

MEMORANDUM

To: Great Lakes Advisory Board
From: GLAB Adaptive Management Subcommittee
Date: Sept. 6, 2016
Re: Recommendations on Adaptive Management

At the request of Great Lakes Advisory Board Chairman David Ullrich, a subcommittee of Great Lakes Advisory Board was formed in 2014 to evaluate past Great Lakes Restoration Initiative (GLRI) grants in order to identify greater efficiencies in the grant making process with regards to adaptive management projects. Since the time of the initial decision to review past GLRI grants in order to provide the Environmental Protection Agency (EPA) with advice on adaptive management, additional efforts were initiated to further improve and refine the adaptive management process. Though the work and recommendations from this subcommittee may overlap somewhat with the work and recommendations of other adaptive management efforts, the work of this subcommittee has been independent. At the July 2016 Great Lakes Advisory Board meeting, the subcommittee heard comments on a draft subcommittee report and has addressed these comments in the following report.

While federal agencies administering grants typically have an internal grant evaluation process, reviews of completed GLRI projects and grant applications are not available to the public. For this exercise, the four-member subcommittee only reviewed the final, public-facing grant reports for this evaluation.

The team focused on three distinct GLRI projects across the basin, not on merit, but on the outcomes and process with the intent to identify recurring themes that ensure future efficiencies and success of GLRI funded projects. The report offers several recommendations to assist the Agency with future grant decisions regarding adaptive management projects.

Subcommittee members are: Joy Mulinex, Steve Galarneau, Simone Lightfoot, and Roger Germann.

GLRI Project Evaluations

The Great Lakes Restoration Initiative (GLRI) has played a critical role in protecting and restoring America's greatest natural resource. Over the past 5 years, GLRI-funded projects have had a major impact on the quality of life of the lakes. The GLRI has been a catalyst for bipartisan cooperation, and GLRI projects have provided federal, tribal, state and local governments with vital information about the lakes, from essential science data to better understanding how government agencies and NGO's can work more efficiently together.

The success of the GLRI has been based on the continual evaluation of projects and their impact. And while the subcommittee believes all restoration projects have had a positive impact on the ecosystem, even those that might not have met all of their proposed goals have provided key learning's that when considered; ensure the GLRI remains successful and impactful today and in years to come.

While several federal agencies, such as the U.S. Government Accountability Office, have conducted more extensive audits of the GLRI, a subcommittee of the Great Lakes Advisory Board (GLAB) conducted a limited review of three past GLRI projects. The purpose of the subcommittee's evaluation is to provide additional recommendations to the Agency for consideration in order to help advance the work being done by GLRI projects with regards to adaptive management.

About the Project

The subcommittee evaluated three GLRI projects; however, it should be noted that the subcommittee quickly realized that even GLRI projects with the same focus each had a unique objective. And while this made comparing the projects slightly challenging, the subcommittee was able to answer several key questions that could be used to define the success of a project, as well as the projects overall impact.

As the GLRI process has matured over the last eight years, focus areas and measures of progress have been improved. EPA now includes questions in its grant Request For Proposals (RFP) that were not initially considered. These issues include, but are not limited to, climate change, co-benefits, and environmental justice. While the subcommittee supports the inclusion of these issues in the GLRI and adaptive management process, the subcommittee did not specifically consider these items.

Methodology

Hundreds of projects across the Great Lakes basin have been undertaken with support from GLRI funding. The subcommittee did a brief scan of several dozen projects; however, due to time and resource constraints, the team of four reviewers agreed to evaluate three projects that provided an accurate cross-section of the GLRI program with regards to adaptive management. These projects represent both urban and non-urban projects, rely on diversity of habitats, ecological functions and geographic locations, and reflect the types of work happening across all eight states. The three projects selected have all been completed and final grant reports were

submitted to the federal government. In addition, the review team only considered projects undertaken by non-federal entities.

The three selected projects are:

- Cuyahoga River AOC Urban Riparian Restoration
- Eliminating Exposure to Toxic Chemicals at Day-care Centers in the Great Lakes Region of New York
- Coastal Restoration at the Refuge Gateway and Humbug Marsh

The subcommittee began its evaluation of each project by using questions developed by the National Science Foundation (NSF). The subcommittee then modified the evaluation questions to compare each of the three project reports, since the projects had their own set of unique outcomes, goals, opportunities and challenges. The following questions were applied to each project.

Restoration and Protection Merit

- What is the problem/issue the project is designed to address?
- How does the project advance understanding and solving of the problem/issue?
- To what extent does the project explore an under-researched issue or problem?
- How does the project make progress toward the long term goals, objectives, and commitments under the five focus areas of the GLRI Action Plan I?

Broader Impacts

- How does the project affect the immediate community?
- How does the project communicate its work/progress/findings to others?
- To what extent does the project involve other partners?
- What other lessons learned did the project generate? How can those lessons learned be communicated and applied to future projects?
- Who was included in the project team, including partnerships? Why and how were those people or organizations involved? Were any multi-disciplinary or multi-jurisdictional connections were strengthened, etc.

Implementation

- How closely did the project follow its intended path of implementation?
- Did the project meet the short term, medium term, and long term outcomes that it anticipated? If not, why not?
- Was the project set up to course correct to meet those outcomes? If course corrections were made, why were they necessary and what corrections were made?
- Was the environmental monitoring done before, during, and upon completion of the project adequate to assess its effectiveness?
- Were there additional unanticipated outcomes that benefit one of the five focus areas?

Project Evaluations Findings

Once the questions and criteria were established, the subcommittee extensively evaluated the three projects – from rankings and email exchanges, to robust conversations amongst the

members. Using the above questions and criteria, following is a reporting of the subcommittee's findings and conclusions.

Cuyahoga River AOC Urban Riparian Restoration

Restoration and Protection Merit

- What is the problem/issue the project is designed to address?

This project was done to address a source of impairment to the Cuyahoga River. The current configuration of the Ship Channel on the river including the dredged depth, slow flow, armored shoreline and absence of a functional riparian edge produce a difficult environment for fish migration. Fish Habitat and Public Access were two Beneficial Use Impairments on the Cuyahoga River, and this project would address both of those BUIs.. Specific to the goals of the GLRI, the project addresses the Habitat Restoration and the AOC delisting goals.

The subcommittee believes that this project is at the heart of why the Great Lakes Restoration Initiative is needed. Many communities in the Great Lakes have struggled for decades with urban blight and historic pollution—problems that fell through the gaps of other public funding efforts.

- How does the project advance understanding and solving of the problem/issue?

The project involved 3,000 feet of river bank and fish habitat restoration as well as 4.75 miles of upland restoration. The report does not explain whether any new restoration techniques were used to address the problems. The lasting impacts to the community, like increased property values and land use by community are important to acknowledge.

- To what extent does the project explore an under-researched issue or problem?

The report does not explain whether any new restoration techniques were used to address the problems. Based on general knowledge of the challenges faced throughout the Great Lakes, though, the subcommittee believes that these issues are well researched and commonly found. Many urban communities need to keep armored shoreline. When writing RFP, look for grants to address the dual need to keep shipping while returning natural state. By the time you start some projects, though, it may need to change from the original grant based on new info that has come to light. Make sure it's not a negative.

- How does the project make progress toward the long term goals, objectives, and commitments under the five focus areas of the GLRI Action Plan I?

The project report uses the documentation from the Ohio Bird Watching Group. A variety of birds have been found at the site, including five "rare" species. The assumption is that these birds would not be present if the fish community had not returned.

Broader Impacts

- How does the project affect the immediate community?

In addition to the river restoration, the project included construction of a 0.8 mile portion of the Towpath Trail, an observation deck and visitor amenities. Sitting in the heart of Cleveland, this project is located in an urban core along the Cuyahoga River. It provides greenspace in an urban area where parkland is minimal and provides access to the River. There will likely be a positive impact on local business and property values.

- How does the project communicate its work/progress/findings to others?
The report included articles that were written about the project as well as websites from project partners that include stories about the project. Throughout the project, there were numerous videos filmed and put online. There is also signage at the site. The report references ongoing and future work, including monitoring, but does not communicate how the outcomes and results of that work will be shared. Unclear how the “lessons learned” are captured and shared.

- To what extent does the project involve other partners?

There were numerous governmental partners including additional funders. The report does not specify what each partner contributed to reach completion. Project had a lot of partnerships between government and others which helps achieve goals. To the extent that we can engage partners outside of environmental world, they could measure impacts to property values and ancillary benefits.

- What other lessons learned did the project generate? How can those lessons learned be communicated and applied to future projects?

The report does not address any challenges encountered during the project or other lessons learned.

- Who was included in the project team, including partnerships? Why and how were those people or organizations involved? Were any multi-disciplinary or multi-jurisdictional connections were strengthened, etc.

The report was completed by the Cuyahoga County Department of Public Works and Baker Behnke, a landscape and architecture firm. The report does not clearly identify who comprised the project team and how various partnerships played a role. The GLRI has focused on AOCs which is important, but GLWQA does. We need to make sure lessons can be used for other non-AOC communities.

Implementation

- How closely did the project follow its intended path of implementation?

Powerpoint format did not provide the best format to address this question. Because the presentation stated that it met its goals, the assumption is that the project generally followed the path to implementation.

- Did the project meet the short term, medium term, and long term outcomes that it anticipated? If not, why not?

Powerpoint format did not provide the best format to address this question. Because the presentation stated that it met its goals, the assumption is that the project generally met the short-medium-long term outcomes. Report identified future and ongoing work but did not provide assurances it would be done or by whom. Does the lack of this future work undermine and/or lessen the need for the existing work?

- Was the project set up to course correct to meet those outcomes? If course corrections were made, why were they necessary and what corrections were made?

Based on the information provided, the subcommittee is uncertain whether the project was set up to course correct or whether any corrections were made during the project.

- Was the environmental monitoring done before, during, and upon completion of the project adequate to assess its effectiveness?

According to the report, environmental monitoring of fish species will be done by NEORSD, ODNR and the Cuyahoga River Community Planning, though that work will be done outside of the grant.

- Were there additional unanticipated outcomes that benefit one of the five focus areas?

Based on the information provided, the subcommittee is unable to determine whether there were any unanticipated outcomes that benefit one of the five focus areas.

Outside of the subcommittee's review questions, the subcommittee feels strongly that the Powerpoint format for the report is inadequate to fully communicate information about the project and how it met the objectives of the grant. Further, the format does not lend itself to the sharing of information so that other communities may follow and/or build on the success of this project. The subcommittee recommends that GLRI implementing agencies utilize a better report format.

Eliminating Exposure to Toxic Chemicals at Day-care Centers in the Great Lakes Region of New York

- What is the problem/issue the project is designed to address?

This project is designed to address the elimination of exposure to toxins at daycares in the Great Lakes region of New York. While reducing and even eliminating the exposure of children to toxins is a laudable goal, the subcommittee was uncertain about the

connection of this project to the Great Lakes—no specific resonance to the Great Lakes. Reducing children’s exposure to toxins is a national goal, and the toxins identified did not have a specific tie to the Great Lakes. The subcommittee recommends that moving forward, grant administrators should ensure that there is a clear link to the Lakes.

- How does the project advance understanding and solving of the problem/issue?

The project reduced the exposure to toxins by educating and training the day care trainers as well as site evaluations to identify toxins in facilities.

- To what extent does the project explore an under-researched issue or problem?

This project explored an under-researched issue area. The issue of regular exposure to toxins through items found in daycares is not well understood or researched though there is substantial research concluding the harm to children from exposure to toxins. Based on grantee information, toxic chemicals are still prevalent in daycares which are supposed to be safe-havens and protect children.

- How does the project make progress toward the long term goals, objectives, and commitments under the five focus areas of the GLRI Action Plan I and broader GLWQA objectives?

The project addresses the Toxic Substances and Areas of Concern Focus Area of the GLRI Action Plan. As previously stated, the goals of the project are not specific to the Great Lakes though. There is a very indirect link to contamination of fish and wildlife and the prevention of human contamination through different routes such as toys. Annex II of the GLWQA covers chemicals of mutual concern, and this project furthers the goals of Annex II by hopefully limiting exposure and the potential to introduce those chemicals into the Great Lakes cycle.

Broader Impacts

- How does the project affect the immediate community?

Based on the conclusions in the grantee’s report, there was a positive and direct impact on the daycare community of New York. There were continued trainings. Beyond New York, there was contact with daycares in other states.

- How does the project communicate its work/progress/findings to others?

Because this project targeted local caregivers, the immediate community is likely more informed about routes of exposure to toxins. The grantee documented toxin use reduction in 50-100 care providers and provided technical assistance.

Of the three projects reviewed, the subcommittee felt that this project’s report provided the best explanation about the partnerships utilized to implement the grant and how

information was communicated. The grantee provided a report to CEHN for other materials and presentations. The grantees dealt with larger organizations like YMCA and Head Start so that it would be easy to transition a Great Lakes Basin effort into a national effort.

- To what extent does the project involve other partners?

The project report identified many partners that were involved. Information about partnerships was found throughout the report, and in the interest of ensuring that similar efforts may be duplicated elsewhere, grant administrators should consider requesting that specific partnership information be provided more concisely.

- What other lessons learned did the project generate? How were those lessons learned, especially from projects that were not specific to the Great Lakes, communicated and how may they be applied to future projects?

The report contained a section titled “challenges” which provided the subcommittee and others interested in duplicating this work with good information about potential obstacles. For instance, the report explained that the timing of gathering information is important for future work in this area. As chemicals are phased out due to regulations or international agreements, future work on routes of toxin exposure needs to consider those deadlines. The report also stated that finding information about the chemicals used in toys and fabric is complicated because of different international requirements.

- Who was included in the project team, including partnerships? Why and how were those people or organizations involved? Were any multi-disciplinary or multi-jurisdictional connections were strengthened, etc.

Many groups are cited throughout the report, but no section of the report specifies why those partners were chosen and the structure of the partnerships.

Implementation

- How closely did the project follow its intended path of implementation?

The overall goals to quantifiable reductions in toxic chemicals used in child care settings and building a network occurred. The grantee added two additional toxins, lead and cadmium, a slight deviation in implementation. Grantees also modified their arrangements with daycares in region 2. The report mentioned some deviations, but without seeing the grant application, it is unclear how far the project deviated from the intended implementation path.

- Did the project meet the short term, medium term, and long term outcomes that it anticipated? If not, why not?

Yes, the goals of the grant were met. The report does not identify short or medium goals though.

- Was the project set up to course correct to meet those outcomes? If course corrections were made, why were they necessary and what corrections were made?
The subcommittee was not provided with an implementation plan/study design and cannot say whether the project was set up in order to course correct. It's unclear whether the project was set up for course correction as much as circumstances required course correction.
- Was the environmental monitoring done before, during, and upon completion of the project adequate to assess its effectiveness?

Yes, there were surveys that engaged the audience and quantifiable results are available. The report said that successful, ongoing monitoring was not practical with the limited staff. The subcommittee believes that qualitative results for projects that disseminate information or educate, as is the case with this project, are difficult to assess. The grantee reported quantitative results on number of meetings and the number of facilities evaluated. In order to effectuate change, the grantees need to change behavior which will be very hard to monitor.

- Were there additional unanticipated outcomes that benefit one of the five focus areas?

The report cited unanticipated outcomes such as the realization that behaviors needed to change in order to sustain meaningful change and that as knowledge increased, exposure decreased. These outcomes could benefit the Accountability, Education, Monitoring, Evaluation, Communication and Partnerships Focus Area.

Coastal Restoration at the Refuge Gateway and Humbug Marsh

- What is the problem/issue the project is designed to address?

This project was a coastal habitat restoration project within an AOC.

- How does the project advance understanding and solving of the problem/issue?

The project restored both coastal wetland habitat and upland habitat as well as treated Phragmites. Specific activities included importing clean fill and topsoil, plantings, restoration of an eroded berm and invasive plant control. The report provides six bullet points of the lessons learned during this project which would be practical advice for others with similar projects..

- To what extent does the project explore an under-researched issue or problem?

Like the Cuyahoga River project, there is no description of the exact environmental conditions or explanation of whether the project techniques and activities were

experimental. Based on outside knowledge of the conditions at AOCs, the subcommittee assumed that this project used conventional habitat restoration techniques to address well known problems.

- How does the project make progress toward the long term goals, objectives, and commitments under the five focus areas of the GLRI Action Plan I and the broader GLWQA objectives?

This project fits into the Habitat Restoration goal of the GLRI Action Plan and Annex 7 of the GLWQA to protect native species and their habitat. The project's work on controlling Phragmites, an invasive plant, works to fulfill Annex 6 of the GLWQA to limit the impact of existing aquatic invasive species.

Broader Impacts

- How does the project affect the immediate community?

While the reported project accomplishments focus on number of acres of restored habitat and area where Phragmites were controlled, the subcommittee believes that there were broader benefits to the immediate community based on outside information about the community benefits for delisting an AOC. This project site is located in an urban core and will provide health benefits by removing air pollutants with the new trees and providing greenspace for additional recreation. EPA provided funds through a separate but related grant to hire a 4-person restoration crew providing a handful of jobs to community members.

- How does the project communicate its work/progress/findings to others?

The report does not address how the work, progress, or findings were communicated to others. The subcommittee feels that because there are many other potential projects that are similar to this project, communicating the results of this project would be very advantageous.

- To what extent does the project involve other partners?

A number of partners such as students, businesses, volunteers, and the Detroit River International Wildlife Refuge were named in the report so partners were involved. The report does not provide details about the partnership arrangements and responsibilities.

- What “lessons learned” did the project generate? How were those lessons learned, especially from projects that were not specific to the Great Lakes, communicated and applied to future projects?

The report provides six bulleted items in the “Lessons Learned” section. However, the report does not provide any details as to how those lessons were learned, communicated, or applied to future projects.

- Who was included in the project team, including partnerships? Why and how were those people or organizations involved? Were any multi-disciplinary or multi-jurisdictional connections were strengthened, etc.

A number of partners such as students, businesses, volunteers, and the Detroit River International Wildlife Refuge were named in the report so partners were involved. The report does not provide details about the partnership arrangements and responsibilities.

The report does explain that additional funding was received from EPA which allowed for the hiring of a restoration crew from a non-profit, Greening of Detroit. This partner allowed for the plants to be maintained throughout the summer which ensured greater survival of the plants/trees and a higher chance for long-term project success.

Implementation

- How closely did the project follow its intended path of implementation?

The report does not address whether the project followed its intended path of implementation. The subcommittee did not receive the initial grant application which might have allowed the subcommittee to better answer this question.

- Did the project meet the short term, medium term, and long term outcomes that it anticipated? If not, why not?

The report simply states that the grant objectives were achieved but does not address whether it met the short, medium and long term goals or even whether they existed for this project.

- Was the project set up to course correct to meet those outcomes? If course corrections were made, why were they necessary and what corrections were made?

The report does not address whether the project was set up to course correct.

- Was the environmental monitoring done before, during, and upon completion of the project adequate to assess its effectiveness?
- Were there additional unanticipated outcomes that benefit one of the five focus areas?

Recommendations

The subcommittee hopes that EPA and the other federal agencies engaged in GLRI will carefully consider the recommendations included in this report. As stated previously, the subcommittee did not consider certain over-arching issues impacting the Great Lakes and future GLRI projects such as climate change, co-benefits, and environmental justice. The subcommittee supports

consideration of some of these over-arching issues in future work by the Great Lakes Advisory Board and even future reporting requirements.

1. More effective communications across various federal agencies, as well as better information sharing amongst grant decision makers, stakeholders and the public. The subcommittee recommends that agencies responsible for granting and administering GLRI funds develop and implement a coordinated interagency communications strategy for better information sharing and with a broader group of involved parties (*including grant makers*) with regards to both ongoing and completed projects. Greater communication supports GLRI and provides reviewers the ability to make well-informed decisions in order to invest funds for maximum impact; reduce duplication and/or the “reinventing the wheel” syndrome; provide a template for replication of successful programs; and provides greater insight to organizations applying for grants to submit proposals that better align with GLRI goals and objectives.

Further, the subcommittee believes that the EPA and other federal agencies that are awarding funds for Great Lakes restoration projects need to ensure that the information from previous projects is readily available and easily accessible so that others may build on the lessons learned. The subcommittee recommends a more robust approach to GLRI’s online resources and reporting. Currently, GLRI grant award information is stored online at www.glri.us. This online platform provides only basic information about each award, including: project name, amount of the award, year of the award, the awarding agency, and a very brief description of the project. Unfortunately, information about the projects success, challenges, and lessons learned from each project are not available online and the subcommittee believes this is a crucial missed opportunity. The subcommittee also recommends that GLRI project information be shared beyond the website to include relevant publications, press releases, and even conference presentations (*either from the agency or the grantee*) as appropriate.

And finally, the subcommittee recommends the creation of an online catalogue of GLRI grant information that highlights both completed and ongoing projects. While agencies and award recipients typically summarize project results for press releases that are shared via email and social media, the announcements are often one-time in nature and can easily be overlooked in today’s fast paced online and media environment. Consequently, the volume of information being distributed makes it even more important that agencies consider a better system to centrally house project results and/or project reports for others to learn from. It also provides an additional layer of transparency.

2. More consistent reporting requirements. There are multiple federal agencies awarding and administering GLRI grants, and each agency has its own reporting requirements. Because of the differences each agency requires for their final reports, it can be challenging to evaluate all projects consistently. Further, without a consistent format for each GLRI funded project, it was difficult for the subcommittee (and we suspect others) to quickly evaluate and understand results and learn from the project. The subcommittee recommends that all agencies responsible for GLRI projects develop and implement a standardized and universal reporting format so that outcomes, results and impact are more clearly understood, are able to be evaluated against each other more consistently, are easier to locate, and provide greater understanding of overall Great Lakes restoration progress and gaps. The subcommittee believes that GLNPO, on behalf of the

federal agencies, should be the central hub and work closely with the states and other GLRI project partners in the development of the reporting format.

The subcommittee also recommends that federal agencies work closely with the tribes, states, municipalities and other partners to seek their input on developing and implementing consistent reporting language that can be easily shared and understood across multiple jurisdictions and platforms. The subcommittee believes that grant reports should at minimum, request the following information:

- How did the project make progress toward the measures of progress under the five focus areas of the GLRI Action Plan I?
- How did the project advance our understanding of the issue?
- How did the project affect the immediate community and/or nearby vulnerable communities?
- How did the project communicate its work/progress/findings?
- To what extent does the project involve other partners?
- Did the project involve any monitoring to assess and capture whether goals had been met?
- How closely did the project follow its intended path of implementation? What lessons learned did the project generate? How can those lessons learned be communicated and applied to future projects? Were there additional unanticipated outcomes that benefit one of the five focus areas?

3. More clearer definition of success is needed to strengthen the program. After reviewing the three projects and scanning dozens more, the subcommittee believes a more clear and universal definition of success within the Great Lakes restoration movement and GLRI initiative needs to be established. The ability to clearly articulate and document progress and outcomes are fundamental to demonstrating the success of the overall Great Lakes restoration strategy, and highlights the return on investment of federal funding.

This definition is crucial since success of GLRI and individual projects funded by GLRI grants must be evaluated relative to the achievement of the priorities and goals established in the GLRI Action Plan. Since the Action Plan is based on the priorities and goals of the Great Lakes Water Quality Agreement, Lakewide Action Management Plan's (LAMP's), and regional and state strategies, the success of individual GLRI funded projects must also take into consideration how the project met the priorities and goals of all of the Great Lakes plans and strategies.

The subcommittee believes a review of past funding projects will provide clarity of success by highlighting success metrics that will inform grant makers when selecting future GLRI projects to support with federal funding. The subcommittee believes these reviews will lead to establishment of specific criteria for evaluating progress and success of GLRI as a whole (*supplementing the GLRI Action Plan 2 measures of progress*); lead to the creation of specific criteria for evaluating progress and success of individual projects (*i.e., ways of defining the contribution they are making toward achieving GLRI goals*); and provide recommendations for oversight of future project selection as it relates to the Action Plan goals. The subcommittee firmly believes the information gathered through the review process will better support the

EPA's effort to build a public database of GLRI projects and provide essential recommendations on an Adaptive Management Plan.

Conclusion

While there is still much to do to restore our Great Lakes, since the very first GLRI grant was awarded, significant progress has been made to improve the overall health and vitality of the lakes. The subcommittee is impressed with the depth and breadth of the hundreds of GLRI projects that have been completed and believes that all of the GLRI grants were made with the intent to positively advance lake health. The subcommittee appreciates the time and effort that went into the completed reports that were the subjects of our review, even though the grantees were not specifically asked to address our questions in their completed project reports.

In order to ensure that future projects – whether focused on adaptive management or other areas of interest – continue to meet the goals of the GLRI, information must be shared as part of a coordinated effort throughout the Great Lakes community. Agencies and regulators must be better informed about results and provided new and consistent information on a regular basis so that they can make more informed decisions in real time based on current understanding. And a better definition of success must be established to ensure a greater return on investment and a more efficient and effective process is in place for future grant cycles.

Therefore the subcommittee strongly recommends the Great Lakes Advisory Board adopt the above report and actions and recommend to the EPA the recommendations for better communications and more consistent reporting requirements.