

**Summary Minutes of the United States Environmental Protection Agency (U.S. EPA)
Science Advisory Board (SAB) Quality Review Teleconference
August 28, 2012**

Teleconference of the Chartered SAB and SAB Liaisons¹

Date and Time: August 28, 2012, 2:00 p.m. – 5:00 p.m. Eastern Time

Location: By Teleconference

Purpose: to conduct a quality review of a draft SAB report entitled *SAB Review of the EPA's Ecological Assessment Action Plan*.²

SAB Members and Liaison Participants:

SAB Members

Dr. Deborah Swackhamer, Chair
Dr. George Alexeeff
Dr. David Allen
Dr. Joseph Arvai
Dr. Ingrid Burke
Dr. Thomas Burke
Dr. George Daston
Dr. Otto Doering
Dr. Michael Dourson
Dr. David Dzombak
Dr. John Giesy
Dr. James Hammitt
Dr. Barbara Harper
Dr. Kimberly L. Jones
Dr. Bernd Kahn
Dr. Madhu Khanna

Dr. Nancy Kim
Dr. Cecil Lue-Hing
Dr. James Mihelcic
Dr. Christine Moe
Dr. Horace K. Moo-Young
Dr. Eileen Murphy
Dr. James Opaluch
Dr. Duncan Patten
Dr. Stephen Polasky
Dr. Stephen H. Roberts
Dr. Amanda Rodewald
Dr. James Sanders
Dr. Daniel Stram
Dr. Peter Thorne
Dr. Robert Watts

SAB Liaison

Dr. Daniel Schlenck, Chair, FIFRA Scientific Advisory Panel

SAB Staff Office Participants

Dr. Angela Nugent, Designated Federal Officer (DFO)
Dr. Thomas Armitage, DFO for the SAB Ecological Processes and Effects Committee
Augmented for Review of the Ecological Assessment Action Plan

Teleconference Summary:

The teleconference was announced in the Federal Register³ and discussion generally followed the issues and timing as presented in the agenda.⁴

Convene the meeting

Dr. Angela Nugent, SAB DFO, convened the advisory teleconference 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 individual had requested to provide oral public comments and that no written comments had been received. 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. Dr. Swackhamer reviewed the purpose of the meeting, to conduct a quality review of a draft report entitled *SAB Review of the EPA's Ecological Assessment Action Plan*. She noted that the purpose of the quality review is to address four questions: 1) Were the charge questions to the committee adequately addressed?; 2) Are there any technical errors or omissions or issues that are not adequately dealt with in the draft report?; 3) Is the draft report clear and logical?; and 4) Are the conclusions drawn or recommendations provided supported by the body of the draft report? She emphasized the importance of the quality review function of the chartered SAB and thanked members for their willingness to provide written comments⁵ and participate in the teleconference.

Quality review discussion

Dr. Deborah Swackhamer introduced Dr. Ingrid Burke, the chair of the Ecological Processes and Effects Committee Augmented for Review of the Ecological Assessment Action Plan, the panel that drafted the report. Dr. Swackhamer asked Dr. Burke to provide some introductory comments.

Dr. Burke told the group that EPA's Risk Assessment Forum in the Office of the Science Advisor had requested SAB review of a draft Ecological Assessment Action Plan. EPA's draft plan was developed in response to past advice developed by the SAB Ecological Processes and Effects Committee and the National Research Council Report *Science and Decisions*. The EPA's brief draft plan identified six major initiatives. EPA supplemented the plan with some additional short papers.

The SAB panel draft report for quality review responded to seven specific charge questions. The overall conclusion was that EPA's draft action plan provided a solid starting point to strengthen EPA's approaches to ecological assessment. The report found that three of EPA's proposed initiatives were the most important: use of weight of evidence, improved communication of

ecological risk and incorporation of ecological services in assessments. The draft SAB report also makes other recommendations to strengthen ecological assessment, including recommending that EPA scientists should provide information that would help EPA reach consensus on environmental protection goals. These goals need further elucidating and EPA science should inform that process.

After Dr. Burke concluded her remarks, Dr. Swackhamer asked the lead reviewers to provide comments. The first lead reviewer, Dr. James Sanders stated that he thought the report should be approved. He found the report clear and concise. His only suggestions for improvement was to revise the Executive Summary so that it tracked more closely with the “pithy” letter to the Administrator and to revise the report to provide more justification for the three priorities named in the report.

Dr. Duncan Patten, the second lead reviewer, agreed that the report was well written, readable and had no technical errors. He also agreed that the report should better justify the three priorities identified. In his view, adaptive management merits more attention and the report’s discussion of this topic was limited and represented only one perspective. A risk assessment framework could accommodate adaptive management.

Dr. John Giesy, the third lead reviewer, also agreed that the report was well done. He commended the report for being well written and organized. He especially liked the letter to the Administrator. He had a few technical concerns related to topics that were, in his view, not covered sufficiently or too much. He suggested that the report would be strengthened by adding a discussion of the pros and cons of Bayesian statistics. He suggested that the report more clearly and consistently distinguish between “Lines of Evidence” and “Weight of Evidence” approaches. In his view, the emphasis on ecosystem services and adverse outcome pathways did not introduce something new to EPA; these concepts are already implicit in EPA’s ecological assessment guidance.

Dr. Joseph Arvai, the fourth lead reviewer, expressed appreciation for the challenge in developing and reviewing the Ecological Assessment Action Plan and acknowledged that “each of the individual recommendations are valid in isolation,” but he noted that the draft report did not explain why the plan was needed or how it would be used. As a result, the draft report provides a set of recommendations and information without context and he could not evaluate whether the report would be useful to the EPA. He noted that the recommendation regarding EPA’s making use of insights from the social sciences was too general to be useful. He asked what social sciences would be most relevant in particular contexts important to the agency. He wondered why the report identified the weight of evidence approach and risk communication as the highest priorities. In his view, if the purpose of the SAB’s report is to help EPA improve the quality, scope and application of ecological risk assessments, EPA should better describe and the decisions to be made and identify and categorize, the information needed for these decisions. He questioned whether adaptive management, as he understood it (as an experimental process that allows “failures” to happen and then learns allows people to learn from those failures), could be possible for EPA to use. Could EPA knowingly allow a failure it knew about to happen?

After the lead reviewers concluded their remarks, Dr. Swackhamer asked Dr. Burke to respond to the lead reviewers' comments. Dr. Burke agreed that the report language could be revised to characterize the three priorities as three areas that will bring achievable results in the near term and merit initial investment. There is language in the letter to the Administrator that could be used in the Executive Summary and body of the report. She noted that the language in the report could be revised to address most of the questions raised (e.g., better explain the pros and cons of Bayesian statistics for ecological assessment provide a broader discussion of adaptive management), except for the issues identified by Dr. Arvai.

Dr. Amanda Rodewald, a member of the chartered SAB who served on the panel that drafted the report, noted that it had been difficult for the panel to address the EPA's broad charge questions, given the brevity of the review documents EPA provided. She suggested that the report could be revised to identify where social sciences might be most relevant (for example in addressing charge question 4, identifying obstacles to utilizing ecological assessment, and charge question 7, regarding aspects of ecological science that make it difficult to understand, use and process by decision makers). Dr. Burke agreed that such language could be added. Dr. Arvai responded that it would be more useful for EPA to characterize the kinds of decisions EPA needs to make and that the Ecological Action Plan wants to inform. EPA then could seek guidance about how social sciences can be useful.

Other SAB members then provided additional comments and questions. The first member agreed that the report needs more discussion of the context for EPA's developing and potentially using the Ecological Assessment Action Plan. He agreed that the charge questions were exceptionally vague and broad for the SAB review of a four-page plan. In his view, the advisory activity would have been better conducted as a consultation. He suggested that the report be reframed from providing strong conclusions based on very little information provided by EPA, to a report that described the limited information EPA provided more clearly and offered a range of ideas for EPA's consideration. Recommendations like the weight of evidence should be described as initial ideas for EPA's consideration. Other members agreed that the report and letter should soften its recommendations and provide suggestions of a variety of ways EPA could proceed to strengthen ecological assessments. Resource considerations should be taken into account. One member expressed concern about a potential recommendation that climate change be considered in every assessment; such evaluation would be resource intensive.

An SAB member also commented on the importance of emphasizing problem formulation more in the report and perhaps in the letter to the Administrator, building on the strong recommendation regarding problem formulation in the SAB's recent report entitled *Science Integration for Decision Making*. Dr. Burke agreed to make this point in the Executive Summary. The member also noted that the report should recognize opportunities to break down the walls between ecological assessment and human health risk assessment.

After discussion had concluded, Dr. Swackhamer asked for a motion to dispose of the report. She reminded members that the purpose of the quality review is to determine if the report is ready to transmit to the Administrator as an SAB report and under what conditions. Dr. David Dzombak moved that the chartered SAB approve the report with changes as discussed, including

modifying the letter to the Administrator, Executive Summary, and introduction to the report to indicate that the suggestions provided are initial ideas to guide the development of a more specific ecological assessment framework, with review by Dr. Swackhamer and Dr. Ingrid Dr. Thomas Burke seconded the motion. Dr. George Alexeeff asked for an amendment to the motion to specify that revisions were to address written comments and points discussed during the teleconference. Drs. Dzombak and Thomas Burke accepted this amendment. Dr. Michael Dourson asked for an amendment that would add Dr. Arvai to the group approving the final changes. Drs. Arvai, Dzombak and Burke agreed to this amendment. Dr. Swackhamer summarized the motion which would require the panel chair, Dr. Ingrid Burke, and the panel DFO, Dr. Thomas Armitage to revise the report and Drs. Swackhamer and Arvai to approve it. The motion passed unanimously with no abstentions. Dr. Swackhamer expressed her thanks to the panel and the panel DFO for their work on the draft report. She thanked the members of the chartered SAB for their participation in the review.

The DFO adjourned the teleconference at 3:20 p.m.

Respectfully Submitted:

Certified as True:

_____ *Signed* _____

_____ *Signed* _____

Dr. Angela Nugent

Dr. Deborah L. Swackhamer

SAB DFO

SAB Chair

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 August 28,
Teleconference**

Casey Deitrich, CQ Transcriptions

Maria Hegstad, Inside EPA

Diane Henshel, EPA

Sherry Poucher, Rhode Island Office of Drinking Water Quality

Glenn Suter, EPA

Linda M. Wilson, NYS Office of the Attorney General

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/bc90c429f6b1c8a685257a340003d315!OpenDocument&Date=2012-08-28>

¹ Roster, Chartered SAB Members and Liaisons

² Draft *SAB Review (7-24-12 Draft) of the EPA's Ecological Assessment Action Plan*

³ Federal Register Notice announcing the meeting (77 FR 47067-47068)

⁴ Agenda

⁵ Preliminary Comments from Chartered SAB Members