

## Comments to GLRI Advisory Board

May 21, 2013

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My name is Lin Kaatz Chary. I live in Gary, IN. I am the executive director of the Great Lakes Green Chemistry Network, and the Indiana Toxics Action Project (ITAP), however I am submitting these comments on behalf of ITAP only, and they do not represent the views of the Great Lakes Green Chemistry Network. I appreciate the opportunity to have been an observer at the inaugural GLAB meeting, and appreciate the opportunity to submit these comments which also include a response to several of the points raised at that meeting.

I wanted to start by defining restoration. My definition is, admittedly, slightly different than that under which the GLRI operates. It coincides, however, with this statement from the US EPA Water Archives page entitled “Restoration Defined”,

*Although it can be used as an effective tool to return a degraded system to a pre-disturbance condition, restoration is also an important tool for preventing environmental degradation. Strengthening structural and functional elements through restoration can help improve a stream system's tolerance to stressors which lead to environmental degradation.*<sup>1</sup> (emphasis added)

and I believe it to be entirely consistent with the spirit and intent of the GLRI. Restoration must begin with preventing environmental degradation, and specifically so in the conditions in which we find ourselves today, where significant impairment of beneficial uses has already occurred, and while the sources of those impairments continue to pour millions of tons of contaminants into the lakes. Restoration cannot be seen only as cleaning up after the fact. That is part of it, of course, and I am not advocating allowing existing contamination with its ongoing impacts on the

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<sup>1</sup> Restoration Defined, U.S. EPA Water Archives, <http://water.epa.gov/type/watersheds/archives/chap1.cfm>, May 21, 2013.

ecosystem of the lakes to escape intensive efforts at clean up, nor to demote it as one of the priorities of the GLRI.

I am suggesting, however, that the approach to restoration as currently being implemented is too narrow, and will have long-term unintended, though avoidable, consequences. Granted that we have a gigantic task ahead of us just in cleaning up the mess already made; surely, however, we must also be concerned with proactively preventing the creation of new AOCs. Otherwise we run the very real risk of being stuck in a never-ending loop of degradation, remediation, and restoration, all the while moving backwards, because, as the current Action Plan acknowledges, we will never be able to completely restore sites to their “pre-disturbance” state however much money is spent.

This means that the GLRI and the GLAB are confronted with critical decisions: how many resources should be allocated to cleaning up and mitigating our existing messes, and how many to preventing new messes? Do the priorities as currently articulated represent the best and most effective route to preserving and protecting the Great Lakes? The answers to those questions will have very far-reaching implications for the future health of the Great Lakes and its inhabitants.

I am submitting to you today my thoughts and observations for consideration in the adoption of the 2014-2019 GLRI Action plan.

*1. The GLAB should prioritize integration of the GLRI with implementation of the GLWQA and efforts at chemicals policy reform and should be working to assure that the GLRI funds are applied to the mandates laid out in the Annexes of the 2012 Agreement. This would seem to be self-evident, but unfortunately it often seems as if the two efforts are proceeding completely independently of each other, lacking dedicated, sustained communication between the two mandates, and worse, often appearing oblivious to the work of the other even though they are clearly working toward the same goals. Even a cursory reading of the GLWQA, the Clean Water*

Act, and the mandate of the GLRI clearly show that the overlap is significant; it therefore makes no sense for the U.S. commitments to the GLWQA to be seen as separate and independent of the mandates of the GLRI, and this synergy must be acknowledged in and fundamental to the 2015-2019 Action Plan. The added strength and resources created by this integration will elevate and accelerate the success of both efforts.

In practical terms this means that GLRI resources should be explicitly distributed with the goal of promoting and facilitating the work of the annexes in the GLWQA to achieve their integrated goals. This requires far greater and conscious collaboration with the International Joint Commission than currently exists.

Charge 6 asks whether scientific indicators developed by the IJC should be considered for use in the GLRI. The more relevant question is why wouldn't they? In the discussion at the GLAB, it became clear that there were really two questions on the table. The first was whether the GLRI should utilize existing indicators developed by different sources, including the IJC, in "refining the Measures of Progress". The second question is of far greater significance: what is the role and value of using indicators in the first place? It seems to me that this is closely related to the question posed by Cam early on over the role of science in the GLRI, "science" being defined in this context as monitoring, assessment, and evaluation, in contrast to "boots on the ground", defined as accelerating the work of "actual" remediation and restoration *in situ*.

I would suggest that this is a very strange framing of the issue. I have already addressed the first question above in what I believe the relationship between the GLR and the IJC should be. With regard to the second question, it seems to me fairly obvious that science must *drive* what is happening "on the ground"; that is, that no actions should be undertaken in the absence of the best available data characterizing the current condition of the restoration site and the feasibility of planned restoration strategies. I will refrain from using the term "best available

science” because that has become a somewhat loaded term which often is more about politics than science. The reality is that we will never have *all* the information we need; complete information is a myth.

Inevitably, therefore, we must act on the best data we have at the time, in the recognition that science is an evolving, dynamic process that may change the data in the future; that is a good thing, not a bad thing. It is the basis for continuous improvement as we approach the challenges of the AOCs and other sources of toxic contamination. But in order to obtain that data, there has to be real-time monitoring and ongoing assessment of whether the project’s actions are resulting in meaningful change.

Finally, the question is, how else are decisions made, if not on the basis of the best data available at the time? There is already significant speculation among many grant applicants that many of the awards are determined more on politics and expediency than on science, feasibility, and capacity. These are questions that are fundamental to how the GLRI is structured and implemented. Monitoring, assessment, and evaluation should be seen as integral components of any GLRI project. This does not mean that they are the primary tasks of the project, and it also doesn’t mean that project deliverables can only be measured by artificial, quantitative measures, but it does mean that no project should proceed the rational for which and the final evaluation of which is not based on conclusions drawn from those data.

2. *The new GLRI action plan must put far greater emphasis and more money into addressing the **sources** of contamination into the Great Lakes and on efforts to eliminate and reduce those sources, and must recognize this as a fundamental and inseparable facet of restoration.* While we recognize that funding has been cut for the GLRI, nonetheless, out of the \$20 million available for the 2012 GLRI, exactly \$1 million, or 1/20<sup>th</sup> of the funding was available for toxics, not including AOCs. This \$1 million represents a *two-thirds cut* in funding from money available in this

category in 2011. The allocation for AOC delisting in 2012 was \$12 million, 12 times the amount allocated to addressing toxics and yet the AOCs became AOCs due to the destruction of beneficial uses from toxic contamination. Even fewer dollars are allocated to Category 1D which lumps together accountability, education, monitoring, evaluation, and community partnerships (a disparate group of bedfellows indeed) in an area allocated well under a million dollars. This assures smaller scale projects with small impacts and significantly narrows capacity in areas that should be expanded. It is pretty easy to see what would end up on the chopping block if the GLRI made a decision, as indicated in Charge 4, only to devote funding to “larger-scale projects”.

This reduction in providing resources to address toxics is occurring as millions and millions of tons of contaminants continue to pour into the Great Lakes basin, and I encourage you to look carefully at reports prepared by the Environmental Defence and the Canadian Environmental Law Association on the amounts of contaminants that continue to be released into the Lakes.<sup>2</sup> In 2007 (the most recent data available in 2010 when the second report was released), “285 million kg of pollutants were released and transferred (excluding recycling) from NPRI and TRI facilities in the Great Lakes-St. Lawrence River basin”. And, while it is true that levels of chemical contaminants such as PCBs and DDTs are diminishing in some indicators, PCBs are by no means a “done deal” in the lakes. Although the goals of both Parties in the Binational Toxics Strategy (BTS) with regard to PCBs, for example, were largely met, those goals represented what both sides will readily acknowledge was “the low-hanging fruit”. At the end of the BTS,

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<sup>2</sup> Canadian Environmental Law Association and Environmental Defence. *Partners In Pollution, Part 2, An Update on the Continuing Canadian and United States Contributions to Great Lakes-St. Lawrence River Ecosystem Pollution*, A project by PollutionWatch, March 2010, <http://www.cela.ca/publications/partners-pollution-2> downloaded May 20, 2013.

millions of pounds of PCBs remain in the environment with new sources being discovered even at this late date.<sup>3</sup>

But PCBs are not the only problem chemicals. Concentrations of so-called “emerging chemicals” such as PBDEs, brominated fire retardants, musks, BPA, HCB, and others are increasing in sediments and fish tissues. Some may ask how can these chemicals be addressed when the work on PCBs hasn’t even been finished? The reality is that there is no choice. These chemicals must be addressed, the sooner the better; it is already likely that we will be facing “re-restoration” issues within a decade or two. Many of these chemicals are endocrine disruptors and the implications of this contamination for not only the flora and fauna of the lakes, but for the public health of the nearly 40 million people living in the Great Lakes region, cannot be ignored.

While it may be a federal regulation that no funds can be expended on restoration of beneficial uses in areas until it can be demonstrated that the source contaminants will not be available to recontaminate the site, and while it may be true that this is the case in the AOCs currently under restoration activity, regrettably this represents an inaccurate picture and a false promise with regard to true restoration. The reality is that there can be no such assurances with regard to the “emerging” chemicals that will be creating new areas of concern, and new impacts in the basin. Their sources persist, and these chemicals continue to enter the lakes. What we see ahead is not a one-way path to remediation, but a merry-go-round on which we will be playing the infamous “whack-a-mole” game: no sooner will one chemical be addressed than new threats will be identified. With tens of thousands of chemicals currently in commercial use, for the majority of which we have no good toxicological data, this is a serious situation indeed. Over the years, there has been a shift in focus towards targeting sources of toxic substances discharged from

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<sup>3</sup> Grossman, Lizzie, Non-Legacy PCBs, Pigment manufacturing by-products get a second look, *Environmental Health Perspective*, 121 (3), March 2013, pp. A87-A93, <http://ehp.niehs.nih.gov/121-a86/> [Accessed June 8, 2013]

consumer products mainly released from wastewater treatment effluent. However, a recommitment to focus prevention efforts on toxic substances released from industrial processes is required to address Great Lakes pollution.

The GLRI must reexamine its priorities. The limitations of the current reactive strategy which allocates the major share of resources to restoration as cleanup and habitat repair must be recognized and addressed, and more funding must be devoted to prevention through strategies that promote, facilitate, and accelerate the elimination and reduction of the use of toxic chemicals in the Great Lakes region.<sup>4</sup>

3. *The new GLRI action plan must support innovative approaches to addressing the sources of contamination in the Great Lakes.* This is the logical follow-up to the previous point. One example of where this can be done is in providing funding to integrate green chemistry as a paradigm for pollution prevention efforts in the GLRI. Campaigns directed at the consumer market to promote messages to manufacturers and preferential purchases of products that are eliminating and reduce recognized contaminants are growing in both size and effectiveness. There is a growing emphasis on finding safer alternatives and substitutes but the reality is that given the number of chemicals in commercial use, the number of existing alternatives is miniscule and the real need is for research to design and develop new chemicals that are inherently non-hazardous. This is a very long-term investment

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<sup>4</sup> In the GLWQA and other strategies, the chemicals of greatest concern have traditionally been defined as PBTs – that is, they are persistent (they have long half-lives, degrade slowly, and remain in tissue for not only years, but in some cases, generations), bioaccumulative (they accumulate in living tissue up the food chain), and toxic. In the 2012 GLWQA, the terms toxic chemicals and priority chemicals were replaced by the term “chemicals of mutual concern”. The exact definition of this is as yet unclear, but can be interpreted in two ways. One, that the chemicals to be addressed by the Agreement must be mutually acknowledged by both Parties as hazardous/toxic. It is unclear what the implications will be for action on PBTs and other hazardous chemicals where there is no consensus. In the past several years, a class of chemicals recognized to be endocrine disruptors, that is, chemicals which interfere with the normal functioning of the endocrine system, particularly in the developing fetus, have also come to be recognized as highly toxic, even though they may not be persistent, as, for example, BPA. To complicate matters further, however, chemicals such as BPA are now considered as “pseudo-persistent” due to the fact that exposure is ubiquitous and continuous, so that while the chemical is metabolized more rapidly than persistent chemicals, the continuous exposure results in its continuous entry into the body. We now know that chemicals do not have to be PBTs to be toxic, as a growing scientific literature is reporting. Chemicals policy, however, has not yet caught up to the science, which has made addressing these chemicals more difficult.

that will not be able to be measured in one to three year increments, and must be seen as a fundamental task of the GLRI restoration effort.

In addition, it must also be observed that green chemistry solutions also have the potential to address remediation activities as well. Less hazardous methods of cleaning up contaminated sediments and other contaminated areas will provide a greatly-needed alternative to the current “dredge and dump” approach which characterizes virtually all contaminant remediation today. Warehousing today’s toxics for our children and grandchildren to have to deal with in the future is the antithesis of restoration – it is just a delaying tactic which transfers the ultimate restoration of these contaminants to the communities of the future.

The competition for GLRI resources, which are limited, is intense. However, it is important to point out that while site restoration funding is available from many different sources<sup>5</sup>, support for green chemistry continues to be small scale and piecemeal over a scattering of agencies. No large-scale major research initiatives exist in this area, yet its relevance to the restoration of the Great Lakes is immediate and indisputable. The development and scaling up of green chemistry- based technologies for both prevention and remediation are inextricably linked to the success of GLRI efforts with the added benefit of contributing directly to the economic development and health of the Great Lakes going forward. This speaks directly to the work of all of the agencies which comprise the GLRI.

It also speaks directly to the question of how GLRI funding relates to job creation and development, another issue raised in the current charge. Job creation is currently treated as another criterion by which proposals are evaluated, another box to be ticked off. But for many, if not most, projects, the jobs that are “created” are the jobs that already exist to accomplish the deliverables and actual new job creation is peripheral. This is neither surprising nor even inappropriate; the object of a

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<sup>5</sup> On May 21, the University of Michigan Water Center announced over half a million dollars in new restoration grants.



restoration project is to restore or remediate (and hopefully to prevent future) environmentally and ecologically degraded sites, not to create jobs. Tacking it on to add points to a proposal is not a fruitful strategy for addressing economic development.

The objective of GLRI funding should not be to views jobs as an “add on”, creating a few jobs here and there related to specific projects, but to facilitate the kind of economic development that is an engine for broader job creation. Job creation is inherent in economic development, and it should economic development, not just a few jobs, which should be seen as *one* of the potential outcomes of GLRI projects. Realistically, this will not be the case in all projects, and while it is important and admirable that the GLRI incorporates this as an important aspect of how it evaluates projects, it will not be accomplished by the current approach. One way it can be addressed, however, is by recognizing that GLRI projects have the potential for economic development, and therefore job creation, not only through an increase in natural areas available as recreational centers, but also through collaborative efforts supporting innovative start-up incubation projects to develop green chemistry applications for accomplishing permanent restorations and preventing future contamination and recontamination of restored areas.<sup>6</sup>

Moreover, to the extent that these efforts generate increased multi-agency collaboration, this program has the opportunity and the potential for groundbreaking achievements which are multi-disciplinary in the most effective sense. Another huge benefit of this approach is that can energize the kind of multi-agency communication and cooperation that has been a constant recommendation every time barriers to progress are discussed. The potential for positioning the Great Lakes region as a leader in promoting restoration efforts as a means of economic

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<sup>6</sup> A question was also raised about the potential burden attached to requiring reporting on how many jobs were created by a GLRI project. I would observe that were this to become a significant problem it would be an indication of real success. It is hard to imagine that at present that many new jobs have been created by GLRI funding, as that is not the focus of its projects.

development, and supporting the development of innovative strategies to accomplish this is enormous but will only succeed if initiatives such as the GLRI are able to fully understand how critical their participation is to this success.

The question is this: is the GLRI only a pot of money and the role of GLAB only to parse how that money should be spend, or is the GLRI actually an *initiative* - something far more complex but ultimately far more valuable? If it is a true initiative, then it must go beyond the constraints of simply deciding who gets what and how much. It must recognize and exercise its authority in expanding the scope of understanding of how it can best achieve its mandate and be willing to initiate, support, and accelerate creative solutions to that end, “on the ground, in the air, and in the water”.

4. *The GLRI must put greater emphasis on evaluating and reporting on the effectiveness of restoration efforts to reduce contamination within and beyond the AOCs.* Typically the success of these restoration efforts are measured by the return of waterfowl and fish to the area, and the return of plant diversity. With millions of dollars spent to date by the GLRI, there are very few data demonstrating the efficacy of this work in decreasing the chemical contamination in the AOCs as a direct result of the restoration work. I am not suggesting that the wetland and other habitat restorations that have been funded are not important nor worthy of funding, however – and this goes back to the earlier discussion about the role of science, monitoring, and evaluation – it is inconceivable to spend millions of dollars without rigorous evaluation of the success of the efforts based on meaningful criteria. It must further be pointed out that this is not the same as quantitative enumeration of the return of flora and fauna in the area. Moreover, the success must also be sustainable; that is, it must be able to endure over the long-run, not for only the one to three years of the project. Without some kind of monitoring and long-term evaluation, how it is possible to judge whether the gains reported will succeed and be sustainable over the long term?

Currently GLRI applications require reporting of measurable, quantitative results; this is presumably the means by which projects demonstrate that their projects have been a success. What is lacking, however, are the criteria which drive the assessment of these results. Are they the appropriate criteria? What are the standards for the criteria? Who determines them? Are they measuring the right things? Capacity that demonstrates the long-term efficacy of the project in reducing relevant contaminants at the site and preventing future contamination <sup>7</sup> must become an inherent part of the package.

5. *Existing strategies for addressing nutrient contamination must be reexamined and evaluated for efficacy, and proactive strategies adopted.* After millions of dollars spent, and the designation of Lake Erie as a priority area, it is once again in serious jeopardy. And yet, the source of phosphorous is well-known as are the mechanisms by which it enters the lakes and their tributaries. What this tells us is that while the emphasis in the GLRI (and other control/management strategies) has been on the mechanisms side, the real problem is on the source side. Agriculture in the U.S. relies heavily on the use of organophosphate fertilizers; organophosphates are also used extensively in pesticides. The current situation in Lake Erie and other areas demonstrates the ineffectiveness of attempts at management and control of the entry of these chemicals into our waterways. The elephant in the room is the power of the chemicals industry and agribusiness in preventing true progress in protecting and restoring our waterways. The GLRI cannot change this and it is not its mandate to do so. It can however, promote, facilitate and accelerate the creation of inherently

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<sup>7</sup> One of the reasons this occurs is the policy which we assume comes from EPA headquarters that demands observable, reportable, quantitative results in a year or two years' time. We don't disagree with this, and in fact, support it in most cases. However, it is equally important to recognize that these are not the kinds of results that all projects can provide in such a short turn-over time. Results can also be qualitative, and still just as defensible and effective as quantitative results. Sometimes it requires several years to see what the results are, particularly in the area of toxics elimination, and the milestones toward those results are not always quantitative. This kind of "one-size-fits-all" metric disadvantages projects which cannot count how many species of flora and fauna have returned to a specific area, and in particular, which seek to change attitudes and behavior which are much harder to quantify but no less critical to the success of the goals of the GLRI.

safer alternatives, and can clearly acknowledge the source of the problem and an understand of what the greater solutions are.<sup>8</sup> This requires dedicated support to innovative approaches to research and development of new chemicals and engineering techniques (green engineering) which will eliminate the source of these problems while remaining economically viable and accessible.

6. *Invasive species must remain a priority and continued funding dedicated to this problem.* Again, however, it is critical to assure that the problem is being addressed at its source. This is another instance where the source of the problem is understood, but the barriers are more political than scientific. As in dealing with problems such as nutrient loadings, the solution is understood, but the political will is lacking. It is indefensible to spend limited resources on reactive management projects rather than on supporting proactive and creative strategies for change. The burden for dealing with invasive species should be on the sources of introduction of those species into the lakes. The ballast water issue must be addressed. There are too many other areas that need GLRI funding to continue funding reactive strategies that don't solve the problem. The GLRI should invest in projects in education, accountability, and community action that are innovative and creative, and that address the limitations of the voluntary approach, and to document what efforts have succeeded. It is too great a drain on too limited resources to be in the position of major responsibility for cleaning up other peoples' messes.

7. *The GLRI should not allocate funding only to projects that have already leveraged non-GLRI funding.* This approach would effectively eliminate projects which cannot find private or state funding, and again, this would seriously impact efforts to eliminate and reduce toxics. Moreover, it would seriously disadvantage smaller projects, and projects that are just beginning. GLRI funding must also be seen as seed money in some cases, and used to support promising projects and get

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<sup>8</sup> Yes, this carries with it the risk of the GLRI being seen as taking "political" positions, but if the data support these conclusions, it is not political, but prudent, and, in fact, the responsibility of the GLRI to clearly identify the sources of the pollution it is charged with addressing.

them off the ground. It is also the case that GLRI funding itself is then used to leverage additional funding to continue a project after GLRI support has ended, and this may be particularly true in EJ communities and for smaller projects which would have a hard time finding support elsewhere but show the potential to create change.

The interest in maximizing the impact of GLRI funding is understandable, but the reality is that there are a great many major foundations who are prioritizing restoration activity and from whom funding is available. Contrast that to toxics work where private foundations have all but abandoned this area, states have little if any money to dedicate, Canada has drastically slashed its entire environmental budget (and this is relevant because the problems in the lakes do not respect national and international boundaries) and funding of EPA itself is in jeopardy. A requirement to come to the GLRI with significant funding already in hand will severely disadvantage many worthy projects.

8. *The GLRI should give priority to projects which are less likely to ever be realized without GLRI funding.* The response to this charge essentially echoes the case made previously. GLRI funding must be sufficient to provide continuity over 3-5 years, and to recognize the administrative burdens that accompany federal funding. The GLRI should dedicate some portion of its funding to capacity-building to promote community efforts and environmental justice efforts in the Great Lakes. Toxics is at the very heart of what the GLRI is all about – it is the background from which all projects emerge. This must be reflected in funding decisions which do not disadvantage projects which need GLRI funding to implement their programs but have not had the support of other funding entities.

9. *Monitoring, evaluation, and assessment are critical to the success of all restoration efforts.* This is a continuation of the earlier discussion on the role of science. There is no conflict between science and “boots on the ground” if it is clearly understood that it must be science that drives what the “boots on the ground”

do. Monitoring, assessment, and evaluation are the foundation on which all projects must be built. If this is not the case, what are they based on? Rational allocation of resources is impossible without the integration of scientific analysis and practical implementation strategies. Monitoring and assessment are not done for their own sake, in the absence of hypotheses or not in service of generating hypotheses; they have to occur in the context either of an already-identified problem or of a set of circumstances and conditions which require further understanding. Conversely, projects on the ground undertaken in a vacuum without clearly articulated measures of success and plans for evaluating efficacy are a shot in the dark which is irresponsible in a climate of limited resources and multiple needs.

10. *Considerations of public health, community empowerment, diversity and environmental justice must be considered as integral to the success of all GLRI efforts.* While this may seem self-evident, it is demonstrably harder to achieve than to articulate. The way in which these aspects are currently addressed in the GLRI criteria for funding is not going to achieve the desired results.

Environmental justice is an important example. The way environmental justice is currently addressed is that it, like job creation, is just another box to be ticked off in meeting all the criteria for submitting a proposal. It is hard to see how much more artificial and mechanistic this could be. Environmental justice is not just another “add-on”, but should be an organic aspect of the project. This also means recognizing that all projects may not inherently have an environmental justice component, just as they may not have a jobs component, and a decision has to be made as to whether or not this is acceptable (I believe it should be). If assuring that environmental justice is an integral part of GLRI projects, there are strategies for making this happen, but they will require some changes in how the GLRI funding categories are constructed.

The starting point is clearly understanding what environmental justice means in the context of a program such as the GLRI.<sup>9</sup> I would propose that it means much more than locating the project in a low-income community, a community of color, and/or a community that has historically been disadvantaged with regard to environmental policy and practice. Key questions to consider are:

- 1) How was the restoration site decided upon/who initiated the project
- 2) Who planned the project
- 3) What role did the community itself play in making these decisions
- 4) In what ways will this project specifically advantage the community in which it is occurring

In Northwest Indiana, for example, a large part of the Area of Concern is located in communities which are predominantly communities of color, yet there appears to be little connection between funded projects and those communities other than geographic. Are the communities in which these projects are being carried out aware that these activities are occurring? Were they consulted and did they have a voice in deciding whether or not the activities should occur in their communities; would they, for example, if given the opportunity, have agreed that these projects were priorities for how environmental/restoration funding should be spent in their community? What role do the communities play in the implementation of the project itself. Are they active participants? Observers? Do they act or are they acted upon? A critical aspect of assuring environmental justice is assuring that the communities affected have a voice in the decisions that are made and participate as a full partner.

In my experience, this mandate requires something advisory boards and government agencies often find notoriously difficult to do: give the people affected an actual voice in the decisions made in areas that directly affect them. This is often an uncomfortable and ill-understood process for advisory boards and decision-

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<sup>9</sup> An interesting article giving good background on the history of environmental justice in the US government can be found at [http://www.triplepundit.com/2013/06/environmental-justice-policies/?goback=.gde\\_3846273\\_member\\_247863601](http://www.triplepundit.com/2013/06/environmental-justice-policies/?goback=.gde_3846273_member_247863601) [accessed June 10, 2013]

makers unused to hearing what communities have to say, and operating under assumptions which are not necessarily shared by those communities. It is possible that restoration may mean something quite different to communities in some AOCs than it does to those whose main experience of those AOCs is markers on a map and scientific analyses. This is an area which requires serious proactive effort on the part of the GLAB for it to be successful; navigating the priorities of disparate groups is a challenge, not least of which when it is recognized that being successful takes time, and that that timeline sometimes conflicts with the best-laid agendas

Ideally, EJ projects would be initiated by the communities themselves, and done in partnership with collaborators who possess the technical and scientific capacity to accomplish the restoration/prevention activities desired. Alternatively, if the projects are initiated by another agency, a university, or state agency for example, the project would still be planned in partnership with the affected community and they would have an active voice in the decisions that were made.

For any of this occur, however, the community must have the capacity to participate in a meaningful way. Incorporating environmental justice into any project means first and foremost assuring that the community does have that capacity. This typically means funding dedicated to building and facilitating this capacity; it is an integral part of an environmental justice project, and it is not something that happens overnight. It also requires carefully considered criteria by which the success of the capacity building can be evaluated.

So, if the GLAB and the GLRI are committed to assuring that environmental justice is an integral part of the program, it seems to me that there are a few ways to achieve this, and certainly the GLAB itself will come up with its own approaches. That said, one way that the GLRI could assure that environmental justice is addressed would be to dedicate a specific pot of funding to EJ projects. This could be in addition to, and separate from the other priority funding areas, but would include all the different priorities of the GLRI, and the proposals would have to fit



into one of the funding categories. Alternatively, a portion of the funding dedicated to each priority area, e.g., toxics, AOCs, invasive species, etc. could be set aside and dedicated specifically to EJ projects proposed within that category. The advantages of this approach is that it recognizes that not all GLRI proposals inherently include an EJ component and should not be penalized for that in the scoring process, but also assures that some portion of the funding will go specifically to projects that meet all the criteria as EJ projects, e.g., initiated by communities or in meaningful partnerships with communities, addressing the concerns of the community in designing the project, and capacity-building. What this means would probably be different for different communities, and models such as the Technical Assistance Grants (“TAGS”) in the Superfund program might be useful to consider.

How GLRI relates to public health is another issue that will require serious consideration by the GLAB, as what is immediately clear from a reading of current GLRI RFPs is that public health is low on the list of priorities and has not even been included as a criterion for scoring proposals. What does considering public health mean in the context of restoration? This question has as yet been unanswered by the GLRI, particularly given the kinds of restoration activities on which the GLRI has focused to date. The main area in which public health is most directly connected to GLRI work is in projects specifically designed to reduce *e. coli* contamination of beaches, but beyond that, while it may be argued that any restoration of beneficial uses is relevant to public health in general, there is a long way to go before most of the AOCs will be remediated to the extent that they are fully swimmable. And, while the ability to sustain a viable fish population in the AOCs is an indicator of water quality improvement, it does not necessarily mean that those fish are edible; fish advisories remain in most of the AOCs.

Threats to public health are not limited to *e. coli* contamination of beaches and contaminated fish. Numerous studies point to increasing levels of contamination in the lakes from the so-called “emerging” chemicals such as PBDEs, other

brominated flame retardants, PFOAs, and musks.<sup>10</sup> Restoration in the terms currently emphasized in the GLRI (as noted earlier) do not address these contaminants, yet they represent a whole new generation of risks to the lakes and to the health of the populations in both the US and Canada that rely on the lakes. If public health is going to be a serious focus of the GLRI, more attention – and funding - will have to be devoted to what I’ll call preemptive restoration, proactive efforts to prevent these chemicals from joining existing legacy contaminants in preventing the beneficial use of these resources.

Unfortunately, due to the lack of a progressive and effective chemicals policy in the US over the past 40 years since the passage of the Toxic Substances Control Act, and the current uncertainty with regard to the ability of Congress to pass new legislation which substantively improves EPA’s authority and advances protection against toxic chemicals, we find ourselves in the situation of having to rely on ancillary initiatives such as the GLRI to achieve effective protection of the Great Lakes. We cannot rely on existing or future legislation at this point to adequately address the “emerging” contaminants and protect against the need for future restoration in addition to the current work now in progress. We must instead look to the GLRI to shoulder at least part of this challenge and to understand that it is, indeed, part of its mandate to restore and protect our precious – and irreplaceable – Great Lakes.

Your final charge asks: “Should scientific indicators developed by the International Joint Commission or other official processes be considered for use refining Measures of Progress or other aspects of the GLRI Action Plan? If so, how should indicators be taken into account in the next GLRI Action Plan?” I conclude by returning to my earlier comments regarding the necessity of the GLRI to integrate its work with the efforts of the GLWQA. There is no question that the GLRI should be collaborating with the IJC on indicators, measures of progress, and

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<sup>10</sup> I’m happy to provide references if required.

the ways in which the GLWQA and Annexes support and drive the priorities and objectives of the 2015-2019 Action Plan.

In the end, the GLRI must understand that it is the direct offspring of the Clean Water Act and the GLWQA, and is the expression of the GLWQA in the US; it is one of the key mechanisms by which the US carries out the mandates of the Agreement, and it is, for all intents and purposes, one of the primary funding arms of the Agreement in the US. While the process through which the GLRI came into being included a broad coalition of forces not explicitly addressing the GLWQA, it is unlikely that the GLRI would exist were it not for the foundation and impetus provided by the Agreement and the mobilization of Great Lakes environmental advocacy organizations, Great Lakes businesses, local governments and the public to see that goals of the Agreement were given the capacity to be achieved. This is the mandate of the GLRI; I have every confidence that the GLAB will work towards assuring its success and assure you that I and my colleagues around the basin are eager and ready to support you in this effort.