

**Summary Minutes of the United States Environmental Protection Agency (U.S. EPA)  
Science Advisory Board (SAB) Quality Review Teleconference  
December 6, 2011**

**Teleconference of the Chartered SAB and SAB Liaisons<sup>1</sup>**

**Date and Time:** December 6, 2011, 12:00 p.m. – 3:00 p.m. Eastern Time

**Location:** By Teleconference

**Purpose:** to receive an update on EPA strategic research directions and to conduct quality reviews of two draft SAB reports, draft *SAB Recommendations for EPA's FY2011 Scientific and Technological Achievement Awards (STAA)*<sup>2</sup> and a draft *Review of Great Lakes Restoration Initiative Action Plan.*<sup>3</sup>

**SAB Members and Liaison Participants:**

SAB Members

Dr. Deborah Swackhamer, Chair  
Dr. George Alexeeff  
Dr. David Allen  
Dr. Pedro Alvarez  
Dr. Joseph Arvai  
Dr. Claudia Benitez-Nelson  
Dr. Ingrid Burke  
Dr. Terry Daniel  
Dr. George Daston  
Dr. Costel Denson  
Dr. Michael Dourson  
Dr. David Dzombak  
Dr. T. Taylor Eighmy  
Dr. Barbara Harper  
Dr. Kimberly L. Jones  
Dr. Bernd Kahn

Dr. Nancy Kim  
Dr. Cecil Lue-Hing  
Dr. Judith Meyer  
Dr. James Mihelcic  
Dr. H. Keith Moo-young  
Dr. Eileen Murphy  
Dr. James Opaluch  
Dr. Duncan Patten  
Dr. Stephen H. Roberts  
Dr. Amanda Rodewald  
Dr. James Sanders  
Dr. Gina Solomon  
Dr. Daniel Stram  
Dr. Peter Thorne  
Dr. John Vena  
Dr. Robert Watts

SAB Liaison

Dr. James Johnson, Chair, National Advisory Council on Environmental Policy and Technology

**EPA Participants**

Dr. Kevin Teichman, Deputy Assistant Administrator for Science, EPA ORD  
Dr. Chris Saint, EPA ORD  
Ms. Stacey Rabkin, EPA, ORD

## **SAB Staff Office Participants**

Dr. Angela Nugent, Designated Federal Officer (DFO)

Dr. Vanessa Vu, Director

Mr. Edward Hanlon, DFO for the SAB Scientific and Technological Achievement Awards Committee

Mr. Thomas Carpenter, DFO for SAB Great Lakes Restoration Initiative Action Plan Panel

## **Teleconference Summary:**

The teleconference was announced in the Federal Register<sup>4</sup> and discussion generally followed the issues and timing as presented in the agenda.<sup>5</sup>

### **Convene the meeting**

Dr. Angela Nugent, SAB DFO, convened the advisory meeting and welcomed the group. She noted that the meeting had been announced in the Federal Register, which provided an opportunity for public to provide oral and written comments. She noted that no individuals had requested to provide oral public comments and that no written comments had been received. She noted that two SAB members, the SAB Chair, Dr. Deborah Swackhamer, and Dr. John Giesy, had received research grants from EPA related to the Great Lakes and would therefore not be participating in the quality review of the draft report from the SAB Great Lakes Restoration Initiative Action Plan Panel. Dr. Judith Meyer would serve as the Acting Chair for the Great Lakes quality review. The DFO asked members of the public participating by teleconference to contact her so that their names could be listed in the minutes (Attachment A).

### **Purpose of meeting and review of the agenda**

Dr. Deborah Swackhamer, the SAB Chair, welcomed SAB members to the teleconference and extended a special welcome to new members. Dr. Swackhamer reviewed the purpose of the meeting, to receive an update on EPA strategic research directions and to conduct quality reviews of two draft SAB reports: 1), draft *SAB Recommendations for EPA's FY2011 Scientific and Technological Achievement Awards (STAA)* and 2) a draft *Review of Great Lakes Restoration Initiative Action Plan*.

Dr. Swackhamer introduced Dr. Kevin Teichman, Assistant Administrator for Science, EPA ORD. She congratulated him on behalf of the SAB for his nomination to become a Board Certified Environmental Engineering Member by the American Academy of Environmental Engineers.

### **Update on EPA strategic research directions and Office of Research and Development's (ORD's) request for additional SAB advice**

Dr. Kevin Teichman introduced other ORD personnel, Dr. Chris Saint and Ms. Stacey Rabkin, who were participating on the call. He began with a brief review of ORD 2011 accomplishments

where the SAB had provided advice. He thanked the SAB for its FY 2011 advice, with special mention of the SAB's advice on ORD's hydraulic fracturing study plan; the SAB report on reactive nitrogen; and the SAB's advice on ORD strategic research needs. He noted that the independent Clean Air Scientific Advisory Committee was an "incredible contributor" to ORD's work on National Ambient Air Quality Standards. He acknowledged the important planning currently underway for a new SAB Chemical Assessment Advisory Committee to provide advice and peer review on draft toxicological studies for the Integrated Risk Information Systems. He noted that the SAB also provided significant science advice to other EPA offices.

He expressed appreciation for the successful SAB strategic research directions meeting held jointly with ORD's Board of Scientific Counselors (BOSC) in June 2011. That meeting resulted in the report *Office of Research and Development (ORD) New Strategic Research Directions: A Joint Report of the Science Advisory Board (SAB) and ORD Board of Scientific Councilors (BOSC)* (EPA-SAB-12-001). ORD is working to help prepare an official response, and the report is already influencing ORD's research plans. He noted that the report's support for ORD's investments in sustainability science was particularly relevant to his discussions of EPA science on a recent trip to China.

He briefly reported on ORD activities since June 2011. ORD has been reviewing candidates for the position of National Program Directors for ORD's consolidated research programs. ORD hopes to have the new directors on board in January 2012. He also reported that ORD has been active in developing EPA's scientific integrity policy as part of the President's initiative across federal agencies. A policy should be in place by the end of the year.

ORD interim National Program Directors have been developing "Strategic Research Action Plans" based on comments received from the SAB and BOSC in June and October. These documents identify ORD's planned activities and outputs for fiscal year (FY) 2012, even though the President's Budget has not been authorized for 2012. He noted that ORD is in the process of reviewing the plans to harmonize across them.

Dr. Teichman acknowledged the SAB's plans to review the President's requested research budget for FY 2013 budget. He will be the liaison with the SAB for the ORD component and that he will comment at a future SAB meeting on how past SAB reports have informed the development of the President's request for the FY 2013 budget. The President's budget is scheduled for release on February 6, 2012 and ORD will be able to provide materials for the SAB Research Budget Work Group's discussions in late February and March.

Dr. Teichman welcomed the opportunity for another round of advice from the SAB and the BOSC during summer of 2012. New National Program Directors will be in place and able to engage in strategic research directions discussions with SAB and BOSC members.

The SAB Chair asked whether SAB members had questions for ORD related to upcoming interactions. She asked for feedback on aspects of the June 2011 SAB-BOSC meeting that worked and did not work for ORD. Dr. Teichman responded that ORD is revising research frameworks into strategic action plans based on the advice received. He considered the meeting

productive. Future meetings might give some additional attention to ORD's Homeland Security and Human Health Research Assessment programs. He asked for SAB feedback on the appropriate amount of information to provide SAB members for review. The goal would be to provide "enough but not too much information to allow effective participation."

Several SAB members asked about how to make the budget reviews more effective. Dr. Teichman noted that when he presents the President's Budget to the SAB, he is representing the administration, cannot deviate from the information in the request, cannot respond to the question "what's on the cutting room floor," and cannot himself change the budget request. SAB advice, however, can affect decisions in Congress. He also noted that it will be helpful for SAB members to prepare for the FY 2013 budget review by comparing the FY 2013 President's budget request with the SAB's advice on the President's FY 2012 budget request.

Dr. Teichman concluded his remarks by thanking the SAB Chair for her leadership that has contributed to the formulation of EPA's research budget, ORD research plans and operations, and the science underpinning major agency activities.

### **Quality review of draft report from the SAB Scientific and Technological Achievement Awards (STAA) Committee**

Dr. Swackhamer introduced the quality review by noting that the STAA program provides a mechanism for EPA to reward and appreciate its scientists. The awards are very highly valued and come into play when EPA scientists are considered for promotions.

Dr. Taylor Eighmy, the STAA Committee Chair thanked chartered SAB members for their quality review comments<sup>6</sup> and provided some initial background on EPA's STAA program and its history. The STAA program, which recognizes EPA scientists for excellence in peer reviewed publications, has been in place since 1980 and was expanded in 1984 to cover scientists agency-wide. The STAA committee reviews a large volume of peer-reviewed journal articles and book chapters. He acknowledged the hard work of the committee and its DFO, Mr. Edward Hanlon.

Dr. Taylor noted several distinctive aspects of the process. Because SAB recommendations concerning Award nominations are sensitive and affect personnel issues, information about those specific recommendations is exempted from disclosure under the Federal Advisory Committee Act. As a result, the committee's draft report does not contain the contents of Appendix B "Nominations Recommended for Awards." The STAA committee has provided over 30 years of advice to EPA to improve the STAA process and ORD has responded to SAB advice.

Dr. Taylor noted that quality review comments on the draft STAA committee report fell into a few issue areas.

- 1 *Provide more rationale for not making awards to papers published in publications by standard setting organizations.* Dr. Taylor noted that the STAA committee has received methods papers published through the ASTM process. The STAA committee finds it difficult to assign authorship to such papers, which often have many authors. The STAA

program requires that an EPA author have 50% authorship of a report; it is difficult for ASTM papers to meet this criteria. SAB members asked that the draft report clarify the rationale for excluding these papers, clarify what is meant by a “standard-setting organization,” and what constitutes a “methods paper.” Dr. Taylor agreed to make those changes.

- 2 *Explain why some nomination categories are blank.* Dr. Taylor noted that ORD defines the STAA categories and nominators assign papers to categories. The STAA committee accepts the nominations as provided by EPA and sometimes the papers seem misclassified. SAB members suggested that the STAA report provide some brief description of the process for reviewing Agency recommendations. Dr. Taylor agreed to add that description.
- 3 *Identify the charge to the STAA more clearly.* Dr. Taylor agreed that the report should briefly identify the questions ORD is asking the STAA committee to address.
- 4 *Provide additional justification for the recommendations in the draft report.* Dr. Taylor will add additional rationale.

SAB members then made several other suggestions. One member suggested adding the number of awards in each category. Members asked that the recommendation regarding books and book chapters be clarified.

An SAB member noted that it might be useful to analyze historical and current trends in the STAA program before the SAB’s meeting on strategic research directions in June. It may be useful for the SAB to consider how the award structure can better support ORD’s realigned research programs. The SAB Office Director noted that the STAA award is broader than ORD because it is open to regions and program offices. SAB members noted that it may still be useful to examine the categories in light of EPA’s emphasis on sustainability and the Administrator’s priorities.

After the general discussion had concluded, Dr. Swackhamer asked for a motion to dispose of the report. Dr. James Sanders moved that the panel Chair work with the SAB staff to make changes consistent with written comments and oral discussion during the teleconference and then provide the report to the SAB Chair for approval. Dr. Judy Meyer seconded this recommendation. In response to a question from SAB members, the Chair noted that the decision to accept the report would be made in light of votes made by SAB members participating in the teleconference. There was no other discussion. The move was approved unanimously with the panel chair (Dr. Taylor) and two other members (Drs. George Daston and Michael Dourson) abstaining. Dr. Swackhamer concluded the review by thanking the committee chair for hard work.

Dr. Swackhamer introduced Dr. Judith Meyer as the Acting Chair for the chartered SAB’s quality review of the second draft report to be quality reviewed during the teleconference. Dr. Swackhamer noted that she was recused from the review because of her long- time association with the Great Lakes Restoration Initiative Action Plan.

## **Quality review of the draft Review of Great Lakes Restoration Initiative Action Plan (GLRIAP)**

Dr. Judith Meyer, the Acting SAB Chair for the Quality Review of the Draft GLRIAP report, introduced the panel chair, Dr. James Sanders, to provide some background on the draft report. Dr. Sanders thanked chartered SAB members for their constructive comments.<sup>7</sup> He noted that the federal government receiving \$400 million in funding for the Great Lakes Restoration Initiative in 2010, the first year of the effort. To guide the initiative, EPA led an interagency task force in developing an action plan for FY 2010-2014. The action plan is a short document, aimed for the general public. It focuses on five areas: toxic substances and areas of concern; invasive species; near-shore health and nonpoint source pollution; habitat and wildlife protection and restoration; and accountability, education, monitoring, evaluation, communication, and partnerships. Dr. Sanders noted that the Great Lakes Restoration Initiative builds on decades of activity underway in Great Lakes, including the work of the International Joint Commission.

Dr. Sanders explained that Congress called for the action plan to be peer reviewed. The SAB panel formed to conduct the peer review recognized that the action plan was already in place, with \$100 million already awarded for FY 2010 and awards for FY 2011 appearing on the Great Lakes Restoration Initiative website. The panel interpreted its charge as to help EPA and the task force continue managing the awards process to advance the restoration of the Great Lakes. To assist the panel, EPA's Region 5 developed a scientific background document to align the action plan with the science associated with the Great Lakes. EPA posed several charge questions associated with assessment. The panel was most concerned that there was a danger of science and research within the focus areas being "siloed," i.e., not integrated. The panel's draft report calls for a science plan to help "pull work together in these five areas to guide decisions." The panel emphasized the need for a mechanism for monitoring and assessment, an adaptive management orientation and a group of scientists to help organize an overarching science plan.

The first lead reviewer, Dr. Ingrid Burke, noted that she had initially provided written comments on a previous draft of the report. Although the current draft is much improved, her principal concern remains. The draft report presents a paradox. It states that there currently is "enough science" to know what the problems are, but the recommendation for a science plan seems to call for more planning and research before addressing problems. She asked about the extent of the time and resources required for the science plan and asked whether it would "hold up" restoration work underway. She also asked about the nature of the two science committees mentioned in the report. Would they review the science plans and findings and recommend revision? How would that activity relate to action plan and would it delay the action plan?

The second lead reviewer, Dr. Claudia Benitez-Nelson, commended the report for its clarity. She agreed with the call for a science plan and shared the panel's view that more integration across research is needed. She stated that the report has an appropriate number of recommendations, and asked whether priorities could be set among the recommendations. It will be important for the study plan not to delay the action plan and instead give guidance to help implement it. The draft report would benefit from introductory text explaining more clearly the relationship between the recommended science plan and the action plan.

Dr. Terry Daniel, the third lead reviewer, considered the recommendation for an integrated science action plan as the report's most important recommendation. He asked for clarification about the nature of that recommendation. He asked if the panel had explored "how much negotiating room would there be with projects already underway if plan indicated shift in priorities?" He noted that there was a difference in emphasis between the draft letter and the draft report regarding whether an evolving science plan would be expected to reprioritize activities under the program. The report includes some language that calls for such a reprioritization, but the letter does not include such strong language. He noted that the draft report should describe the science plan, the science panel, and the "independent entity" more clearly early in the report and discuss implications of those recommendations in more detail later in the report under appropriate sections. He asked whether the science plan was intended to be an accounting system or an accountability system linking projects to program-level goals. He noted that the science plan articulated in the draft report does not seem to have the "tools or teeth" to exercise control over multiple large projects. He suggested that since two years of the program's four years have elapsed, it may be too late to expect a science plan to help implement an adaptive management approach.

Dr. Amanda Rodewald, the fourth lead reviewer, agreed that the draft report should provide additional detail about the organization and purpose of the science plan, the independent entity, and the science panel. She also asked how the adaptive mgmt framework would work, i.e. who would implement it? and at what level? She asked how the selection criteria described in the report would be applied to grants and projects. She asked about the extent of the "backlog" of unfunded projects and how the selection criteria would apply explicitly to them. She supported the report's recommendation for mechanisms to promote integration across focus areas. She asked for information about whether decisions to fund projects are based on contaminant loads, exposure, and environmental justice concerns, and hot spots. She noted that the key question is whether funding will result in restoration of the Great Lakes. A large number of grants had been allocated to government agencies. Dr. Rodewald asked whether it is important to evaluate if funding was used to redirect funding streams to support work underway or work that would have been done without the Great Lakes Restoration Initiative.

Dr. Sanders responded to the lead reviewers' comments. There is a need to build a science plan on the existing body of science, including the "State of the Lake" assessments. Such a science plan should draw from many sources, e.g., academic, non-academic, city, townships, tribes, states, business, Lake Management Plans, and government agency sources. The panel did not prescribe how the science plan should be developed, but did point to several different regions of the country where there have been successful models. The panel intended that the action plan would be "tweaked" in light of recommendations and science plan, but did not intend for the science plan to delay existing projects or the process for making awards. He agreed that the report should be revised to clarify what the science plan, science panel, and the independent entity means. Overall, the panel concluded that decades of scientific research have generated a body of knowledge that supports restoration decisions. The existing action plans appear to be "going after the most important things." The panel does not intend to stop or delay the taskforce

but, instead, to recommend that a science plan be developed so that future restoration efforts can learn from the work under way.

Dr. Sanders noted that the panel considered the current Great Lakes Accountability System (GLAS) to be an accounting system and repository for project progress reports. It is not well designed for accountability or for overall integration of information across programs and projects. Some of the GLAS metrics may indeed be measurable but they are not meaningful scientifically as an assessment of the restoration of the Great Lakes. The panel concluded that the Great Lakes Restoration Initiative will require a different accountability system to look across focus areas. Dr. Sanders responded to Dr. Rodewald's concern about funding priorities and backlogs. The panel was not provided with clear information about how projects were prioritized for funding, since many decisions had been made before the panel met. Much of the funding was allocated to clean-up activities, moving millions of yards of dirt and sediment. The panel was not presented with information about whether the taskforce funded projects in areas beyond hope or in areas near tipping points, where funding could make a practical difference.

A lead reviewer suggested that the report be strengthened by a clearer discussion of the dilemma faced by the review panel, which had been asked to review an action plan nearly halfway through implementation. The report should explain more clearly that the panel does not intend to stop or delay the taskforce but, instead, to recommend that a science plan be developed so that future restoration efforts can learn from the funded activities under way. Another lead reviewer suggested that the panel recommend "something more tractable than a science plan." It may be appropriate to scope the recommendation in terms of the science needed to evaluate the effectiveness of programs funded.

Other SAB members provided additional comments. One member recommended that adaptive management be described or cited earlier in the report, so it can be more effectively discussed as the structure for the future program. Another SAB member recommended that any accountability system address the costs of restoration efforts as one part of priority setting. Dr. Sanders responded that the panel did not explicitly discuss costs and did not believe it could be included in the report without further panel discussion.

An SAB member recommended that the letter to the Administrator be revised to key recommendations more effectively. She suggested that both the draft report and letter be reviewed to ensure that language is consistent regarding recommendations or suggestions for the Agency to consider. Another SAB member asked whether the panel's recommendation regarding climate change should be included in the letter to the Administrator. Dr. Sanders agreed that the climate change recommendation should be included.

An SAB member asked whether the report should include more discussion of environmental justice, based on information in the action plan. Dr. Sanders responded that the action plan only addresses environmental justice indirectly with discussion of areas of that have environmental justice issues. The action plan makes clear that restoration decisions are not going to be made from an environmental justice perspective, although many decisions will have positive environmental justice implications. The panel did not address this topic in any significant way in

the draft report. Dr. Sanders will review the draft report and minutes from the panel meetings to determine whether stronger language can be included while being faithful to the spirit of the panel.

A panel member strongly suggested that Dr. Sanders consider using another term than “science plan” for its recommendation that the task force develop a mechanism for some systems-oriented program-wide science input. In his view, the term “science plan” sounds either “naïve or too ambitious” and raises the specter of delaying the restoration initiative. He also cautioned that the taskforce that EPA “chairs but doesn’t control is a complex entity overseeing a vast enterprise.” It may be more helpful for the SAB to make a more modest recommendation to “try to bring some science expertise with integrated systems view” to bear on future decisions.

A member recommended that the draft report provide more explanation of the rationale for recommending giving increased attention to climate change impacts on the Great Lakes. Dr. Sanders responded that he will explore the possibility of adding citations to Great Lakes climate Change research. Another SAB member informed the group that the University of Michigan and Michigan State University have \$4.2 million dollars in research on climate change in the Great Lakes. A member also called for more specific recommendations and rationale for calling for additional emphasis on social, behavioral, and decision sciences. Supporting that view, an SAB member suggested that this recommendation include discussion of the need for increased research on the costs of restoration activities as an input for decision making.

After discussion had concluded, Dr. Meyer asked for a motion to dispose of the report. Dr. Duncan Patton moved that the panel Chair work with the SAB staff to make changes consistent with written comments and oral discussion during the teleconference and then provide the report to the lead reviewers and SAB Acting Chair for approval. Dr. David Dzombak seconded this recommendation. There was no discussion. The move was approved unanimously with the panel chair abstaining. Dr. Meyer concluded by thanking the panel chair, thanking SAB members for their contributions to the quality review and thanking Mr. Thomas Carpenter, the DFO supporting the panel for the fine report.

Before the chartered SAB teleconference concluded, Dr. Deborah Swackhamer reminded SAB members about upcoming SAB activities. She noted that the Board would hold another quality review teleconference on December 21, 2011 and that a face-to-face meeting had been announced for March 22-23, 2012. She informed members that more information about the SAB’s review of the President’s requested research budget for FY 2013 would be forthcoming and asked SAB members to contact the DFO if they wished to participate in the SAB Research Budget Work Group.

The DFO adjourned the teleconference at 2:50 p.m.

Respectfully Submitted:

Certified as True:

Certified as True:

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\_\_\_\_\_/Signed/\_\_\_\_\_

\_\_\_\_\_/Signed/\_\_\_\_\_

Dr. Angela Nugent

Dr. Deborah L. Swackhamer

Dr. Judith L. Meyer

SAB DFO

SAB Chair

Acting SAB Chair for the Quality  
Review of the Draft  
GLRIAP

NOTE AND DISCLAIMER: The minutes of this public meeting reflect diverse ideas and suggestions offered by committee members during the course of deliberations within the meeting. Such ideas, suggestions, and deliberations do not necessarily reflect definitive consensus advice from the panel members. The reader is cautioned to not rely on the minutes represent final, approved, consensus advice and recommendations offered to the Agency. Such advice and recommendations may be found in the final advisories, commentaries, letters, or reports prepared and transmitted to the EPA Administrator following the public meetings.

**Attachment A: Members of the Public Who Indicated Participation on the December 6,  
2011 Teleconference**

Kristi Bulleit, Hunton & Williams

Cameron Davis, U.S. EPA

Kristi Henderson, American Veterinary Medical Association

David LaRoss, Inside EPA's Water Policy Report

Todd Nettesheim, EPA Great Lakes National Program Office

Linda M. Wilson, New York State Office of the Attorney General

Lee Van Wychen, National and Regional Weed Science Societies

## Materials Cited

The following meeting materials are available on the SAB Web site, <http://www.epa.gov/sab>, at the following address:  
<http://yosemite.epa.gov/sab/sabproduct.nsf/a84bfee16cc358ad85256ccd006b0b4b/16d1ebebdcdb9c96785257816005e1dbd!OpenDocument&Date=2011-12-06>

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<sup>1</sup> Roster, Chartered SAB Members and Liaisons

<sup>2</sup> *SAB Recommendations for EPA's FY2011 Scientific and Technological Achievement Awards (October 26, 2011 draft)*

<sup>3</sup> *Review of Great Lakes Restoration Initiative Action Plan (Draft - November 14, 2011)*

<sup>4</sup> Federal Register Notice announcing the meeting

<sup>5</sup> Agenda

<sup>6</sup> Preliminary Comments from Members of the Chartered SAB on the *SAB Recommendations for EPA's FY2011 Scientific and Technological Achievement Awards (October 26, 2011 draft)* as of 12/06/11.

<sup>7</sup> Preliminary Comments from Members of the Chartered SAB on the SAB Draft report *Review of Great Lakes Restoration Initiative Action Plan* (as of 12/06/11)..