Great Lakes Advisory Board Science and Information Subcommittee
Overview
May 2014

Charge

To advise the federal Great Lakes Interagency Task Force (IATF) on the implementation of the Great Lakes Restoration Initiative (GLRI) Science-Based Adaptive Management Framework (Framework). Charge questions may be initiated by the IATF's Regional Working Group (RWG), Great Lakes Advisory Board, or be proposed to the Board by the SIS itself.

Charge Questions

The following charge questions should be approved by the Board:

- How can the draft Science-Based Adaptive Framework be improved to be more cost-effective?
- Please identify ways in which the SIS or its work groups can help communicate the broad scientific work (assessments, monitoring, research) that has already been done or is being done to support the identification of the Great Lakes most significant problems.
- Please identify substantial gaps in Great Lakes scientific knowledge to confirm whether or not the GLRI is addressing the most significant problems.
- What are the most relevant lessons about adaptive management from other efforts (e.g., GLWQA Annex 10, IJC Science Advisory Board) that should be considered in finalizing the GLRI Science-Based Adaptive Management Framework?
- What characteristics would the most cost-effective information system(s) and platforms (e.g., dashboards) have to help stakeholders and managers better inform and implement the GLRI through the Framework? (possible platforms for consideration include, e.g., GLEAM, Integrated Data Management System (IMDS), Blue Accounting).
- Other matters as requested by the federal agencies regarding Great Lakes protection and restoration.

Membership

- Non-Board members are encouraged to participate. Candidates will be solicited through the Federal Register and other sources.
- Should be co-chaired by at least one full Board member.
- May be co-chaired by federal agency representatives. Likewise, federal agency representatives may be SIS members. EPA will work directly with the Interagency Task Force agencies to identify qualified federal members.
- Members should be a recognized expert in one or more of the following disciplines: ecology, environmental chemistry, environmental engineering, geology, fisheries and

wildlife management, public health, economics and information technology. It is helpful, but not necessary, to have demonstrated experience with Great Lakes-specific issues.

The SIS must also be balanced in terms of the points of view represented.

Structure

- The SIS may form work groups to complete specific tasks within a year or less.
- Size of SIS should be large enough to encompass members from relevant disciplines, yet small enough to be manageable (e.g., 8-20 people).
- Candidates for work groups do not need to be solicited through the Federal Register.

Background

Inclusion of the word "Information" in the subcommittee name is intended to convey that the subcommittee's role includes information broadly—how information is synthesized so as to inform managers, emergence of new information technologies, etc. The word "science" should be understood to include the natural sciences, social sciences (e.g., social behavioral science, economics) and other relevant disciplines (e.g., engineering, information technology).

Due to the small size and limited resources of the SIS, its tasks should be carefully selected. Amongst its likely roles and activities are: acting as a warning or "fire alarm" if members of the SIS believe that a GLAB statement or recommendation lacks sufficient scientific support, advising the IATF's Regional Working Group on its efforts to more fully institute adaptive management principles, and assisting the IATF's Regional Working Group in identifying ecological indicators (which in turn can help with the implementation of adaptive management).

One purpose of establishing the SIS under the Great Lakes Advisory Board is so that the Board's diverse, multi-sector membership can inform and benefit from the SIS's work.

The Great Lakes Water Quality Agreement Science Annex work groups and International Joint Commission's Science Advisory Board are actively working on related issues, and drawing upon their products may be a valuable and efficient source of information.

In January 2012, EPA's Science Advisory Board (SAB) recommended that the agencies develop the Framework to articulate the process by which science informs GLRI decisions. It also recommended the establishment of a "standing science panel" to help with ongoing advice in implementing the Framework.

In January 2012, SAB provided the following relevant advice, recommending a "standing science panel:"

A well-integrated panel could influence the program's evolution by providing assessments of progress in key areas. The science panel input on design, implementation, monitoring, and evaluation efforts would provide a scientific basis for setting priorities across disparate actions. Members should be independent experts drawn from universities and other research institutions, the private sector, and government agencies, but selected for their expertise and not to represent their agencies. Such a panel could make substantial contributions to the development of both robust monitoring efforts and the adaptive management plan [Framework] that would be a logical outgrowth of well-designed monitoring. This panel should have social as well as natural and physical scientific expertise, and the social science represented should go beyond economics. Behavioral, social, and decision scientists can provide many kinds of insights and advice, ranging from assistance in targeting education and outreach efforts to identifying critical insights into the likely workability of particular institutional arrangements. It is likely that there are significant gaps in scientific understanding that will impede progress in the program, and a science panel would be instrumental in identifying those gaps and providing advice on how they can be addressed. The science panel should develop a strategic science plan and update it on a regular (e.g., biennial) basis.

Increased coordination and collaboration could be achieved by employing social media and increasing the availability of data and information from GLRI projects. For example, web-based GIS or other tools can be used to provide public access to site-specific data and data analyses at different scales. The GLRI could be informed by the experiences of other large restoration efforts (e.g., Chesapeake Bay, Puget Sound) and smaller efforts (e.g., Sacramento –San Joaquin Delta, Tahoe Basin).