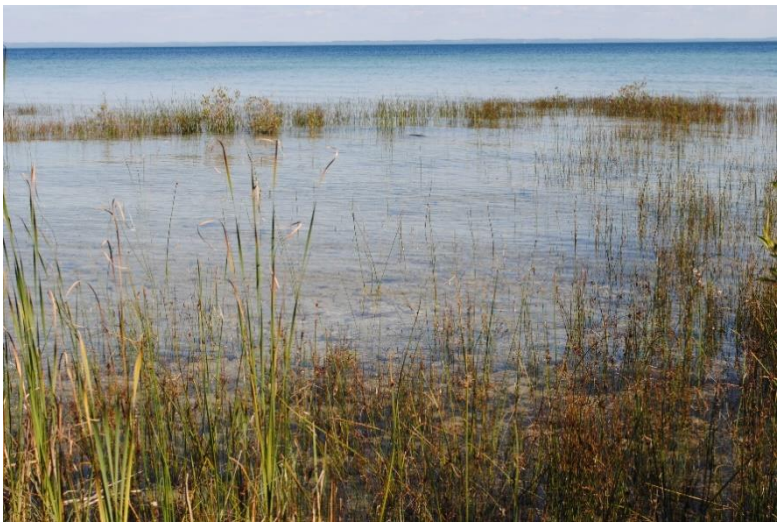


Photo: Grand Traverse Bay, courtesy ECT, Inc.

[1] https://www.glri.us/about

Ten desired outcomes are supported by twelve targeted actions within three priority areas of the plan:

Table 1: 2015 Business Plan Conservation Outcomes and Targeted Actions

Outcomes	Targeted Actions
Streams	
• Restore fish access to 1,500 stream miles • Restore viable populations of brook trout and other cold-water fish in 75 stream miles • Increase lake sturgeon reproduction by 100% in three rivers	• 200 fish passage barriers rectified • 20 miles of in-stream habitat restored or naturalized • 40 miles of streams with instream structures installed • 100 miles of riparian habitat restored
Coastal Wetlands	
• Restore 13,000 acres • Increase the carrying capacity of restored shorebird habitat, providing sufficient energy to support approximately 80,000 more shorebirds during the fall migration period[2] • Increase the carrying capacity of restored waterfowl habitat, providing sufficient energy to support approximately 80,000 more waterfowl during the spring migration period • Restore access by northern pike and other marsh-spawning fish to 25 coastal wetlands larger than 10 acres	• 25 barriers rectified to provide access to wetlands • Install/repair 25 water control structures • 10,000 wetland acres restored: invasive species removal/seeding native plants • 3,000 acres of other wetland restoration
Water Quality	
• Reduce phosphorus inputs to basin waterways by 100,000 pounds • Capture or treat 400 million gallons of stormwater runoff annually • Reduce sediment inputs to surface waters by 30 million pounds	• 6,000 acres of agricultural land managed to reduce sediment and nutrient runoff • 4 million square feet of green infrastructure installed • 150 road-stream crossings replaced/improved • 30 million pounds of sediment prevented from entering basin waterways annually

[2] The business plan's waterfowl and shorebird outcomes were updated in 2018 to more accurately reflect NFWF's impact on priority migratory waterfowl.

NFWF's grant-making under the Great Lakes Business Plan is distributed across a range of programs[3]:

- Sustain Our Great Lakes (SOGL)
- Chi-Cal Rivers Fund (Chi-Cal)
- Conservation Partners Program (CPP)
- Southeast Michigan Resilience Fund (SEMI) - added in 2018
- Bring Back the Native Fish
- Other grants

Since adoption of the business plan, to address and maintain successes for certain business plan metrics, NFWF added three SOGL funding categories:

- Maintain and Enhance Benefits of Habitat Restoration through Invasive Species Control
- Restore and Preserve Natural Areas and Biodiversity in Wisconsin's Lake Michigan Watershed
- Accelerate Implementation of Conservation Practices and Regenerative Agriculture on Working Lands

NFWF added funding under the Southeast Michigan Resilience Fund (SEMI) in 2018. This program supports green stormwater infrastructure, habitat restoration and public access projects. Average per project awards vary across these programs (Figure 1). After normalizing the NFWF award dollars by the number of projects, on a project-by-project basis, projects within the SOGL program receive approximately $65,000 more than projects in either SEMI or Chi-Cal and between $170,000 and $207,000 more than the other programs.

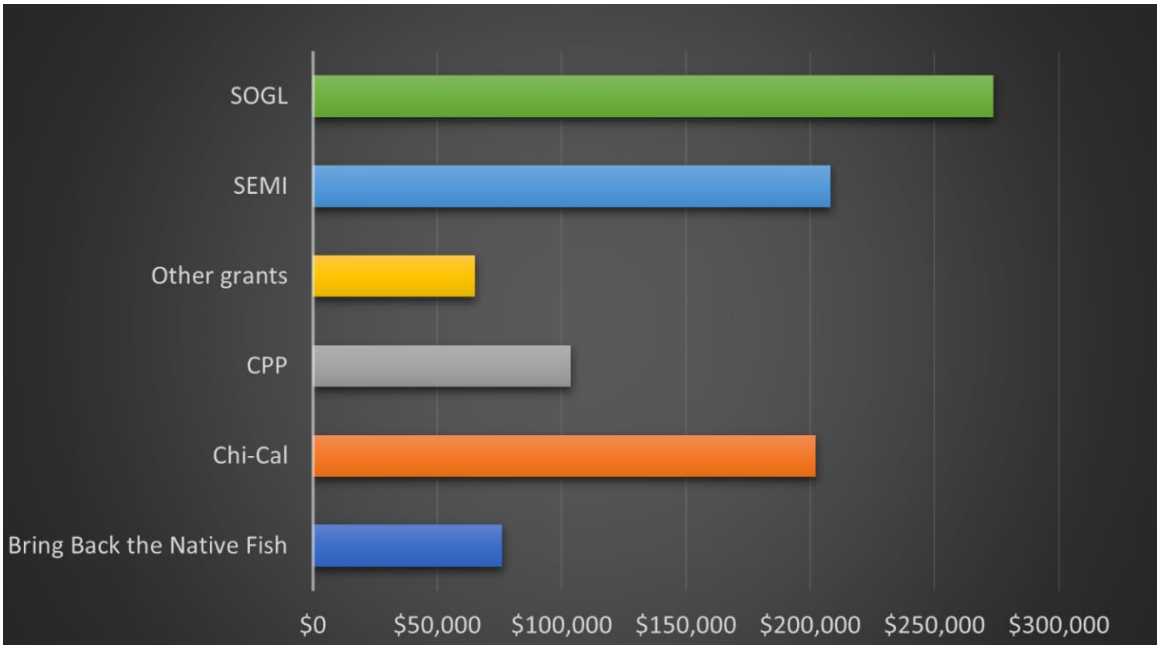


Figure 1: Average Per Project NFWF Award

In the years since NFWF drafted the Great Lakes Business Plan, its funders' priorities have expanded, with new interest in community resilience, green infrastructure to support access to nature and greenspace, controlling invasive species, and sustainable and regenerative agricultural practices. This evaluation included more than 170

[3] More detail on these programs is available via NFWF's website at: https://www.nfwf.org/programs

grants awarded during the plan's first five years. The location and funding levels of business plan projects across the region (Figure 2) helps provide an understanding of where these projects and grant dollars are being distributed. A concentration of projects and funding is present in the strategic priority area near Milwaukee and Detroit. Many projects sit outside the boundaries of strategic priority areas, along the southern boundary of Lake Erie and Lake Ontario.

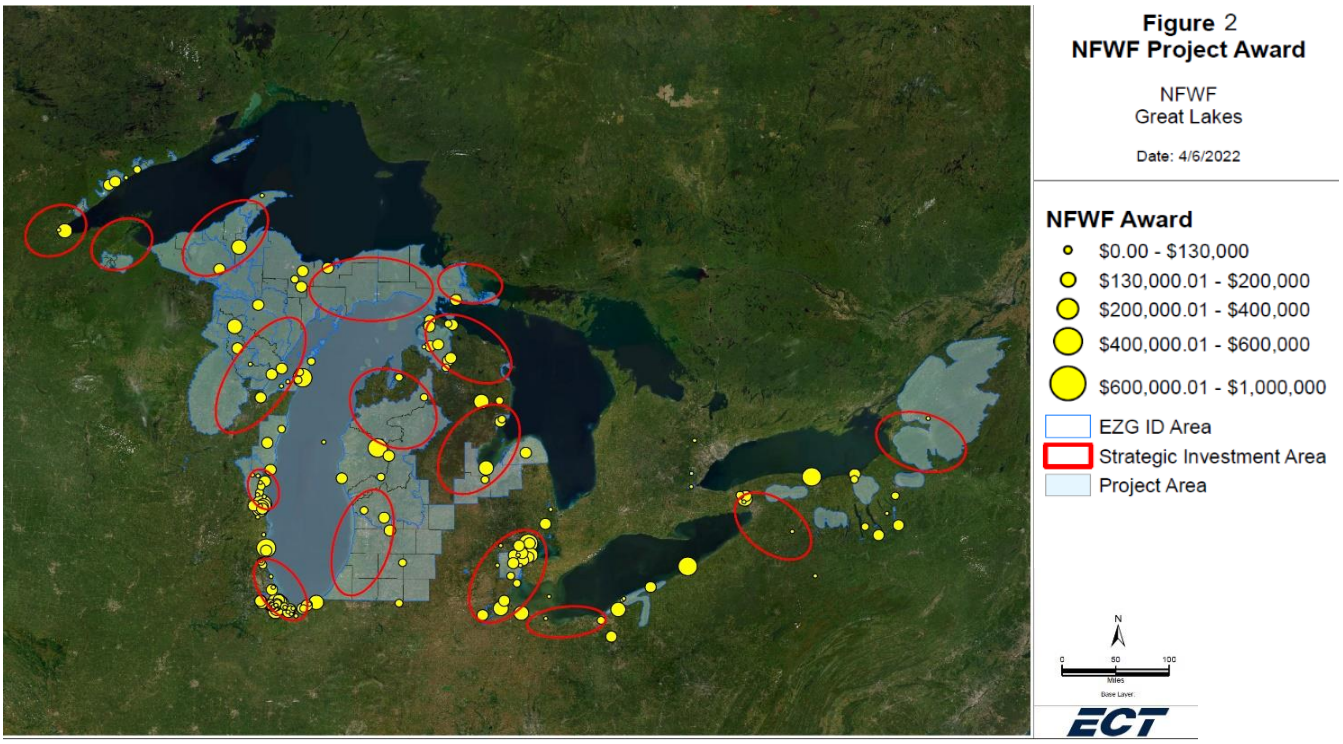


Figure 2: NFWF Project Award Locations

Evaluation Findings

Evaluation Question #1: Project types, conservation benefits, and outcomes

What types of projects have yielded the greatest conservation benefits, in terms of addressing the specific goals of the Great Lakes Business Plan? What outcomes have they yielded?

Key Findings

Five years into the Great Lakes Business Plan, projects are progressing toward goals to varying degrees (Table 2). NFWF has already exceeded six business plan goals (green), is on track to meet four business plan goals by 2025 (over 50% of the way to the target, blue), and is lagging in meeting five business plan goals (less than 50% of the way to the target, red). Across project types, stream projects are exceeding in 3 of the 5 stream metrics; wetlands have exceeded 2 of the 4 wetlands metrics; and water quality projects have exceeded one of the 6 water quality metrics. Two of the wetland metrics and two of the water quality metrics are on track to meet the goals by 2025. Two of the stream metrics (fish passage barriers rectified and miles of stream reconnected for fish access) and three of the water quality metrics (square feet of green infrastructure installed, pounds of

sediment prevented from entering basin waterways annually, and pounds of phosphorus prevented from entering basin waterways annually) are lagging in meeting goals, and will require more funding and attention from NFWF over the next five years in order to meet these goals.

Table 2: Progress Toward Great Lakes Business Plan Goals by Project Type

Stream Metrics	**Goal**	**Progress**	**% of Goal**
Miles of stream with instream structures installed	40	165	413%
Miles of in-stream habitat restored or naturalized	20	71.26	356%
Miles of riparian habitat restored	100	100.9	101%
Fish passage barriers rectified	200	88	44%
Miles of stream reconnected for fish access	1,500	538.1	36%
Wetlands Metrics	**Goal**	**Progress**	**% of Goal**
Acres of other wetland restoration	3,000	6,741	225%
# of wetland acres restored: invasive species removal/seeding native plants	10,000	13,548	135%
# of barriers rectified to provide access to wetlands	25	18	72%
Install/repair 25 water control structures	25	16	64%
Water Quality Metrics	**Goal**	**Progress**	**% of Goal**
Acres of agricultural land managed to reduce sediment and nutrient runoff	6,000	26,808	447%
Number of road-stream crossings replaced/improved	150	88	59%
Capture or treat 400 million gallons of stormwater runoff annually	400,000,000	230,311,478	58%
Square feet of green infrastructure installed	4,000,000	1,433,891	36%
Pounds of sediment prevented from entering basin waterways annually	30,000,000	7,655,272	26%
Pounds of phosphorus prevented from entering basin waterways annually	100,000	25,866	26%

Detailed Results by Project Type

Stream Projects

The evaluation team reviewed 53 stream projects, which make up 30.5% of the total projects. Stream projects carry out activities such as stream bank restoration, meandering a channelized stream, and removal of barriers to fish migration. The cumulative funding provided by NFWF on these projects is approximately $12.5 million, ranging from $50,000 to $850,000 per project. This equates to approximately 71% of the 2015-2020 budget for stream and riparian habitat as defined in the Great Lakes Business Plan.

When taken as a group, the projects that are yielding the greatest conservation benefits in terms of addressing the specific goals of the Great Lakes Business Plan are projects that install instream structures (165 miles; 413% of the goal); restore or naturalize in-stream habitat (71 miles; 356% of the goal); and projects that restore riparian habitat (101 miles; 101% of the goal). The bundle of stream projects working on rectifying fish passage barriers and reconnecting streams for fish access are farther behind, at only (88 miles; 44%) and (538 miles; 36%) of those goals, respectively. Individual projects are effectively contributing to the business plan goals on a per-project basis, but in sum they are not reaching the established goals because not enough of them have been funded or the funded projects are not big enough to better reach the goals.

Multiple stream projects are also contributing to the goals of reduction of sediment and phosphorus from entering waterways. The contributions of stream projects to these goals have been combined to the contributions from water quality projects (see below). Stream projects are also fully responsible for progress made towards the goal of number of road stream crossings replaced or improved under water quality projects.

Wetlands Projects

The team reviewed 69 wetlands projects, or 39.7% of the total number of projects. Wetland projects focus on improving the habitat quality of coastal wetlands. Wetlands projects include activities such as in-stream water control structures to restore hydrology, native plantings, and invasive species removal. Over $17 million in NFWF funding has been allocated to wetland projects. This equates to approximately 76% of the 2015-2020 budget for coastal wetlands as defined in the business plan.

The projects that are yielding the greatest conservation benefits in terms of addressing the specific wetland goals of the Great Lakes Business Plan are projects that deliver acres of wetland restoration (225%), and those which restore wetland acres through invasive species removal and/or seeding native plants (135%).

Water Quality Projects

There were 52 water quality projects in the evaluation, or 29.9% of the total number of projects. Water quality projects include best management practices (BMPs) for sediment or nutrient reduction and/or green infrastructure. The total NFWF funding for water quality projects over the evaluation period was approximately $13 million. This equates to over 175% of the 2015-2020 budget for water quality projects as defined in the business plan.

As a group, the projects yielding the greatest conservation benefits in terms of addressing the water quality goals of the Great Lakes Business Plan are projects that install BMPs on agricultural land to reduce sediment and nutrient runoff (447%).

Photo: West Bay, MI, courtesy ECT, Inc.

Species Goals and Outcomes

Several key goals of NFWF's Great Lakes Business Plan center on target species that rely on the region's streams, lakes, and wetlands for their survival: various shorebirds and waterfowl, brook trout, lake sturgeon, and northern pike. NFWF's grant-making benefits these and many other (non-target) aquatic, avian, and terrestrial species identified by grantees, as shown in the sidebar. NFWF has developed a monitoring and evaluation plan for documenting species outcomes associated with its Great Lakes grant-making. As part of this plan, NFWF engages third-party contractors to implement monitoring protocols and gather data on species use at its project sites. Contractors apply a consistent methodology across numerous projects, allowing for inter-site comparisons and synthesis of results. Post-implementation species monitoring often occurs after the conclusion of individual grant periods (typically 2 to 3 years from grant award), allowing for the time needed for a target population to demonstrate the expected response following project completion. As a result, NFWF does not ask its grantees to report metrics on species outcomes. However, document review and interviews revealed species-related benefits of business plan grant-making. Numerous interviewees were enthusiastic when they described the species benefits they witnessed. For example, one interviewee said of his water quality project: "the birds are telling us we're doing this right."

Examples of Non-Target Species Benefitting from the Projects

Endangered Hine's emerald dragonfly

Blanding's turtle

King rail

Least bittern

Sandhill cranes

Golden-winged Warbler

American Woodcock

Ring-necked pheasant

Whitetail deer

Evaluation Question #2: Common Characteristics

Are there common characteristics of projects that make significant contributions to the Great Lakes Business Plan goals? Are certain types of projects less successful?

Key Findings

Projects that make significant contributions to the Great Lakes Business Plan goals are more likely to be implemented by better resourced grantees with multiple grants under the business plan, such as large conservation NGOs or state and local government entities. Other characteristics were not material in determining whether projects made significant contributions.

There are not certain types of projects that are less successful. At the individual project level, all projects are successful in making contributions towards the Great Lakes Business Plan goals; if a project appears less successful, it is because the project's relative contribution to the overall metric goal is low. Projects in metrics categories where the average relative contribution to the metric goal is high may appear to be more successful in contributing to goals (e.g., projects installing instream structures accomplished an average of 18 miles per project against an overall goal of 40 miles of stream), while projects in metrics categories where the average relative contribution to the metric goal is low may appear to be less successful (e.g., projects removing sediment contribute on average 220,000 pounds against a goal of 30 million pounds).

Common Characteristics of Projects

For the purposes of this evaluation, projects in the 75th-100th percentile of reported outcomes are considered to be making significant contributions to the business plan goals. For example, stream projects that achieve the most miles of stream reconnected for fish access, or wetland projects with the largest number of acres restored. Twenty-two stream projects (out of 53 projects, or 42%), 20 wetland projects (out of 68 projects, or 29%), and 17 water quality projects (out of 52 projects, or 33%) were identified as projects that make significant contributions to the business plan.

The evaluation team developed a list of characteristics that might facilitate a project making significant contributions to the business plan based on document reviews and interviews. These characteristics were then compared across the projects identified as making significant contributions and to all other projects. These characteristics are: project size both in terms of area/length and funding, project matching funds, type and capacity (e.g., resources, expertise) of grantee, environmental restoration activity, connection to related work in the project area, and community engagement through partnerships and volunteers, and recreation and/or educational components.

Projects that made significant contributions to the business plan were more likely to be implemented by grantees with larger financial resources, more established networks, and/or a track record of successfully implementing previous grants under the business plan. These grantees included large national conservation NGOs and state and local government entities. The 22 stream projects making the most significant contributions to business plan goals were implemented by only 12 grantees. Further, half of the 22 projects making significant contributions to business plan goals were implemented by government entities. For wetlands projects, two-thirds of projects making significant contributions to business plan goals are implemented by three large, national conservation NGOs. The highest contributing water quality projects are more likely to be government-run than others. However, water quality projects are *not* dominated by a small number of repeat grantees: 16 different grantees implement the 17 highest impact water quality projects. Other characteristics were not meaningfully important in whether or not a project made a significant contribution to the goals of the business plan.

On an individual project level, all projects funded by the Great Lakes Business Plan are helping NFWF make progress towards its stream, wetlands, and water quality goals, but no matter how effectively projects are implemented, some goals appear unattainable relative to how much contribution each grant is making. For example, the target of 30 million pounds of sediment removed will not be reached over the lifespan of the 10-year plan without funding many more projects because each project contributes an average of about 220,000 pounds, and there are not enough of them.

Evaluation Question #3: Sustainability of conservation outcomes

How sustainable are the conservation outcomes of NFWF's projects? What steps are grantees taking to support the outcomes' long-term sustainability? What risks to sustainability remain?

Key Findings

1. Over half of Great Lakes Business Plan projects have three to four sustainability factors–such as long-term monitoring plans and climate resilience planning–built into their projects; one-third of projects have one to two factors; and virtually all have at least one factor. These factors help to sustain the conservation outcomes of NFWF's projects.
2. Grantees take several steps to support the outcomes' long-term sustainability, including (1) prioritizing robust and strategic partnerships; (2) linking project activities to larger planning and restoration frameworks; and (3) building volunteer, education, and or/recreation components into projects.
3. Risks to sustainability that remain include funding for long-term monitoring and maintenance and climate change. Long-term monitoring and maintenance funding is particularly important for invasive species removal projects, which are included in almost half of business plan projects. NFWF's Sustain Our Great Lakes funding for retreatment of invasive species acres will ideally continue addressing this sustainability challenge. Only one-third of business plan projects incorporate climate change resilience considerations or designs; this area will benefit from additional attention in order to sustain conservation outcomes.

Sustainability of Conservation Outcomes

For the purposes of this evaluation, "sustainable" conservation outcomes are conservation outcomes that persist at least 10 years after the business plan ends. Most of the projects in the evaluation set were only recently completed, but key sustainability factors are potential indicators of project sustainability over a longer-term period after the grant concludes. A list of factors that support sustainability was generated from document review and interviews. Factors that could positively impact project sustainability are:

- **Monitoring and maintenance capacity, plans, and funding.** Projects under the business plan have project activities that vary in their monitoring and maintenance needs, and grantees have differing levels of monitoring and maintenance capacity, plans, and funding to meet those needs past the grant period.
- **Partnerships.** Partners bring expertise and resources; partnerships with private and public landowners provide access to grantees for project activities on lands that are not their own.
- **Longevity of project and/or integration with other restoration projects in the area.** Projects that are part of long-term, multi-phased efforts are positioned to have larger (landscape-scale) and more lasting impacts.
- **Climate resilience considerations of the project.** Climate resilience consideration can catalyze grantees to design and implement projects to be more durable in the face of increasing temperatures, more variable precipitation and intense storms.

- **Community engagement: volunteer, education, and/or recreation components.** Community engagement components can bring stakeholder engagement and ownership to project activities and develop capacity for communities to maintain conservation outcomes of projects past the grant period.

The majority of Great Lakes Business Plan projects have multiple sustainability factors built into project design and implementation (Figure 3). Over half of projects have three to four sustainability factors, while one-third have one to two factors and virtually all have at least one factor.

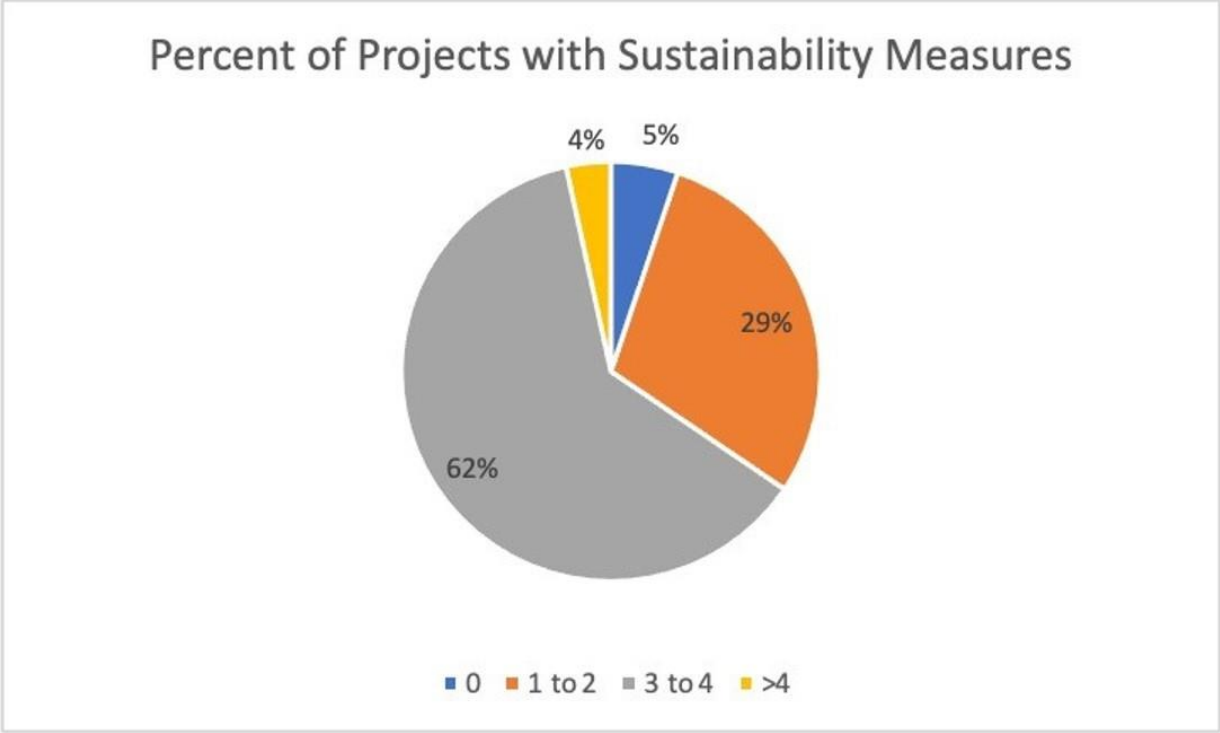


Figure 3: Percent of Projects with Sustainability Factors

The degree of uptake of specific sustainability factors varied. Fifty-two percent of projects included a volunteer component and 42% of projects included a recreation component. A smaller percentage of projects (27%) included climate change considerations.[4]

[4] Review of sustainability factors was based on the project proposal because some projects lack interim and final reports; as a result, estimates of sustainability measures may be underestimated if certain components were implemented in the projects after the proposals were accepted. Results may also be underestimates of actual sustainability factors because multiple reviewers independently extracted data from project documents; professional judgment or data extraction methods may have differed slightly, also resulting in an undercount of some sustainability factors.

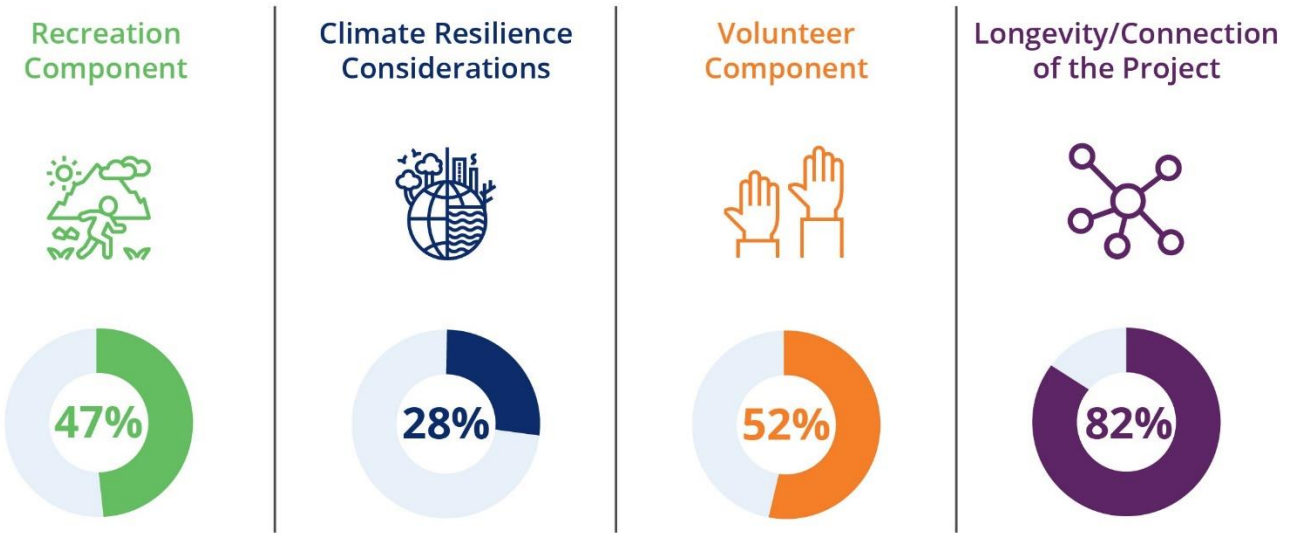


Figure 4: Sustainability Factors in Great Lakes Business Plan Projects

Steps Grantees are Taking for Sustainability

Monitoring and maintenance capacity, plans, and funding. Project activities have inherent sustainability potential based on the amount of monitoring and maintenance required to sustain outcomes in the short- to long-term. Infrastructure investments are necessarily longer-lived than invasive species control, or certain types of green infrastructure and restoration work focused on vegetation and tree planting. For example, activities such as culvert replacements, new stream crossings, and other structural solutions are long-lived, especially given the design considerations grantees are taking (more below). Other conservation activities, probably best illustrated by invasive species control projects, require ongoing effort to achieve lasting impact. Substantial seed banks built up over decades, as well as re-contamination from outside sources, mean that invasive species control requires retreatment to fully eradicate the undesirable species, and full eradication may be very difficult in some cases.

Almost half of business plan projects conduct invasive species removal, which is an activity prone to sustainability challenges and needing long-term funding (see Box 1). Many projects (21%) also plant trees; a smaller number implement agricultural BMPs (8%) as part of project design. The central role of vegetation in these types of projects necessarily require on-going and long-term monitoring and maintenance to secure project outcomes. A meaningful number of business plan projects, however, include activities with mid- to long-term sustainability, which center more on structural work and installing structures that have longer life cycles.

Invasive Species Projects Under the Business Plan

What interviewees shared about invasive species projects

- NFWF grants for this type of work are an important funding source but are too short to achieve sustainable success. One grantee said, "a two-year grant period doesn't align with nature's patterns." A 3 to 5-year timeframe would bolster sustainability by allowing for retreatment.
- Where grantees lack a dedicated source of funding for long-term management/maintenance, they rely on partners taking over when the grant period ends. Interviewees said things like, "we hope" the partners will do the work.
- Long-term sustainability of outcomes is hindered by difficulties finding funding for retreatment and long-term monitoring and maintenance; private lands on which grantees cannot enforce maintenance plans; changing private landowners; and the persistent reintroduction of invasive plants.
- Relationship building is critical to project success but adds time and cost to projects for landowner engagement and education and developing landowner agreements that precede on-the-ground restoration work. Cost-share agreements with private landowners help.
- Grantees often take a landscape approach, going beyond their borders to help manage invasive species dispersal.
- Some grantees have dedicated invasive species "strike teams" that can help bolster project outcomes.
- Invasive species removal projects have noticeable wildlife species benefits. Multiple grantees noted that species return very soon after the invasives are removed.

NFWF's plan for invasive species removal sustainability

Recognizing the need for retreatment of acres previously treated with invasive species control, NFWF added a funding stream specifically focused on sustaining the benefits of invasive species control after the initial treatment: SOGL Category 4, Maintain and Enhance Benefits of Habitat Restoration through Invasive Species Control. Over the past 5 years, NFWF has funded 20 invasive species control retreatment projects for a total amount of $4.5 million.

In order to reduce monitoring and maintenance costs, and to address multiple risks to sustainability (e.g., climate change, funding), grantees are making use of resilient materials and designs. Whereas in the past some wetland restoration grantees would have installed somewhat complex water-control structures that allowed wildlife managers to manipulate water levels to manage habitat, current grantees report designing projects that are inherently resilient and do not require as much human intervention. This is partly to control costs but is largely because wildlife and conservation agencies are losing their experienced staff to retirements and budget cuts. "We need to design for people who don't have that experience" reflected one grantee.

Partnerships. Grantees are resourceful in establishing and maintaining partnerships. Grantees intentionally leverage the comparative advantages of project partners to achieve project outcomes, increase project benefits, and sustain project outcomes. Some of the most valuable project partners are local governments, federal government agencies, academic institutions, cooperative environmental management groups (e.g., watershed councils/groups, cooperative invasive species management groups, friends groups), homeowners associations and private landowners, and experienced nonprofits. For example, maintaining culvert replacements and stream crossings are often the responsibility of county roads departments. Grantees improve the structure - and in the process often mitigate flooding and other forms of damage to the structure and surrounding area - leading to cost-savings for the roads department that ultimately maintains the structure. Grantees also try to work long-

term monitoring and maintenance into other planning activities (e.g., prescribed burning management plans that can help fund removal of invasive species seedlings). Partnerships are initiated by grantees for: species monitoring (e.g., with large conservation nonprofits with substantial research capacity); research into outcomes (e.g., with academic institutions); and invasive species removal (e.g., with private landowners).

Longevity of project and/or integration with other restoration projects in the area. Grantees think about their projects over long temporal and geographic scales. The message is the same for wetlands restoration, invasive species removal, or green stormwater installments: none are "one and done" projects, a term used by many grantees. Often grantees and their partners work to restore landscapes or water courses for more than five years before they see the cumulative impacts of their work. A secretive marsh bird returns, a rare plant species re-establishes from its native seed bank, adult sturgeon return to spawn, or a river is de-listed: these are the results of years and years of compounded work. While some types of projects do not yet have the benefit of prolonged investments, this should not be taken as a sign that they will not have lasting impact. Like other restoration efforts, Great Lakes Business Plan green stormwater infrastructure projects will require repeat investments over long periods of time and integrated landscapes to have noticeable and measurable impact.

Climate resilience considerations of the project. Climate change is a significant risk to sustainability of grantees' projects. Climate change may impact business plan projects in many ways: stream temperatures impact fish populations; intense storms increase erosion and therefore sedimentation and the integrity of structures such as bridges; and Great Lakes levels are changing. Fluctuating lake levels were frequently mentioned in interviews as a risk to projects along or near Great Lakes shorelines. Grantees are taking some steps to design with climate resiliency considerations in mind, such as designing new culverts to absorb large storm events, leading to greater resilience of the structure in the face of climate change while also ameliorating flood risk upstream of the culvert. Grantees also report using materials and designs for structures that would need little to no maintenance for as much as fifty years.

Community engagement: volunteer, education, and/or recreation components. Grantees place a premium on community engagement. Particularly grantees in urban environments and in natural spaces with high recreational/tourist visitation talk about the importance of the human community in achieving lasting change. Communication and outreach activities bring awareness to local environmental issues that could catalyze additional future support for project outcomes, such as through identifying new funding opportunities and volunteer stewardship. Speaking about a project focused on a specific pollinator, one interviewee said, the "idea of helping the [pollinator species] has gone viral, and a lot of that has happened through the communications we have done through this project and this project wouldn't be possible without NFWF." Another interviewee stated that through capacity-building activities, they are building "a web of connectivity in the area." When done well, community engagement goes beyond communications and outreach and facilitates a two-way relationship that allows the community to feel ownership and responsibility for outcomes. Projects that include public recreational access have a leg up on building stakeholder engagement and ownership. With ownership comes the desire to see a project succeed and thrive. The recreational component comes in a variety of activities including walking and interpretive pathways, fishing access, boating access, playgrounds, educational programming, and others. An active volunteer corps can also create a level of project ownership that fosters project sustainability. Community engagement can also be a critical way to blend NFWF's species focus with environmental restoration activities happening through Great Lakes projects. For example, in one project focused on NRCS agricultural BMPs, a grantee leveraged landowner education to bring bird-related benefits to project design.

Remaining Risks to Sustainability

The risks to sustainability that remain for the conservation outcomes of projects under NFWF's Great Lakes Business Plan are:

Lack of Funding for Long-Term Monitoring and Maintenance. Many projects do not have dedicated funding for monitoring and maintenance after the grant project ends, though grantees are working innovatively through partnerships to secure their outcomes. The typical length of a business plan grant period is not long enough for grantees to complete needed invasive species retreatment, or to monitor and maintain conservation outcomes. NFWF is already addressing the need for invasive species retreatment through a dedicated SOGL funding category. Changing private ownership on project area lands also challenges long-term monitoring and maintenance as grantees must establish new relationships and rework project agreements, whether formal or informal. Grantees noted that state and local budgets are susceptible to change, and they are concerned about drops in funding when administrations change.

Climate Change. Only about one-third of projects include climate resiliency and design considerations. Future grant-making could address this as discussed in the Conclusions and Recommendations section.

photo: Saginaw Bay, courtesy ECT, Inc.

Evaluation Question #4: Alignment with new funding

To what extent does the Great Lakes Business Plan align with new funding that became available after the plan was written or are there gaps in its goals and strategies? If so, which areas of the business plan could be adjusted to better reflect the impact of all NFWF's investments?

Key Findings

1. New funding of $16.5 million focused on green stormwater infrastructure and its community benefits was added since the business plan was adopted. The focus on community benefits–public access to natural areas; and educational, volunteer, and job opportunities–is not accounted for in the business plan. Adding metrics that capture community benefits to the stream, wetlands, and water quality project types would allow NFWF to more fully capture and report on community benefits delivered by business plan Funding. Recommendations for how to incorporate these are provided below.

2. Funders are increasingly interested in ensuring that their funds and environmental outcomes reach underserved communities and communities of color.

Since the adoption of the Great Lakes Business Plan, new opportunities and novel public-private funding partnerships have emerged that support the plan's conservation goals while also adding value to the people of the region. In 2018 the Southeast Michigan Resilience Fund (SEMI) was established with a mix of public and private partners. Additionally, public-private partnerships focused on priority sub-regions within the Sustain Our Great Lakes (SOGL) program have been developed since 2019, and specifically focus on Wisconsin's Lake Michigan Watershed (Milwaukee) and western New York (Buffalo). Funders came together to support similar priorities to those of SEMI and Chi-Cal, with a focus on green stormwater infrastructure and habitat restoration, but also enhancing public greenspace, improving urban tree canopy, and enhancing community access to nature, all with express priorities for diversity, equity and inclusion.

These new funder collaborations go beyond the original business plan's goals by prioritizing public use improvements and increased access to nature and greenspace. Whether it be through pathways and boardwalks, boating and fishing access points, or enhancement of birdwatching activities, these new grants are bringing the Great Lakes program into closer relationship with the human communities that live, recreate, and work near project sites, and are closing the gap between communities and nature.

These collaborations also bring with them the evolving sensibilities of the funders who support them. For instance, the SEMI RFP specifically targets projects that "meaningfully engage and benefit communities throughout Southeast Michigan that have been historically underrepresented and underfunded," recognizing that "these communities are often disproportionately impacted by environmental issues… including stormwater runoff and associated flooding, and access to safe public greenspace and natural areas." More recently the Chi-Cal Rivers Fund has incorporated similar language into its RFP.

Gaps in the Business Plan

Mapping program goals, activities, and metrics from program RFPs against the Great Lakes Business Plan reveals which elements are not accounted for in the business plan. Funders are prioritizing community benefits linked to ecological improvements such as habitat restoration and water quality improvement, increasing public access to

natural areas, reducing the impact of urban stormwater and enhancing educational, volunteer, and job opportunities. Some of the metrics associated with these benefits focus on the number of people impacted by grantee projects, such as metrics around the number of people reached and/or targeted, and some are reflective of larger social, economic, and engagement benefit creation, such as metrics around the number of jobs created and/or sustained by business plan projects, and volunteers engaged by projects. The following metrics are included in program RFPs but do not appear in the business plan. Many are already being tracked and reported by grantees but they do not have business plan goals associated with them:

- Acres of green space and habitat created or improved
- Miles of trails or river walks developed/improved
- Access points developed/improved
- Number of volunteer hours
- Number of people reached
- Number of people targeted
- Number of people with changed behavior
- Number of jobs created
- Number of jobs sustained
- Number of participants receiving $
- Number of people (landowners) reached by outreach, training, or technical assistance activities

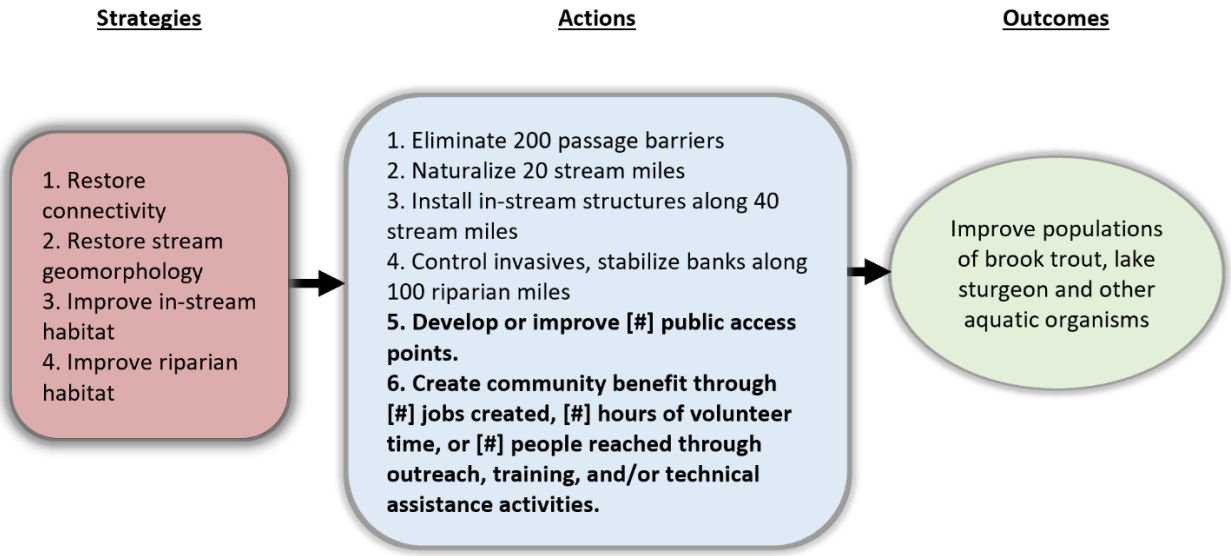
Adjusting the Business Plan for Community Benefits

The business plan could be adjusted by adding goals that take into account community-related outcomes under each project type (streams, wetlands, and water quality). The way the business plan is designed, it does not make sense to establish a separate community benefits project type. Rather, community benefits goals should nest under the three priority project types of streams, coastal wetlands and water quality. Likewise, business plan strategies should remain intact. All three project types can have very similar goals for public access and people reached/impacted without modifying overall strategy but adding community benefits goals will address the plan's gaps and allow NFWF to report on benefits delivered by new funding. Metrics that are easy to measure and report on and most likely to create impact are:

- Number of public access points developed/improved
- Number of jobs created
- Number of volunteer hours, and/or
- Number of people reached by outreach, training, and/or technical assistance

NFWF would need to select an appropriate quantitative goal for these, either collectively or individually. For instance, a public access points goal would read "[#] public access points developed or improved."

Below is an example of *Actions* that could be added to the business plan for stream grants (in bold):



When adding goals and metrics to the business plan, careful consideration should be given to the amount of effort it will take grantees to track and report on them, as well as the quality of the metrics collected in reflecting actual community and economic/engagement benefits. For example, a metric such as "number of people reached" is broad and open to multiple interpretations that could make assessing progress on key goals and aggregating metrics across projects to the business plan level difficult. Therefore, it is important to refine a goal like this with specific reference to 'outreach, training, or technical assistance.' Care should also be taken that grantees are not incentivized in counter-productive ways (e.g., to install more access points but sacrifice quality, or to create high numbers of low-skill seasonal jobs at the expense of fewer jobs that build career paths with livable wages.) NFWF can clarify these points in future RFPs by explaining to grantees the kinds of jobs, outreach and public access points the programs intend to promote.

Conclusions and Recommendations

A wide variety of characteristics contribute to making a project successful and NFWF grants are funding a well-rounded portfolio of projects that together contribute toward the business plan goals. The following recommendations would help NFWF to meet business plan goals over the next five years, provide more support to sustain outcomes, and build more community benefits into grant-making.

1. **Redirect funding.** Goals that have been achieved or exceeded reflect NFWF's funding of a sufficient number of projects with sufficient outcomes to reach the magnitude of the goal. For example, NFWF's funding of 9 stream projects with a per-project average of 18 miles of impacts pushed these projects to far exceed the goal of 40 miles of stream with instream structures installed. In contrast, NFWF has funded 35 water quality projects that contribute to the goal of 30 million pounds of sediment prevented from entering basin waterways annually, but at an average project contribution of 220,000 pounds of sediment, these projects are only 26% of the way to meeting the goal. NFWF would have needed to either double the size or number of these projects to have met the 50% mark in the first five years of the business plan.

   For all lagging metrics, NFWF will need to fund a larger number of projects or projects that achieve a greater average outcome per project, or both. Where limitations exist for grantees to increase project sizes due to a range of constraints (capacity, ecosystem constraints, matching funds), NFWF could choose to strategically prioritize larger projects, or fund a larger number of projects of the same size.

2. **Consider longer-term investments.** Longer-term investing has important synergies with a variety of conservation outcomes NFWF cares about. For example, it would help for those projects that have higher sustainability challenges (e.g., invasive species removal) and for those goals that require landscape-scale investment (e.g., fish passage). Ecological restoration takes repeated investments over many years before sustainable progress can be assured. NFWF could increase the length of its Great Lakes Business Plan grants, especially for projects like invasive species that usually require retreatment, and more grants for invasive species retreatment (SOGL #4) would likely also help. NFWF can also provide more grants on either side of the implementation of a project, i.e., more grants for planning and more grants for monitoring and maintenance of project outcomes.

3. **Increase projects that incorporate climate resilience considerations.** In order to increase the number of projects that incorporate climate resilience considerations and/or designs, NFWF could consider grant-making that supports risk modeling, climate change forecasting, and project designs with climate change resiliency built in. Risk modeling and forecasting can identify areas where project investments and outcomes may overlap with climate change-related threats such as water level rise; invasive species introductions; storm events that could cause flooding; and temperature rises that could impact aquatic habitat and other species that are priorities for NFWF and grantees. Projects that incorporate these climate change resiliency elements would necessarily be more resilient and outcomes more sustainable, due to inclusion of resilient design and site selection that also likely lower long-term maintenance costs.

4. **Support for capacity building and community engagement.** Capacity building and community engagement incorporate community perspectives in the design and implementation of projects and are part and parcel of project sustainability. Ways in which NFWF can support more meaningful community engagement include:

- Provide longer-term funding or additional funding for community engagement, especially to projects that want to build out long-term monitoring or stewardship activities that rely on volunteer development.
- Fund capacity development for community organizations as well as grantees. Grantees need skills in capacity building and community engagement, stakeholder mapping, etc., and the training should be an allowed expense.
- Look for ways to put funds into the hands of community groups. This may have to be pass-through funding for now, but work toward directly funding community-led groups.
- Consider how to develop a process that is inclusive of community input for determining focal areas and strategies.

Appendix 1: Methodology

The methodologies described in this Appendix were applied to the following data sources provided by NFWF:

- Records of grant awards – amounts awarded, project descriptions and grantee information;
- Project reports for specific grants, as needed
- Map of business plan boundaries, focal areas and grant locations
- Metrics data from NFWF's Easygrants database
- NFWF's Great Lakes Business Plan
- NFWF's Monitoring and Evaluation Plan for the Great Lakes and supporting information that has informed its approach to monitoring species outcomes, including an energetics model for estimating bird outcomes and a brook trout conservation portfolio analysis.

Document Review

The evaluation team conducted a document review of 174 grant funded projects. Each grant proposal was reviewed against a list of parameters deemed potentially important in determining success or opportunities for improvement with regard to its contribution to the goals of the business plan. All available interim and final reports were also reviewed.

To start, the team conducted a review of three to four proposals to better understand the type and detail of information that could be gathered for each project. From the reviews, a comprehensive list of parameters was compiled. Subsequent projects were then reviewed with the goal of providing a response for each parameter identified from the preliminary review. Beyond the proposal and reports, the Easygrants metrics were added to the database of results to allow for a review of metric success against project characteristics.

The list of parameters recorded is provided in Table 1 below.

Table 1. Proposal Review Database Parameters

CATEGORY	SUB-CATEGORY	Description	Notes on what to include
Project ID	**Easygrants ID**	Unique project identifier	N/A
Reviewer		Reviewer Name	N/A
Reviewed Materials		Final Report Date	Date report was submitted
Project Detail	**Business Plan Project Type**	Streams (Y/N)	Identify the main project type
Project Detail	**Business Plan Project Type**	Coastal Wetlands (Y/N)	Identify the main project type
Project Detail	**Business Plan Project Type**	Water Quality (Y/N)	Identify the main project type

CATEGORY	SUB-CATEGORY	Description	Notes on what to include
Project Detail	**Size of project**	Size of total project (area)	Area of total project footprint (acres or sq ft)
Project Detail	**Size of project**	Size of total project (linear)	Length of linear project (ft)
Project Detail	**Funding**	Matching funds (federal)	Calculated field
Project Detail	**Funding**	Matching funds (non-fed)	Calculated field
Project Detail	**Funding**	Total matching funds	Calculated field
Project Detail	**Funding**	NFWF award	Calculated field
Project Detail	**Funding**	Total funding	Calculated field
Project Detail	**Funding**	Program primary funding categories	Name of the primary funding categories from proposal/program
Project Detail	**Funding**	Other funding categories	Other funding categories besides primary from proposal/program
Project Detail	**Funding**	Number of funding categories addressed	Count of the other funding categories accessed
Project Detail	**Funding**	Number of matching fund contributions (number of matching funders)	Count of number of matching funders
Project Detail	**Funding**	NFWF grant as % of total funding (match ratio)	Calculated field
Project Detail	**Funding**	Project costs	Calculated field
Project Detail	**Funding**	Project budget shortage	Calculated field
Project Detail	**Grant Recipient**	Grant recipient name	Contact person for potential interview
Project Detail	**Grant Recipient**	Grant recipient type (nonprofit, state gov't etc)	Nonprofit, state gov't, private, etc.
Project Detail	**Grant Recipient**	Past successes of grant recipient	Does the grant recipient demonstrate past successes with a project of a similar type? 3=experts; 2=start here; 1=newbie
Shovel-Ready	**Design**	Plans completed and included with proposal (Y/N/NA)	Is the project designed and are there plans depicting the design in the proposal? If it is a community outreach type project with no built component, select N/A

CATEGORY	SUB-CATEGORY	Description	Notes on what to include
Shovel-Ready	**Permits**	Required permits secured? (Y/P/N/NA/Unknown)	Refers to any permits. Only consider those that are mentioned, not necessarily those you expect they'll need.
Project Activity	**Social**	Community engagement-Volunteers (Y/N)	Are there volunteers associated with the project?
Project Activity	**Social**	Community engagement-Partners (Y/N)	Are there community partners associated with the project?
Project Activity	**Social**	Educational component (Y/N)	Does the project include some sort of educational component?
Project Activity	**Social**	Recreation component (Y/N)	Does the project include some sort of recreational component?
Project Activity	**Social**	Other social	Does the project include other social activities not covered under educational or recreational?
Project Activity	**Economic**	Job creation component (any scale - local/region, etc)	Does the project provide any scale of job creation whether local, temporary, permanent, other?
Project Activity	**Economic**	Other economic	Does the project provide any other economic activity?
Project Activity	**Environmental**	Dredging/sediment removal	Dredging for water quality improvements, not for habitat creation
Project Activity	**Environmental**	Barrier Removal or Passage Structures	Goal for fish passage vs water quality
Project Activity	**Environmental**	Green Infrastructure	Does the project include a component of GI beyond tree planting?
Project Activity	**Environmental**	Agricultural BMPs	Does the project include agricultural BMP's?
Project Activity	**Environmental**	Stream Crossing	New bridge or low water crossing, often to reduce erosion
Project Activity	**Environmental**	Stream Stabilization	Methods to reduce erosion (matting, riprap)
Project Activity	**Environmental**	Stream geomorphology	Projects adding meanders and oxbows, removing straightened sections
Project Activity	**Environmental**	In-Stream Structure	Riffles, rocks, improved substrate

CATEGORY	SUB-CATEGORY	Description	Notes on what to include
Project Activity	**Environmental**	Invasive Removal	Does the project include invasive vegetation management?
Project Activity	**Environmental**	Trees Planted (Number)	How many trees are being planted as part of the project?
Project Activity	**Environmental**	Native plantings	Are native plants mentioned as part of the project, either maintaining or planting?
Project Activity	**Environmental**	Wetlands	Does the project include wetlands in any way?
Project Activity	**Environmental**	Other Environmental	Any other environmental activity not included
Sustainability	**Partnerships**	Support letters (count)	Number of support letters from proposal document
Sustainability	**Integration**	Project within/aligned with existing Management Plan?	Is there an existing local/regional/etc management plan that the project is in alignment with that is called out in the proposal or reports?
Sustainability	**Integration**	Part of/connected to another restoration project? (Y/N)	Is the project part of another project type? Include other project(s) types.
Sustainability	**Monitoring**	Project includes monitoring (Y/N)	Does the proposal or project reference monitoring in some fashion?
Sustainability	**Monitoring**	Entity conducting monitoring	Who is conducting monitoring for the project? Grantee, non-profit, etc?
Sustainability	**Monitoring**	Monitoring plan + duration (Y/N)	Is there a monitoring plan? Y/N. What is the proposed duration of the monitoring plan?
Sustainability	**Maintenance**	Project includes maintenance (Y/N)	Does the proposal or report reference project asset maintenance? Ie. For GSI, are the rain gardens being maintained by a lawn care crew?; is new wetland habitat being treated for invasive species post-project completion?
Sustainability	**Maintenance**	Project maintenance detail	Details of the maintenance activities/plan
Sustainability	**Climate Change**	Does project recognize the impacts of climate change (Y/N)	Does the project mention/have some sense of how climate change may affect it?

CATEGORY	SUB-CATEGORY	Description	Notes on what to include
Sustainability	**Resiliency**	Is the project in a location that will provide benefits in perpetuity? (lake levels, water temperatures, etc.)	GIS sourced, no response needed
Social Benefits	**Other Social Benefits**	Income level regional; social vulnerability index	GIS sourced; no response needed
Social Benefits	**Other Social Benefits**	Other social benefits (Y/N)	Are there other social benefits not captured in previous columns?
Social Benefits	**Other Social Benefits**	Other social benefits detail	What are the details of those other benefits?
Economic Benefits	**Other Economic Benefits**	Other economic benefits (Y/N)	Are there other economic benefits not captured in previous columns?
Economic Benefits	**Other Economic Benefits**	Other economic benefits (Detail)	What are the details of those other benefits?
Environmental Benefits	**Non-Target Species**	Non-target species benefit (Y/N)	Are there benefits to rare, listed, sensitive species that aren't targeted by the project?
Environmental Benefits	**Non-Target Species**	Non-target species benefit (text detail)	What species and what are their status?
Environmental Benefits	**Other Environmental Benefits**	Other environmental benefits (Y/N)	Are there other environmental benefits that haven't been captured by the project metrics or other columns in the spreadsheet? (Y/N)
Environmental Benefits	**Other Environmental Benefits**	Other environmental benefits (text detail)	What are those other benefits?
Extras		Challenges	What challenges were identified through the interim or final reports?
Extras		Lessons learned	What lessons learned were identified through the interim or final reports?
Extras		Data gaps/remaining questions	What data gaps/remaining questions were identified through the interim or final reports?
Extras		Project highlight	What project highlights were identified through the interim or final reports?

Easygrants records a comprehensive list of parameters, some which track directly to the goals of the business plan, and some which do not. The EPIC team consulted with the NFWF team to ensure that the

correct Easygrants metrics were being applied to the correct goals and that the goal levels were accurate for the stage of the progress towards the business plan in which the review was intended.

Table 2 illustrates this metric mapping between the Easygrants metrics and business plan goals. As illustrated in Table 1, certain metrics only apply to certain project types. This is generally true, with the exception of three water quality type goals which also include the progress from stream projects:

- Pounds of sediment prevented from entering basin waterways annually
- Pounds of phosphorus prevented from entering basin waterways annually
- Number of road-stream crossings replaced/improved

Table 2. Easygrants Metrics Mapping to Goals of Business Plan

Project Type	Business Plan Goal Metric	Goal	Corresponding Easygrants Metrics
Stream	Miles of in-stream habitat naturalized	20	Instream restoration - Miles restored
Stream	miles of stream with instream structures installed	40	Instream restoration - # structures installed
Stream	Miles of stream reconnected for fish access	1,500	Fish passage improvements - Miles of stream opened
Stream	Fish passage barriers rectified	200	Fish passage improvements - # passage barriers rectified
Stream	Miles of riparian habitat restored (invasives, stabilized banks)	100	Riparian restoration - Miles restored
Wetland	Install/repair 25 water control structures	25	Instream restoration - # structures installed
Wetland	number of wetland acres restored through invasive species removal and/or seeding native plants	10,000	Removal of invasives - Acres restored
Wetland	Acres wetland connected to nearby waterways via fish barrier removal	25	Fish passage improvements - # passage barriers rectified;
Wetland	Acres of other wetland restoration (but not WQ treatment)	3,000	Wetland restoration - Acres restored (for projects w/o invasive removal); Land, wetland restoration - Acres restored; Restoring hydrology - Acres with restored hydrology Removal of invasives - Acres restored (for projects with invasives)
Water Quality	Pounds of sediment prevented from entering basin waterways annually	30,000,000	BMP implementation for nutrient or sediment reduction - Lbs. sediment avoided (annually); grantees may have also used Erosion control - Lbs. sediment avoided
Water Quality	Square feet of green infrastructure installed	4,000,000	Green Infrastructure - sq ft of green infrastructure; Green Infrastructure - Sq ft of bioretention installed

Project Type	Business Plan Goal Metric	Goal	Corresponding Easygrants Metrics
Water Quality	Pounds of phosphorus prevented from entering basin waterways annually	100,000	BMP implementation for nutrient or sediment reduction - Lbs. P avoided (annually); Nutrient reduction - Lbs. nutrients (P) avoided (annually)
Water Quality	Acres of agricultural land managed to reduce sediment and nutrient runoff	6,000	BMP implementation for nutrient or sediment reduction - Acres with BMPs
Water Quality	Number of road-stream crossings replaced/improved	150	# road-stream crossings replaced # of fish passage barriers rectified.

Metrics Review

To answer evaluation questions 1 and 2, the review team assessed metrics collected through document review and from Easygrants. This data was then used to query, sort, rank, compare, and contrast the projects in a variety of different ways in an attempt to identify correlations, trends, and/or commonalities that may contribute to one or a group of projects being more or less successful at meeting the goals of the business plan than other projects.

Question 2 asks about characteristics of projects that make the most significant contributions to the goals. "Significant contributions" were defined as outcome metrics that are in the 75th percentile value for each goal. Projects that contributed to outcomes above these values were calculated as follows:

1) The range of values for each metric was established based on grantee metric reporting.
2) The 75th percentile for each metric was calculated.
3) Each project with a value equal to or greater than the 75th percentile was identified.
4) Projects within the 75th-100th percentile of values for the metrics were coded as significant contributors.

The projects contributing significantly to business plan goals in each project type (streams, water quality, wetlands) were compared against each other, as well as against all other projects of that project type to determine the frequency of project characteristics. This analysis clarified which project characteristics were unique to projects that made significant contributions, missing from those projects, or just a common characteristic of that type of project. These observations were discussed in response to Question 2.

Appendix 2: Metrics Results

Metric	# of projects to date	Goal	Progress	% of Goal	Avg metric/ project to date	Range of metrics per project (min/max)	NFWF funding to date
Streams							
Miles of stream with instream structures installed	9	40	165	413%	18	1 to 50 (σ=18.3)	$2,126,682
Miles of in-stream habitat restored or naturalized	16	20	71.26	356%	4.5	0.05 to 25 (σ=6.4)	$4,441,222
Miles of riparian habitat restored (invasives, stabilized banks)	20	100	100.9	101%	5	0.02 to 55 (σ= 13)	$3,573,121
Fish passage **barriers** rectified	29	200	88	44%	3	1 to 9 (σ=2.4)	$7,276,097
Miles of stream reconnected for fish access	30	1500	538.1	36%	18	0.03 to 77 (σ=17.8)	$7,458,309
Total NFWF Stream funding to date							$12,486,607

Metric	No of projects to date	Goal	Progress	% of Goal	Avg metric/proj to date	Range of metrics per project (min/max)	NFWF funding to date
Wetland							
Acres of other wetland restoration (but not WQ treatment)	39	3,000	6,741	225%	173	1.5 to 1,519 (σ= 283)	$10,484,810
Wetland **acres** restored through invasive species removal and/or seeding native plants	50	10,000	13,548	135%	271	8.25 to 2,400 (σ=456)	$13,089,828
# of **barriers** rectified to provide access to wetlands	8	25	18	72%	2	1 to 5 (σ= 1.5)	$2,816,474
Install/repair 25 water control **structures** (for the purpose of restoring hydrology)	8	25	16	64%	2	1 to 4 (σ= 1)	$2,836,487
Total NFWF Wetland funding to date							$17,742,657

Metric	# of projects to date	Goal	Progress	% of Goal	Avg metric/proj to date	Range of metrics per project (min/max)	NFWF funding to date
Water Quality							
Acres of ag land managed to reduce sediment and nutrient runoff	9	6,000	26,817	447%	2,980	130 to 16,600 (σ= 5,325)	$1,506,380
Number of road-stream **crossings** replaced/improved	29	150	88	59%	3	1 to 9 (σ=2.4)	$7,276,097
Capture or treat 400 million **gallons** of stormwater runoff annually	35	400,000,000	230,311,513	58%	6,580,329	2,100 to 156,493,174 (σ=26,838,891)	$9,894,395
Square feet of green infrastructure installed	20	4,000,000	1,433,911	36%	71,696	2,000 to 551,250 (σ=127,646)	$5,571,224
Pounds of sediment prevented from entering basin waterways annually	35	30,000,000	7,655,291	26%	218,723	40 to 3,660,000 (σ=661,850)	$9,056,965
Pounds of phosphorus prevented from entering basin waterways annually	23	100,000	25,883	26%	1,125	1 to 6,885 (σ=2,005)	$5,242,595
Total NFWF WQ funding to date							$12,979,267

Appendix 3: Interviews

Interview Questions

1. *Background*
    a. Just to get us started, please share with me a bit about your history of NFWF funding, and your big picture goals for the work that you're doing.
        i. How long has your organization / regional office been working with NFWF?
        ii. In approximate numbers / order of magnitude, what is the total amount of funding your organization / regional office has received from NFWF?

2. *Greatest benefit*

    a. What are some outcomes from your project(s) that you are most proud of?
    b. Have you or would you repeat your project design in the future exactly the way you did it this time? What would you do differently that would change the outcomes?

3. *Sustainability of outcomes*
    a. Do you have a monitoring plan, and if so, who is responsible for it and who is tracking the data? How long will the monitoring plan last? What is the source of funding?
    b. Is there a maintenance plan for the project(s)? Again, who is responsible for it and who is paying for it?
    c. Are there things beyond monitoring and maintenance that you've put in place to help ensure the sustainability of the project?
    d. What larger forces in the world have changed and had an impact on your project since you started your project? Do those forces change your priorities for the project, organization or how you'd approach your work if you were submitting your grant application today?
    e. When you think about your project(s) 5 or 10 years out, what concerns do you have about the sustainability (stability) of the outcomes of your project?'
    f. Are there any risks that you couldn't take into account, or that have come up since you completed your project(s)?

4. *Alignment with new funding, need for adjustments to the Great Lakes Business Plan*
    a. And when you think about this project and who it serves, how would you describe the economic status of that community?
    b. We're curious whether there is a human impact of the project, the impact that it has had on the community in which it sits or for which the project was designed to engage and benefit. What can you tell me about that?
    c. How did you assess what the community needed or wanted when it came to designing your project? How did you engage the community? What did you do?
    d. How have NFWF support and the projects themselves impacted your organization's capacity?
    e. How long have you (personally) been doing this kind of work?
    f. What advice do you have for NFWF as a funder that is interested in addressing equity?

g. How can NFWF enhance community engagement and reflect the community you're in or that you're serving?

5. *Other reflections*
   a. Who would you say was your single most important partner, and why were they so critical?
   b. If you were to do this project again, would you want to/need to work with this same partner?
   c. Did the NFWF funding you received get approved early or late in your fundraising process? Which of these phrases best describes the role of NFWF's funding for your project(s)?
      i. The NFWF grant came in early in the project and was catalytic, attracting other support.
      ii. The NFWF grant put us over the top, allowing us to get going on the project(s).
      iii. It was one of a large array of equally important funding sources.
      iv. The NFWF grant was the only funding for the project(s) beyond our internal match dollars.
      v. None of these statements fit the role of NFWF funding for our project(s).

6. *Administrative*
   a. Is it okay for us to include your name in the list of people we interviewed for the report?

7. *Is there anything else about this work that could help my understanding?*

Interviewees

Cyatharine Alias	Center for Neighborhood Technology
Alex Allen	Chandler Park Conservancy
Frank Baiocchi	Hunter Family Foundation
Eric Bird	Shirley Heinze Land Trust, Inc.
Michael Burger	National Audubon Society, Inc.
Bruce Christy	Columbus Township
Elizabeth Cisar	Joyce Foundation
Christopher Collier	Trout Unlimited, Inc.
Derrick Cooper	The Nature Conservancy
Kira Davis	Conservation Resource Alliance
Annette DeMaria	ECT, Inc.
Bob Doyle	City of Ecorse
Bob Doyle	Cleveland Museum of Natural History
Jim Feaga	Ducks Unlimited, Inc.
Jeremy Geist	Trout Unlimited, Inc.
Dave Giordano	Root-Pike Watershed Initiative Network
Brian Glenzinski	Ducks Unlimited, Inc.
Gary Glowacki	Lake County Forest Preserve District
Geri Grant	Superior Watershed Partnership

Katie Hefner	Clinton Conservation District
Dawn Hergott	Arenac Conservation District
Jason Hill	Ducks Unlimited, Inc.
Katie Hobgood	Save the Dunes Conservation Fund, Inc.
Matt Holland	Pheasants Forever, Inc.
Mary Holleback	Riveredge Nature Center, Inc.
Yeou-Rong Jih	Kresge Foundation
Rebecca Judd	Gaylord and Dorothy Donnelley Foundation
James Kettler	Lakeshore Natural Resource Partnership, Inc.
Samantha Koyen	Door County Soil & Water Conservation Department
Kimberly Krawczyk	Toronto and Region Conservation Authority
Philip Larson	Cook County Soil and Water Conservation District
Eric Lawson	Huron River Watershed Council
Colin Lawson	Trout Unlimited, Inc.
John Legge	The Nature Conservancy
Josh Leisen	Huron Pines Resource Conservation & Development Council, Inc.
Vera Leopold	The Wetlands Initiative
Shane Lishawa	Loyola University Chicago
Joanna Mazur	Onondaga Environmental Institute
Kelly McCarthy	Western Reserve Land Conservancy
Nathaniel Miller	National Audubon Society, Inc.
Radhika Miraglia	Friends of the Forest Preserves
Christopher Pierce	Conservation Resource Alliance
Naureen Rana	Chicago Park District
Emily Root	Buffalo Niagara Waterkeeper, Inc.
Jajean Rose	Western New York Land Conservancy
Kristin Schultheis	Milwaukee Metropolitan Sewerage District
Jessica Simons	Kalamazoo Nature Center
Peter Skosey	BNSF Railway
Kimberly Steinberger	The Nature Conservancy
Andrew Struck	Ozaukee County, Wisconsin
Matthew Sudman	Friends of the Chicago River
Kelcie Sweeney	Clinton Conservation District
Kristen Trolio	Cleveland Metroparks
Matthew Sudman	Ueltzen Lake County Forest Preserve District
Robert Vanden Noven	City of Port Washington
Jack Westwood	Walder Foundation
Kristie Willis	Friends of the Chicago River
Steve Woods	Huron Pines Resource Conservation & Development Council, Inc.