

**Draft Responses to Charge Questions on the
Great Lakes Restoration Initiative Action Plan 3**

May 2017

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DRAFT

1. Charge Question 1 Response

Scope of Action Plan 3:

- 1) **The GLAB recommends continued funding of GLRI projects with the expectation that the existing regulatory and core programs that are authorized to maintain a healthy Great Lakes system are fully funded** - Great Lakes Restoration (GLRI) funding is critical to restoring the Great Lakes and must be funded at a high level (at least \$300 million per year as authorized in the WIIN Act of 2016) in order to reach the goals outlined in the Great Lakes Action Plans. These goals, which have been endorsed in other Great Lakes planning documents prior to the Great Lakes Action Plans, were underfunded until the GLRI put new resources into tackling these issues. GLRI funding is intended to be spent on projects that achieve the goals of the focus areas laid out in the Great Lakes Action Plan. GLRI funds are not intended to supplant state and federal funding for core programs and responsibilities laid out in state and federal laws and regulations. Sustained funding is required for these core programs and is the responsibility of each state and the federal government.
- 2) **The GLAB endorses a continued (and expanding) effort toward environmental protection.** This should remain the purview of the federal and state agencies and be funded and implemented through the existing core programs. The GLRI funding should be limited to supporting and implementing “on the ground and in the water” restoration. Included in the category of “on the ground and in the water restoration, projects and programs that support both protection and restoration (like wetland and/or riparian protection, restoration, and conservation) should also be eligible for GLRI funding as these programs are among the most sustainable of the restoration efforts.
- 3) **Specific recommendations:**
 - a. **Continue work on current focus areas**
 - i. **Eliminating Toxic Substances and AOCs**
 - ii. **Prevent/control Invasive Species**
 - iii. **Reduce Nutrients Runoff and harmful/nuisance algae**
 - iv. **Restore Habitat**
 - b. **Emphasize projects that demonstrate measurable progress;**
 - c. **Prioritize measurable project success and sustainability** - GLRI funded projects should be required to provide information about funding and a plan for long-term maintenance;
 - d. **Emphasize projects that provide positive impact on environmental justice communities** - These communities do not have the same access to grant funds and increased efforts should be made to engage and include them in GLRI projects.
 - e. **Focusing on the worst problems in the highest population areas** - GLRI funds could have greater impact;
- 4) **The GLAB supports Adaptive Management and recognizes that in order for it to be implemented successfully, projects, programs and the resource must be monitored.** Funding for monitoring is critical to Adaptive Management and to ensure that funding is being optimized for critical projects that will lead to progress under the four focus areas. Without a substantial commitment to increased monitoring, there is little value in pursuing adaptive management.
- 5) **Specific recommendations:**

- a. **GLRI funding should be allocated for project level monitoring along with funding for implementing project grants.**
- b. **This project specific monitoring should be defined in the grant application, be as minimal as possible, and still provide sufficient measurement to evaluate the success of the individual project.**
- c. **A standardized reporting format should be created for project level monitoring data.**
These forms should be maintained by the federal government and be easily searchable on a website so that the public can find and use this data.
- d. **The federal government should maintain its responsibility for monitoring regional progress and determining whether groups of projects funded by the GLRI are contributing to achieving the focus area goals.** Core program funding should be used to pay for long-term monitoring.
- e. **Without long-term monitoring of regional progress by the federal government, Adaptive Management at a large scale is impossible and cannot be part of the GLRI goals.**

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2. Charge Question 2 Response

Public Engagement: What does the Board recommend to ensure *effective* public input into the development of AP3 beyond seeking advice from Great Lakes Advisory Board, (GLAB)?

Workgroup members: Jennifer Hill, Steve Galarneau, Hugh Gorman, Richard Stewart

Agency Context: The Inter-agency Task Force IATF seeks “effective” public engagement, that is, adequate opportunities for the public to inform the development of AP3. Because of the need for AP3 development to be coordinated with other federal agencies, GLAB, Office of Management and Budget OMB and others before finalization, effective input means input that can ensure the IATF stays on schedule and that will result in the greatest opportunity for the greatest number of interested stakeholders for successful AP3 development and implementation. The IATF does not contemplate ongoing public outreach. A draft timeline for AP3 development can be provided to GLAB if requested.

Draft Response to Charge Question 2:

Sincere engagement of the public is essential to developing Action Plan 3 (AP3) for the Great Lakes Restoration Initiative (GLRI) and for maintaining broad support for the GLRI and related programs. To be successful in restoring the health of the Great Lakes, the continued engagement and support of the larger Great Lakes community is essential. A strength of the Great Lakes region lies in the strong collaboration that has been built over decades between states, cities, federal agencies, non-governmental organizations, universities, and citizens. The voices of 1,500 stakeholders helped shape the Great Lakes Region Collaboration Strategy, and it was that broad support that led to the creation and continual improvement of the Great Lakes Restoration Initiative.

We stand to lose the united, extremely broad, and vocal support of the powerful and savvy constituency for the Great Lakes if we do not provide consistent opportunities for input and feedback on restoration efforts for the Great Lakes. The cost of not providing public engagement opportunities in the Great Lakes region is one we cannot afford. Successfully engaging stakeholders in framing the AP3 will continue to build shared support for GLRI. Therefore, it remains critically important to establish a robust, effective and consistent structure for public engagement into the development of and throughout the life of AP3. For all of these reasons, the committee feels strongly that it is essential to allocate resources to this work through the development and implementation of AP3.

Engagement Expertise is Critical to Success: Strategic, inclusive, multi-layered and ongoing relationship building with a diverse suite of stakeholders is essential. Effective public engagement for the GLRI AP3 will only be successful with an investment in the expertise needed to design and coordinate this work. The architecture of an effective outreach program for soliciting input will include various targeted approaches to connect with a diverse set of stakeholders having views and expertise representative of the broad Great Lakes community. Building relationships with under-represented people and groups who have not been at the

table to date is as important as maintaining strong relationships with stakeholders who have led the GLRI so far. Achieving the goal of obtaining this broad input will require a diverse suite of audience specific strategies. For instance, it does not make sense to ask a fisherman the same thing as a state agency lead. The way input is requested will differ depending on the constituency's knowledge of the GLRI, Great Lakes organizing structures, and knowledge of issues and goals. Effective public engagement also means providing a neutral safe space for constituencies representing diverse voices to bring their concerns and feedback to the table. While the federal agencies are experts at implementing restoration work under the GLRI, they are not neutral in that they have specific areas of interest. Neither do they necessarily possess the expertise of soliciting public input effectively on a consistent basis. Investment in the expertise needed to garner the desired input will allow federal agencies to focus on how to incorporate that public input into their GLRI-related priorities, goals, and strategies.

Successful, efficient outreach will integrate well with existing GL outreach efforts.

Initiatives to seek public input on issues related to the Great Lakes have a long history. There are many existing entities, venues, and initiatives that provide public engagement opportunities that can be used to help develop AP3 and ensure its sound implementation. To best leverage existing efforts, and to avoid confusing the public with multiple overlapping and parallel efforts, it is important for the IATF to coordinate its efforts with these efforts.

One of the most important institutional structures in the Great Lakes basin that includes a public engagement component is that associated with the development of Lakewide Advisory Management Plans (LAMPs). The 2011 revision of the Great Lakes Water Quality Agreement (GLWQA) articulated a more consistent structure for LAMPs in all Lake basins. Currently, the LAMPs provide the means for Great Lakes partners to set lakewide goals and identify actions to meet those goals. LAMPs foster collaboration among and integrate the priorities of government agencies, tribes, and many stakeholders, and they must (by requirement of the GLWQA) be developed with public input. The LAMPs are therefore a sound reflection of a shared vision for the Lakes across a broad spectrum of interests. The LAMPs already have outreach and education committees for each Lake that are charged with consistently engaging the public on Lake basin issues. LAMP committees provide a logical outlet for integrated, collaborate outreach. However, these committees also require the expertise and resources that is needed for effective public engagement. Therefore, we recommend utilizing LAMP Engagement and Outreach committees as the main conduit for public engagement in association with the development of AP3. Specifically, we believe that the LAMPs could serve as conveners of place-based public comment events for public input into the development of AP3. In addition, to the extent that LAMPs reflect the priorities articulated by a broad constituency, these documents can also be used to guide the development of the AP3.

Appropriate lead time is needed to effectively incorporate public input into AP3

Public engagement should serve to guide priorities and set defined targets in AP3 (information *in*), not simply to inform the public of intentions (information *out*). It is important to determine, articulate, and commit to how public feedback will be obtained and incorporated into GLRI AP3. The timing of this work is therefore critical. If we only engage the public when the Action Plan

document is nearly completed, then we are being disingenuous with our request for public input and lose the opportunity to leverage the skills and knowledge of our Great Lakes community and to identify priorities that take into account what people value. In contrast, providing engagement opportunities prior to drafting the document will not only demonstrate the value of the broader Great Lakes community in this effort but will also solidify support for the effort as it moves forward.

Knowing how to translate the input from all of these different audiences into existing structures for Great Lakes restoration will be critical. It is here that the public outreach expertise will intersect with the expertise of the federal agencies – in understanding how to take the feedback collected and alter course on restoration planning and/or work as appropriate. **Just as importantly, the tools, resources, and structure put into place for public engagement in the development of AP3 should be capable of serving as an ongoing conduit of public engagement for Great Lakes restoration efforts .** As we enter uncertain times for many environmental programs, maintaining consistent engagement with the Great Lakes community will serve to inform restoration efforts, but perhaps more importantly, will serve to maintain the buy in needed to sustain Great Lakes restoration efforts during fiscal and political uncertainty. Therefore, we recommend scheduled outreach meetings that are advertised well in advance of the meeting date. We also recommend that the meeting places are geographically dispersed so that as wide an audience as possible is reached.

Outreach efforts should be shaped by stakeholder needs

Providing a neutral, safe place for a diverse set of stakeholders is essential for honest discourse on Great Lakes issues. Events to solicit input should be convened by an organization that fosters open dialogue. Often, regulatory agencies have public baggage that prevent honest discourse. Therefore the implementation of an outreach strategy should include stakeholder driven approaches to connecting with communities. An outreach goal should include a commitment to bringing new voices, including voices traditionally underrepresented, to the table. Just as importantly, under-represented stakeholders should be given the opportunity to engage in public input in a way that works for them – strategies for engagement must be adapted to fit the needs of the stakeholders we are trying to reach, not serve as vehicles for what the agencies want to hear. Partnering with groups at the local level that are connected to their communities will be an integral part of an outreach strategy. Local groups have the trust and existing relationships required to get honest feedback from citizenry. These groups will also know how to ask the right questions to allow people to express their views.

Continued, consistent funding for core agency budgets is essential to making the public engagement recommendations provided by this committee successful. In order to engage effectively, there must be adequate resources available for the federal agencies to continue to function including travel funding designated for agency representatives to attend outreach meetings. Without maintaining core budgets for the agencies involved in Great Lakes restoration and funding the GLRI at \$300 million annually, we cannot hope to continue to meet our restoration goals or involve the public in an effort they care deeply about.

CRITICAL COMPONENTS TO AN EFFECTIVE PUBLIC ENGAGEMENT PLAN FOR GREAT LAKES RESTORATION ISSUES

A public engagement and outreach plan should contain the following components:

Key Messages

- Sincere engagement of the public is essential to developing AP3, as well as to maintaining broad support for the GLRI and related programs,
- Engagement expertise is critical to success - strategic, inclusive, multi-layered and ongoing relationship building with a diverse suite of stakeholders is essential.
- Integrating the public engagement efforts of the IATF with existing GL outreach efforts, including those associated with the development of the LAMPs, is a way to make the most effective and efficient use of the available resources..
- The tools, resources, and structure put into place for public engagement in the development of AP3 drafting should be capable of serving as an ongoing conduit of public engagement for Great Lakes restoration efforts.
- Appropriate lead time is needed to effectively incorporate public input into AP3
- Outreach efforts should be shaped by stakeholder needs
- Continued, consistent funding for core agency budgets is essential to making the public engagement recommendations provided by this committee successful.

Expertise in Public Engagement: Agencies outsource public engagement planning to entity with expertise to design and implement an effective public engagement strategy that will elicit useful information for agencies to use in drafting and throughout life of AP3.

Stakeholder Identification and Engagement: A broad, diverse set of stakeholder groups, including but not limited to the following must be engaged on a one on one basis:

- State Agencies, Governors, Mayors, Non-Governmental organizations work on Great Lakes restoration, climate change, wildlife, habitat, and green and gray infrastructure issues, groups working in communities of color and minority communities within the basin, groups working in disadvantaged communities fighting environmental justice issues, leading scientists, industry groups, businesses including those who depend on the Great Lakes, tribes and first nations.

Structure for Engagement: This structure will include different tools for engagement, including but not limited to,

- Coordinate with LAMPs to host X events in their lake basin to receive input into the drafting of AP3 with focus on recruiting engagement from critical stakeholders listed above as well as those who may not have historically had a place at the table to weigh in on Great Lakes issues and/or groups in their specific lake region with expertise pertinent to Lake specific issues.
- Opportunity for written comment period, wide distribution

- Opportunity for one on one interaction with agency officials and key stakeholder leadership
- Engagement structures should be based on stakeholder needs and limitations for engagement and will need to be tailored those needs in order to be effective.

Timeline and Duration: Meaningful public engagement on the drafting of AP3 will require ample lead time to garner useful public input into the process. A sample timeline could look like:

2018	Reporting on AP2 accomplishments and progress towards targets Evaluate existing outreach efforts, Build relationships Architect process for integration of engagement with existing efforts. Begin outreach to define broad goals of AP 3 – broad outreach GL wide, extensive citizen engagement
2019	Begin drafting targets for broad goals – targeted outreach to science and agencies for realistic strategy Outreach to target audiences to describe how targets meet their defined interests. Solicit feedback on full plan
2020	Roll out AP3
2021-2025	Outreach to user groups to describe how AP3 implementation meets various target audience interests

3. Charge Question 3 Response

GLAB CHARGE QUESTION #3 – RUNOFF REDUCTION

Re statement of Charge Question (3) - Runoff Reduction: How can GLRI investments be more effective in getting sustainable runoff reduction practices established or by exploring treatment technologies that will reduce nutrient loadings that contribute to harmful algal blooms, hypoxia, and other water quality threats from agricultural areas?

(A) What specific approaches are recommended by the GLAB to help achieve its recommendation from December 2013 that “funding priority should be given to projects in communities that demonstrate a commitment to implement comprehensive conservation farm plans that are sustainable and perpetual.”¹

(B) Given the length of time it takes to institute such of the sustainable practices, what AP3 annual Measure(s) of Progress should be developed to measure demonstrable and sustainable progress toward ecological outcomes while at the same time providing sufficient time for such sustainable practices to work?

Context: While the Great Lakes community is making steady progress in many of the focus areas, more effective action is needed to reduce nutrient runoff from agricultural lands. The IATF has attempted to implement GLAB’s recommendation: “funding priority should be given to projects in communities that demonstrate a commitment to implement comprehensive conservation farm plans that are sustainable and perpetual.”² However, the IATF has experienced several barriers to making short-term progress through sustainable runoff reduction approaches. For example, it has found limited capacity for conservation easements (e.g., through land trusts, etc.) in upstream Maumee River watershed areas; the few stakeholders who can provide some capacity require agriculture easements to secure interest from willing producers; an inconsistent “patchwork” of strategically-targeted lands for easements, etc. And, where these barriers can be overcome, the IATF has found that it could take a much longer time to undertake these “sustainable approaches” than annual measures of progress might allow.

GENERAL COMMENTS ON CHARGE QUESTION

Runoff – both urban and rural – continues to be the largest pollutant contribution to the Great Lakes. Measures have been implemented over the years but the reductions are not sufficient to meet water quality standards and/or goals for fishable/swimmable waters. Charge Question # 3 focuses on the

effectiveness of existing technology, need for additional technology, and ways of assuring that water quality results from investments made in runoff reductions are sustainable.

Harmful Algae blooms are a symptom of a larger challenge of reduction of polluted runoff. However, prioritizing reduction in the extent and duration of nuisance and harmful algal blooms remains a valuable targeting tool that should be continued. The establishment of Priority Watersheds is a useful tool for evaluating effectiveness in the most nutrient compromised areas of the Great Lakes. However, limiting investment to these three critical areas fails to address the loadings entering from the larger drainage area.

Recommendations:

- 1) **The GLAB should recommit to the use of priority watersheds as a targeting tool but should also allow for funding meritorious projects in other watersheds that address runoff control. (Note – some of the subcommittee members recommended limiting the funding to priority watersheds. We look to the larger GLAB for their opinion.)**
- 2) **The Federal Partners should continue to prioritize projects that work to reduce the extent and duration of harmful and nuisance algal blooms.**

There is something to be said for maintaining consistency in the Action Plan (AP) measures of progress over time. The AP II measures of progress are output (as opposed to outcome) focused and speak to targeting priority watersheds as identified by the IATF and Annex 4 processes. The goals of the GLRI should be consistent with Annex 4 and support measurement of the NPS Pollution Impacts on Nearshore Health Focus Area and the Annex 4 (Nutrient) of the GLWQA outcomes. The concerted effort should align to reduce the extent and duration of nuisance and harmful algal blooms and hypoxia in embayment areas of the Great Lakes.

Recommendations:

- 3) **Fund farmer outreach and other on-farm aspects that are currently being supported by GLRI through an agency such as the USDA, where experience and culture more closely align with priorities. GLRI funding should be available to grants requests demonstrating successful collaborations that are specific to the area.**

Technical assistance to agricultural producers remains an important component of continuing Great Lakes improvements and continued and expanding funding should be identified to allow for sufficient, trained staff to support and monitor the “on-farm” improvements needed. However using the GLRI for this purpose may not be the most appropriate use of staff and resources. The GLAB recommends that the Farm Bill provide sustained funding for farm technical assistance (TA). If these efforts continue to be funded through GLRI, creating a requirement for staff match could help bolster necessary capabilities to create effective projects. Regardless of funding source, more TA is needed and the shrinking of this vital service for budgetary reasons can produce only negative outcomes.

Placing emphasis on comprehensive conservation planning as a focus is important, and how those plans are developed and implemented could be further fleshed-out and supported by more enhanced technical assistance and outreach/education at the local level. For example, Farmer-led or peer-to-peer engagement is really moving the needle in several watersheds throughout the GLs region and beyond.

Recommendations:

- 4) Structural or other types of BMPs that do not require annual renewal and that assure greater longevity should be given priority.**
- 5) Create funding guidelines that ensure funded projects have plans and agreements in place for long term sustainability**

GLRI should remain focused on funding practices that target nutrient reduction on the most sensitive lands during the most critical times of the year. However, harmful algal blooms remain the “early warning” for the larger issue of consistent excess loading of nutrients. The long term effect of this loading is largely unknown but is expected to encourage eutrophication of areas with poor hydrologic exchange.

Structural BMPs have demonstrated to achieve long term benefits with minimal long term maintenance. These programs should be given priority over practices that vary from year to year. These practices yield greater benefits if agreements are in place that require the practice be maintained long into the future (preferably in perpetuity).

Better tools that lead to reductions in nutrient runoff should be encouraged and supported. Modeling and research has shown that the adoption of precision techniques to assess nutrient needs (i.e., soil testing) and Variable Rate Technologies (VRT), coupled with a suite of conservation practices, including appropriate cover crops, can be a highly effective approach. These non-structural practices are not considered “sustainable and perpetual” practices by some. However, widespread utilization of these practices allows practicing farmers to see results and encourages them to adopt these practices. By changing their traditional approaches, their farming system will be sustained and perpetuated, and result in long-term water quality benefits.

Recommendations:

- 6) The Federal Government should ensure sustainability of funding to support long-term staffing – preferably utilizing USDA appropriations and if that is not available, utilizing GLRI funds.**

GLAB should also consider recommending cross compliance as an option for USDA NRCS to put in place. If a landowner receives money for any farm program from USDA – a conservation plan/ nutrient management plan should be required with annual follow up.

In GLRI priority watersheds, local ag-related conservation entities must have adequate staff capacity and resources to educate and assist farmers with field-scale nutrient management planning, implementation, and tracking efforts. Over the long term, there must be local capacity of local ag-related conservation entities (e.g., conservation districts, extension offices) in GLRI priority watersheds to provide farmers with field-scale nutrient management planning technical assistance, and financial support for targeted outreach/education programming, implementation, and tracking of practices. This staff should direct funding to: 1) technical assistance for the development of comprehensive field-scale nutrient management plans; 2) farmer-led outreach/education; 3) soil testing and variable rate technologies (VRT); and, 4) structural and non-structural practices, with an emphasis on erosion control, nutrient management, and cover crops combined practices that lower the peak nutrient loss rates and shorten the duration of the peak during spring months.

The Federal Partners can encourage sustainable practices utilizing requirements placed on the granting of federal assistance. Additionally, there are ways to ensure practice longevity outside government funding by utilizing existing laws and practices. Easements are used extensively in government programs and are attractive because of the level of control they give regulatory agencies over the practice for the length of the easement. Another option is the use of deed restrictions, which are attached to the land and follow it through sales. Deed restrictions are usually handled through title companies, where

notification is given upon sale of the property, however they lack the enforcement provisions that come with easements. Either of these long-term strategies provides the opportunity for beneficial conversations and can create more surety around practices.

Recommendations:

7) Encourage the use of easements and deed restrictions to ensure practice longevity.

While there are a number of challenges with implementation, there are also various tools to respond to those challenges. According to Smith et al. (2015), emphasizing structural practices may be problematic considering that much of the land that is currently farmed is rented land and not owned by the producer. Attaching deed restrictions on the land owner's property may be as problematic as the IATF's previous attempt under the GLRI to fund conservation easements in the Maumee River Watershed.

GLRI funds should be utilized to support monitoring on both the project level and the regional level. Monitoring is essential to assess the long-term success of projects and their efficacy in meeting their stated goals. While GLRI money can be used for monitoring, it is unreasonable to require small regional actors to carry out long term monitoring efforts. Partitioning monitoring responsibilities between local actors for short term responsibilities and federal and state governments for longer term impact monitoring could produce the desired results.

Recommendations:

8) Allocate monitoring responsibilities between federal and partner entities, with federal groups taking over long-term monitoring and partner groups taking over short term monitoring. The Federal Government should retain the responsibility for regional monitoring – preferably utilizing core funding.

It will be very difficult for applicants to implement monitoring for extended years beyond the grant period. Thus, less emphasis should be placed on project level monitoring since the GLRI investment would be better spent on implementation within the grant period. For example, according to Northeast Midwest Institute's 2015 Betanzo et al. Lake Erie nutrient reduction case study, "This case study found that more than 40 years of monthly TP data would be needed to detect a 10-percent change at a given monitoring site with statistical significance because the natural variation that occurs in streamflow and water quality from year to year obscures this small magnitude of change." The case study recommends that targeted monitoring should be addressed by federal and state agencies in a coordinated/collaborative manner to ensure that what monitoring data is collected and standardized for analyses. There are also tools/models that can be required to be used to estimate the nutrient reduction by implementing practices at the field level. Grantees can be expected and required to verify practices implemented and report on the cumulative nutrient reductions (in lbs and acres treated, as per the AP II measures of progress) as a result of their project/program implementation. If this larger program cannot be funded, EPA should revisit the effectiveness of a proposed adaptive management program.

In order to prevent the collapse and loss of experience and knowledge when a periodic funding program like GLRI dries up, local positions with USDA, NOAA, USGS, and EPA must be funded with long-term sources. This could either be funded through the appropriations process or a long term contract arrangement.

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3.1 Workgroup Comments on Charge Question 3 Response – Areas on which the workgroup did not agree

From: Jim Ridgway <jridgway@ectinc.com>

Subject: RE: Charge question 3 - Runoff Reduction GLAB and SIS workgroup

Rita,

Please find attached our Draft response the Charge Question #3. Unfortunately, we did not reach consensus on all issues. I will rely on the committee members to articulate their specific concerns/recommendations. (You may choose to include this email chain as it identifies some areas on which we did not agree.)

Gang,

Please feel free to make changes to the attached text and get it to Rita TODAY. I welcome all changes. However, I had some difficulty translating some of the recent comments into succinct text. I would welcome your help.

Thanks again for all of the effort,
Jim

Jim's comments in italics
Michelle's comments bolded
Bill's comments highlighted in yellow
Joy's comments are underlined

bullet 1, pag2 should state GLRI, not GLAB (I think) – *I did not make this change – We are advising the GLAB which, in turn can provide advice on GLRI. I believe the GLAB should utilize GLRI and other tools to focus on Priority watersheds. I look to others for their opinion as well;*

Bullet 1 - says we should recommit to use of priority watersheds as a targeting tool but should also allow for funding meritorious projects in other watersheds that address runoff control. Seems to me we want it both ways here. Are we going to work on priorities or open it up to all projects? How do we define “meritorious projects”? I would recommend the prioritization approach.

We are more likely to see more significant results if we target the priority watersheds. It's hard for EPA to tell the states outside of those priorities that they are ineligible for funding. Frankly, EPA probably likes the flexibility and will be reluctant to eliminate it. So what if we put minimum requirements around “meritorious projects” that are not in a priority watershed to ensure that there is a reason for doing these projects? Like the watershed must have algal blooms, have N or P limits in a TMDL or watershed action plan, show that there is a long-term plan for maintaining control, and whatever else folks can think of.

bullet 3, doesn't make sense to me in that we are punting the responsibility of funding TA through the USDA, especially since NRCS has limited staff capacity and a bit of a turnover issue. *We all agree that TA is important and must be supported. However,, I look at GLRI funding as temporary and competitive. I would look to the Farm Bill to address these issues over the long term. I would like to see the GLRI fund TA at the conservation district level to fill the gap (I would agree but argue that this is stop-gap funding);*

Bullet 3 - is about staff and adequate technical assistance to get the job done with Agricultural non-point. There is no one approach here. Some places NRCS does a great job, in others Soil and Water Conservation Districts, local government or nonprofit organizations have done good things. I think GLRI grant applications should emphasize collaboration and partnerships to get the job done and ask how the grant application intends to maintain the level of effort after the GLRI grant is gone- this might help with temporary issue and get grant applicants to think about long term. Some of the specifics like local staff match or farmer led engagement could be suggested options whereas NRCS or Farm Bill changes will require some work done by GLAB. Grants with best approach should get highest recommendation for funding.

I really don't think that GLRI should be used to support regional NRCS staff so that they can provide TA. I agree with Bill's point that each project can have a different partnership model and am okay with GLRI grants being used to provide NRCS staff support in certain cases. Otherwise, USDA should be funding it's staff. We all agree that USDA has not provided sufficient funding so perhaps recommendations from folks like us will help make that happen.

bullets 4-5 vulnerable could be changed to sensitive lands, DONE bullet 5 needs to be better defined in the narrative, and the narrative doesn't really get at bullet 4 (I have added twp sentences in an attempt to address this concern.);

Bullet 4 - nutrient management and conservation farm planning can be sustainable and perpetual – in Wisconsin, once you have paid a landowner for nutrient management (\$28/ acre), the landowner is expected and required to follow an annual nutrient management plan from that point forward. There is a lot about a nutrient management plan which resembles a conservation plan (590 NRCS standard for nutrient management requires/recommends buffers and grassed waterways to name a couple). The key is – do we have good staff who will follow up with landowner and gain trust in annual review of nutrient management plan?

Use of the term vulnerable lands is unclear to me. How about: Lands that have highest risk of delivery of sediment and phosphorus delivery to streams?

Bullet 6

Bullet 6 - Easements and attaching conservation plans to deeds are mentioned as options for sustainable conservation practices. How will the grant applicant propose in the grant to maintain the sustainability of the GLRI grant??

I think GLAB should also recommend cross compliance as an option for USDA NRCS to put in place. If a landowner receives money for any farm program from USDA – a conservation plan/ nutrient management plan should be required with annual follow up – otherwise we are subsidizing agriculture production and placing the water quality costs into the future, with taxpayers sometime in the future or allowing the water to become degraded.

I'm getting in over my head, but in the 2014 Farm Bill, there was a requirement that if you purchased crop insurance, you had to comply with conservation practices. Beyond that soundbite, I don't know how that's done. Bill, it sounds like you are suggesting something bigger, right?

bullet 7, monitoring is not reflected in the bullet so may it should have its own bullet?;

Bullet 7- seems to repeat some of the same points as bullet 6 regarding easements and deed restrictions in the first paragraph. Some grant applicants do have the capability to do water quality monitoring before, during and after the project is completed. GLRI funding should give higher priority to those grants willing to have a water quality monitoring plan. We have a water quality monitoring plan in place in Silver Creek and the annual costs (USGS monitoring station, weekly grab samples, lab work and analysis) are about \$40,000 per year.

I agree that there is some duplication between bullet 6 and 7. I recommend taking paragraph 2 of bullet 6 and making bullet 7 about possible tools to ensure practice longevity.

how is bullet 8 & 9 different, maybe combine?(DONE); delete the reference section since there are not links in the doc(Comments of others?? Please let me know). I also don't understand the headers titled Discussion, aren't they recommendations?(REMOVED)

4. Charge Question 4 Response

Response to Charge Question #4

Subcommittee: Michael Isham, David Allan, Kathryn Buckner, Steve Cole, Michelle Selzer, Michael Twiss

Charge question 4: Protection: Should GLRI invest in efforts to understand long-term future threats and communicate them to the Great Lakes community for action?

(A) How should GLRI begin investing in efforts to forecast future threats beyond AP3? Should it start with a forecasting pilot project? Should it invest in a single effort? Or should it seed various efforts, complementing, for example, Blue Accounting, Great Lakes Inform, or other similar platforms to build forecasting capacity?

(B) What kind of platform (both internally with the database and externally with a dashboard, for example) is necessary so that the interface between data and accessibility can be as useful as possible to the public?

Should the GLRI invest in efforts to understand long-term future threats and communicate them to the Great Lakes community for action?

Yes. The 2012 Protocol to the Great Lakes Water Quality Agreement (GLWQA) charged the International Joint Commission (IJC) Water Quality Board with identifying emerging issues and recommending strategies and approaches for preventing and resolving the challenges facing the Great Lakes. To date, however, there has not been a framework in place that systematically assesses current and potential threats. Thus, some attention should be given to avoiding future environmental problems. There is an opportunity for the GLRI to invest in efforts to understand potential long-term future threats and to invest in communicating opportunities to prevent their impacts to the Great Lakes. Prevention can reduce the cost and time required for response and preserve ecosystem qualities and characteristics that might otherwise be lost to future generations.

To fully understand future threats, there must also be an investment in understanding the places most vulnerable to those threats. The condition, value, and interrelatedness of these places should be understood and monitored. There is a need for predictive science and forecasting activities so that threats to the vulnerable ecosystems of the Great Lakes can be anticipated and addressed before they manifest. In addition to such forecasting activities, establishing monitoring systems in these places can help prevent threats from reaching a critical tipping point and long-term, negative impacts.

(A) How should GLRI begin investing in efforts to forecast future threats beyond AP3? Should it start with a forecasting pilot project? Should it invest in a single effort? Or should it seed various efforts, complementing, for example, Blue Accounting, Great Lakes Inform, or other similar platforms to build forecasting capacity?

Generally speaking, forecasting activities already exist in the Great Lakes region, but the extent of these activities varies by lake. There are two notable examples of forecasting on broader scales that can provide guidance on this issue. In 1995, at the request of the U.S. Environmental Protection Agency (EPA) Administrator Carol Brown, EPA's Science Advisory Board released a report meant to advise the EPA on ways to prepare for future environmental problems. While not Great Lakes specific, this report outlined several formal systems of inquiry to anticipate possible environmental issues that could emerge over the 5-year to 30-year time horizon. One or more of these systems could provide a basis for expanding forecasting activities for the Great Lakes basin. Secondly, the IJC's Great Lakes Science

Advisory Board is undertaking a project that will work toward developing a framework for identifying emerging stressors and threats specific to the Great Lakes.

It will be important for federal agencies to engage other organizations interested in forecasting future threats to the lakes as they consider potential GLRI investments to strengthen the region's threat detection and assessment infrastructure. In addition to the Lake Partnership groups and IJC, several research teams have worked or are currently engaged with building maps that better visualize and understand environmental impacts and stressors on the Great Lakes, including the Great Lakes Environmental Indicators (GLEI) project, and the Great Lakes Aquatic Habitat Framework.

Recommendations:

- *Undertake an inventory of existing forecasting capabilities and gaps in the region.* GLAB recommends that the IATF create (or support initiatives to establish) an inventory of existing forecasting efforts in the region, identifying specific geographic reach, temporal scope, methodology, and sustainable funding approaches of existing efforts. As part of the inventory, the IATF should identify ecosystem and human health issues already identified as part of these efforts. Future threats with the potential to impact multiple future threats and outcomes should be prioritized. Ad hoc forecasting teams consisting of stakeholders, including scholars, government agencies, First Nations, Tribes and Métis, can be brought together to develop a short list of threats the lakes are facing, and identify those entities responsible for monitoring these threats and their impacts. Further, the GLAB recommends that the IATF invest in enhancing the quality and scope of forecasting capability in the region by developing tools to address gaps in the region's ability to predict threats.
- *Support and expand forecasting activities undertaken pursuant to Lakewide Action and Management Plans.* As established entities with lake-specific knowledge, the Lake Partnerships can provide an integral role in forecasting activities. For example, in part because of the IJC's recommendation that Lake Superior, as the most pristine of the Great Lakes, be used as a demonstration project for eliminating specific chemical contaminants, the Lake Superior Partnership has embedded threat forecasting in its lake-specific activities, such as through its Zero Discharge Demonstration Program, Invasive Species Complete Prevention Plan, Lake Superior Climate Change Report, and its Lakewide Action and Management Plan (LAMP). It is recommended that the IATF support all of the Lake Partnerships by:
 - a. Supporting Lake Partnerships and the expansion of the forecasting activities pursuant to updates to the LAMPs and associated Biodiversity Conservation Strategies. The Lake Partnerships, with input from the ad hoc forecasting teams, should assess and report on cumulative impacts as part of their LAMP work.
 - b. Support and fund LAMP-focused planning and implementation under GLRI Action Plan III to encourage forecast planning and implementation activities that have been identified as priorities by the forecasting teams and other stakeholders described above.
 - c. Support existing forecasting activities by providing data and information management capabilities and develop uniform forecasting methodologies and frameworks that can be used by the Lake Partnerships and other stakeholders for each lake.
- Consult with the Lake Partnerships and associated forecasting teams to identify the priorities related to forecasting that should be addressed through various GLRI funding opportunities. Where possible, assess and incorporate information into the Action Plan III

from the IJC's Great Lakes Early Warning System work group's report that is lake and connecting channel-specific, recognizing the unique characteristics and conditions of each, so that it can be useful to the Lake Partnerships and other stakeholders seeking funding for implementing prevention actions.

- *Engage in and monitor the International Joint Commission's Great Lakes Early Warning System work group.* The Great Lakes Early Warning System (GLEWS) work group of the IJC's Great Lakes Science Advisory Board is beginning to undertake this work. The Work Group plans to produce a scientifically-based framework that will detect and identify emerging stressors and threats that it will then test using available data. The ultimate goal of the project is to develop and maintain a GLEWS. The GLEWS framework will include an analytical process to identify potential stressors and threats to the physical, chemical, and biological components of the Great Lakes ecosystem, and a decision process that will identify who has an explicit mandate to issue periodic, scientific, and credible "early warnings" of potential or imminent stressors or threats to the Great Lakes.
 - *Include a Measure of Progress in Action Plan III that demonstrates establishment of a structure for scanning and articulating threats.* Specifically, Action Plan III should include a line item in Focus Area 5: Science-Based Adaptive Management that incorporates the use of the planning and implementation activities described above. These activities should have a multigenerational approach to the identification of emerging threats. Explicitly considering future generations in scenario planning and scanning for threats will allow a unique approach to threat identification, and may identify threats not apparent by using western scientific methods. While this Measure of Progress could consider a particular number of generations, that number should roll forward as years go by. Identifying future problems and beginning work to address them now is a cost effective and flexible way to responsibly address future threats.

(B) What kind of platform (both internally with the database and externally with a dashboard, for example) is necessary so that the interface between data and accessibility can be as useful as possible to the public?

As an initial matter, federal agencies must support comprehensive and reliable monitoring systems. Strategic monitoring and data collection, accompanied by effective information management and delivery, is critically important to the work of anticipating, prioritizing, and addressing threats to the Great Lakes. Data and information must be made available to the public in an interactive, usable format. Long-term progress in protecting the lakes requires an informed, engaged, and committed citizenry. Public engagement encourages "buy in" for Great Lakes programs and creates a conduit for "on the ground" information about ecosystem conditions and concerns. Taken in context, this type of information can be useful for seeing what might be on the horizon with respect to the condition of the ecosystem, particularly at a sub-regional level. The GLAB recommends that the federal agencies identify and support information delivery platforms that support these outcomes at the lakewide (through the LAMPs) as well as regional scales in areas where potential threats have been identified.

Data and information must also be shared with other organizations and institutions that address Great Lakes issues. Forecasting is greatly aided by collaboration between scientists, academic researchers, agency resource managers, stakeholders, and holders of cultural and traditional ecological knowledge (TEK). We encourage the agencies to evaluate existing collaborations, "dashboards" and

platforms as a mechanism for communicating data and information that can be used for predictive, forecasting purposes.

DRAFT

5. Charge Question #5 Response

Workgroup: David Allan, Kathryn Buckner, Jennifer Hill, Michael Twiss, Joan Rose

Charge Question #5. Adaptive Management Pilot Project: Who are the most important partners to communicate with regarding the results of the adaptive management pilot? What are the most effective strategies to engage these partners?

Context – This is a similar question to the public engagement question the IATF charged the GLAB on October 12, 2016. The Science-Based Adaptive Management Process for Great Lakes Restoration Initiative Action Plan II (version 1.0 January 2016) states that the “adaptive management process also relies on input from state, tribal and municipal agencies, the Great Lakes Advisory Board, the scientific community, Lakewide Action and Management Plan partnerships and the general public.”

The sub-committee believes the most effective response to charge question #5 is to address three issues: who should receive this information, how should it be communicated, and what should be communicated. We believe that answering this question involves more than identifying recipients of information; an effective strategy to engage partners should also address how the information is communicated and what kinds of information would be most helpful and effective.

WHO: When communicating about the Adaptive Management Pilot project, we believe it will be critical to engage the federal and state agencies and their GLRI grantees working in the Western Lake Erie Basin to receive their feedback on the project and its results. In addition, the project, its results, and how it will be used into the future should be communicated to federal and state agencies and GLRI grantees across the basin. Just as importantly, non-governmental stakeholders who are not grantees under the GLRI are a critical audience to communicate with about the AM pilot project. Non-governmental organizations and citizen groups, industry, municipalities and cities, states, tribes and first nations, agriculture interests, and universities are all part of a unique set of stakeholders that have helped drive Great Lakes restoration forward and they should all be communicated to about the AM project. Just as importantly, the Task Force should make a concerted effort to communicate the results of this work to communities of color and low income communities in rural and urban areas in order to continue to build awareness about the Great Lakes Restoration Initiative and its positive impact on communities.

HOW: Engagement of a broad audience of stakeholders on the AM pilot project should utilize existing structures for public engagement within the GLWQA. Specifically, we recommend using the Education and Outreach (EO) subcommittees of the Lakewide Action and Management Plans to engage stakeholders.

The Lakewide Action and Management Plans provide the means for Great Lakes partners to set lakewide goals and identify actions to meet those goals. LAMPs integrate the priorities of government agencies, tribes, and many stakeholders and must (by requirement of the GLWQA) be developed with public input. The LAMPs are therefore the best reflection of a shared vision for the lakes across a broad spectrum of interests. In addition, LAMPs account for differences in interests and priorities among lake basins - for instance priorities for Lake Erie and not necessarily the best priorities for Lake Superior. LAMPs reflect this. (Steve Galarneau)

While the structure exists for the LAMPs to serve as a solid public engagement vehicle on the AM pilot project, it will be up to the LAMP leads to ensure that the EO subcommittee is bringing in a diverse set of voices to the table. Engaging with only the ‘usual suspects’ on Great Lakes restoration will not result in effective public engagement around this question.

In addition, if the intention of the Task Force is to use the results of the AM pilot project to extrapolate broader AM guiding principles for the GLRI as a whole, then those results and guiding principles should be included as an issue for comment during the larger public engagement effort around the development of Action Plan 3.

WHAT: The sub-committee notes that we have only limited knowledge of the AMPP. We understand it to be an investigation of projects carried out in western Lake Erie under the GLRI. We believe the intent is to look at individual projects and glean information about lessons learned for the application of AM in Lake Erie and more widely in the Great Lakes basin. We agree that learning how to practice AM at the project level across a diverse range of project types should provide valuable insights that can be transmitted to others. However, we also wish to include the following caveats. To the best of our knowledge, the projects being examined may not have been developed using an AM framework, not all projects may be appropriate for AM and, of course, we have received only a preliminary briefing on the AMPP. When the results of the AMPP are ready to be shared more widely, we recommend that the authors are careful to recognize any limitations that may exist in lessons learned from this retrospective analysis of work completed in western Lake Erie.

That said, we recommend that the “what” of an effective communication strategy would include (1) the report itself, which looks like it will be a many-parts narrative, and (2) a set of “best practices of adaptive management” that can be used as guidelines for future projects. The best practices guidelines likely would benefit from example case studies drawn from the larger narrative report. In addition, it may be possible (3) to provide guidance that would identify projects where AM is an especially high priority, versus others where AM may be less critical or unnecessary.