UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF
THE ADMINISTRATOR

MEMORANDUM

Subject: Great Lakes Restoration Initiative Update

To: Vanessa Vu
Director Science Advisory Board Staff Office

From: Cameron Davis
Senior Advisor to the Administrator

First, I would like to again convey Administrator Jackson's thanks to the Science Advisory Board for their time and effort in producing the January 24 report and recommendations on the Great Lakes Restoration Initiative (GLRI) Action Plan. The federal Great Lakes Interagency Task Force (IATF) agrees with the SAB's finding that "there is enough known about the issues confronting the Great Lakes, as well as the underlying causes and potential remedies, to implement remedial activities, and…that the Action Plan identifies the most important actions that should be undertaken."

Second, because we should always strive to improve the effectiveness of the GLRI, I would like to update you on progress since the release of your report.

Science Plan

Though it used different terminology for it, the SAB Great Lakes Panel's report called for the establishment of a "science plan." The purpose of a science plan is to guide IATF efforts for effective restoration under the GLRI.

In April, the IATF's Regional Working Group (RWG) charged a subgroup to prepare a "science plan" for the GLRI, including an outline for an "adaptive management framework." At its May 22 meeting, the IATF directed the RWG, through a subgroup, to produce a plan by the end of Calendar Year 2012 and an adaptive management framework by the end of the first week in June. The adaptive management framework outline is now embodied in the science plan outline. There was also common agreement that the science plan should be written by the federal agencies whereas advice on ongoing scientific activities may be sought for GLRI efforts after the science plan is established. Attached is a draft outline, subject to change, for the science plan. Comments can be addressed to Todd Nettesheim at nettesheim.todd@epa.gov.

Science Panel

The SAB Great Lakes Panel's report also called for a standing science panel to aid with ongoing scientific advice under the GLRI. The subgroup reporting to the RWG has discussed options to implement this recommendation.

The RWG's leading alternative for implementing the SAB Great Lakes Panel's recommendation for a standing science body is to consider a subgroup under the "Great Lakes Advisory Board." After the release of the SAB Panel's report, the IATF agreed to establish the GLAB under the Federal Advisory Committee Act (FACA) to receive input on GLRI priorities and other relevant matters. After serious consideration, the IATF's RWG believes that making use of the GLAB is the leading alternative for several reasons: (A). the GLAB will be comprised of leaders representing a variety of disciplines, so science advice can be considered and used by a range of interests, not just the federal government; (B) by using the FACA-based GLAB, scientific advice will meet federal transparency requirements; (C) the GLAB structure can be flexible, thereby allowing a "science" or other similar subgroup to report to the GLAB; and (4) there are significant efficiencies to the federal government helping to manage one stakeholder group (GLAB) rather than two or more.

Thanks again to the SAB Great Lakes Panel for its dedicated work last year and report as released earlier this year.

Great Lakes Restoration Initiative Science Plan Outline
June 15, 2012, Working Draft for Review by RWG

1. Executive Summary
2. Introduction and background
   - 2.1. Audience
   - 2.2. Summary of key environmental threats
   - 2.3. GLRI Action Plan – summary of goals and management
   - 2.4. Congressional directive for review of GLRI Action Plan and programs
   - 2.5. Science Advisory Board (SAB) Review of the GLRI Action Plan
   - 2.6. GLRI accomplishments to date
   - 2.7. GLRI future needs
     - 2.7.1. Looking beyond 2014 (prospectively and retrospectively)
3. Purpose of the Science Plan
   - 3.1. Overarching goal(s) of the Science Plan
     - 3.1.1. Establish an adaptive management framework focused on effective restoration supported by GLRI mission oriented science
       - 3.1.1.1. Framework will help to prioritize planning, actions, applied research, monitoring, and uncertainties based on desired environmental outcomes and outputs.
       - 3.1.1.2. It will establish a long-term justification for what we are doing under GLRI (i.e. "scientific underpinnings" of GLRI and not a means to direct esoteric research)
   - 3.2. Organizational Framework
       - 3.2.1.1. Connection to the GLRI Action Plan and its goals, objectives and measures
       - 3.2.1.2. Define the roles and responsibilities with respect to the integrated Great Lakes science efforts. What science products to be delivered, by who?
         - 3.2.1.2.1. IATF
         - 3.2.1.2.2. RWG
         - 3.2.1.2.3. Science Subgroup (interim Science Advisory Panel)
           - 3.2.1.2.3.1. Membership – disciplinary expertise and organizational diversity
           - 3.2.1.2.3.2. Responsible for implementing conceptual framework on priority issues as identified by RWG
         - 3.2.1.2.4. Science Advisory Panel (if Science Subgroup recommends)
       - 3.2.1.3. Relationship to Science Annex in GLWQA
       - 3.2.1.4. Relationship to CSMI and SOLEC (and other relevant groups)
4. Science for Great Lakes restoration
   - 4.1. Common terminology
     - 4.1.1. Science –
     - 4.1.2. Adaptive management –
     - 4.1.3. Predictive management -
     - 4.1.4. Outcomes / outputs -
     - 4.1.5. Science Integrity -

4.1.6. Restoration –
4.1.7. Resiliency –

4.2. Summary of Great Lakes science
4.2.1. State of the Lakes Technical Report 2012 (SOLEC)
4.2.2. International Association of Great Lakes Researchers
4.2.3. Other large scale integrating forums, reports, and science plans
4.2.3.1. Describe modular approach – incorporate integrated science plans by reference
4.2.4. Current large scale science efforts under GLRI (not an exhaustive list)
4.2.4.1. Long-term monitoring programs
4.2.4.2. Other monitoring and assessment
4.2.4.3. Applied research
4.2.4.4. Decision support tools

5. Conceptual integrated adaptive science framework
5.1. Framework should ensure that outcomes are clear within each focus area (adopt Objectives from each theme area?). Framework facilitates that outcomes are met in the most efficient, cost-effective, and scientifically defensible manner possible.
5.2. Framework should ensure that a predictive model is used
5.2.1. Model will describe how a given restoration effort/method will lead to a given restoration outcome (issues of scale to consider- needed for each Objective, for each lake?)
5.2.2. The level of certainty regarding a given model should be acknowledged (i.e., how certain are we of the method to restore wetlands or how certain are we of our ability to detect a restoration response?).
5.2.3. If uncertainty exists, then some science framework to reduce the uncertainty should be developed (i.e., adaptive management, traditional hypothesis testing).
5.2.4. If no uncertainty exists, then the restoration effort should result in the Objective being met.
5.3. Framework should facilitate integrative restoration
5.3.1. Within the theme areas from the Action Plan (i.e., toxics, invasives, nearshore health, habitat)- consider how the proposed restoration effort complements/coordinates with other similar ones throughout the basin
5.3.2. Across the theme area from the Action Plan- consider how the proposed restoration effort could (positively or negatively) influence the outcomes in other theme areas [i.e., reducing phosphorus runoff (nearshore health) reduces habitat availability for Asian carp (invasives)]
5.4. Framework should facilitate monitoring towards outcomes being met.
5.4.1. Consider how existing long-term monitoring can be incorporated.
5.4.2. Consider whether monitoring can be designed to monitor multiple outcomes.
5.5. Framework should facilitate review towards progress
5.5.1. Determine reviewing entity (IATF, RWG, outside experts?)
5.5.2. Develop rubric to assess progress towards outcomes.
5.5.3. Should facilitate adaptive management of restoration efforts if appropriate.

6. Synthesis and reporting (Increasing Transparency)

6.1. Identify major science products and delivery dates
    6.1.1. Science review of measures of progress (scientifically defensible measures)
    6.1.2. Science review of GLRI Annual report
    6.1.3. Science workplan?
7. Engaging external peer review
    7.1. Science plan
    7.2. Sub-elements of Science Plan (per Appropriations language and SAB report)
    7.3. Large scale programs
    7.4. GLRI overall
8. Education and outreach
9. Conclusions

Appendix A: Provide example(s) of implementation of the conceptual integrative adaptive science framework