

**Minutes of the
U.S. Environmental Protection Agency
Science Advisory Board
Hypoxia Advisory Panel
Public Meeting
June 13 – 15, 2007**

Committee Members:

Dr. Virginia Dale
Dr. Judy Meyer
Dr. Hans Paerl
Dr. Bill Crumpton
Dr. Mark David
Dr. Daniel Conley
Dr. Richard Lowrance
Dr. Clifford Snyder
Dr. Denis Gilbert
Dr. Walter Boynton
Dr. Andrew Sharpley
Dr. Don Wright
Dr. James Opaluch
Dr. Kyle Mankin
Dr. Tom Simpson
Dr. James Sanders
Dr. Cathy Kling

Date and Time:

June 13 – 15, 2007

Purpose:

To discuss revisions to the HAP Draft Advisory posted at http://www.epa.gov/sab/panels/hypoxia_adv_panel.htm.

SAB Staff:

Dr. Holly Stallworth, Designated Federal Officer
Dr. Thomas Armitage, Designated Federal Officer
Dr. Anthony Maciorowski, Associate Director for Science

Other EPA Staff:

Rick Greene, Darrell Brown, Amy Parker, Ben Grumbles,
Kathy Hurl, Jan Kurtz, Gloria Car, Craig Hooks, Kristen
Goodrich, Tracy Rouleau

Other:

Janice Ward, U.S. Geological Survey
Dean Lemke, Iowa Department of Agriculture and Land
Stewardship

James Baker, Iowa Department of Agriculture and Land Stewardship
Alan Lewitus, National Oceanic and Atmospheric Administration
Melissa Baustian, Louisiana Universities Marine Consortium
Susan Sylvester, Wisconsin Department of Natural Resources
James Baker, Iowa Department of Agriculture and Land Stewardship
Dean Lemke, Iowa Department of Agriculture and Land Stewardship
Dennis McKenna, Illinois Department of Agriculture
Steve Harper, O'Brien & Gere
Jain S. Jain, MWRDGC
Jan Kurtz, EPA Gulf Ecology Division
Gloria Car, EPA Gulf Ecology Division
Clark Vega, Harris, DeVille & Associates
Mark Peters, USDA-NRCS
Rebecca Green, NRL-Stennis
Nancy Rabalais, LUMCON
Mike Sullivan, USDA NRCS
Dan Jaynes, USDA Agricultural Research Service,
Wayne Anderson, Minnesota Pollution Control Agency,
Dugan Sabins, Louisiana Department of Environmental Quality
Doug Daigle, Lower Mississippi Sub-Basin Committee
Robert Magnien, NOAA
David Kidwell, NOAA
Joseph Brett, Sand County Foundation
Len Bahr, Louisiana Governor's Office
Jennifer Lasseigne, LUMCON
Callie Hall, NASA
Dan Coleman, O'Brien & Gere
Melissa Baustina, LUMCON
Dexter Sapp, USDA-NRCS

Attachments posted at http://www.epa.gov/sab/panels/hypoxia_adv_panel.htm:

- Agenda
- Comments from Ben Grumbles, Assistant Administrator, EPA Office of Water
- Comments from Kristin Perry, Missouri Clean Water

Commission

Meeting Summaries

June 13, 2007:

The discussion followed the issues and general timing as presented in the meeting agenda. Dr. Stallworth convened the meeting and explained the Hypoxia Advisory Panel (HAP) will operate under the Federal Advisory Committee Act. Dr. Dale reviewed the agenda. Each member of the Panel and each member of the audience introduced himself.

Ben Grumbles, Assistant Administrator for EPA's Office of Water, presented comments (posted at http://www.epa.gov/sab/panels/hypoxia_adv_panel.htm) on behalf of the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force. Following Mr. Grumbles remarks, a panel member clarified the HAP's use of the term "voluntary." Len Bahr, coastal scientist in the Louisiana governor's office, briefly presented information on a recent restoration and flood risk reduction plan developed for the lower Mississippi River and ask that the HAP consider the implication of this plan for hypoxia.

Dr. Dale then led the HAP in a discussion of the Chapter 4 in the Draft Advisory on Goals and Management Options. Throughout the morning, HAP panelists commented on specific portions of Chapter 4, with the Chair assigning revisions to particular members. Among the issues discussed were the line between science and policy, science supporting the HAP's recommendation for a 40% reduction in phosphorus, the distinction between capital costs and annual costs, and the need for data on the cost of reducing point sources.

Following the lunch break, the HAP heard from two public commenters. Kristin Perry, an attorney from Bowling Green, Missouri and Vice Chair of the Missouri Clean Water Commission, presented comments shown in her presentation posted at http://www.epa.gov/sab/panels/hypoxia_adv_panel.htm. Following Ms. Perry, Nancy Rabalais of the Louisiana Universities Marine Consortium presented comments verbally but did not yet have her written comments. Dr. Rabalais discussed the idea of regime shifts, the relationship between volume and area, biofuels, current activities among government agencies to set priorities for research on hypoxia. Dr. Rabalais' written comments are posted at http://www.epa.gov/sab/panels/hypoxia_adv_panel.htm.

Following these public comments, the HAP resumed its discussion of Chapter 4, with the Chair continuing to assign revisions to particular panelists. Among the issues discussed was the need for targeting wetlands to maximize water quality benefits, the need for a better assessment of the status of tile drains in Corn Belt, erosion, the effect of conservation buffers, the use of indices to rate benefits, recommendations on cropping systems, manure management, nutrient management and biofuel development. Following each discussion, Dr. Dale assigned revisions to particular panelists.

The Panel turned its attention to Chapter 2 on Characterization of Hypoxia. Panelists discussed the need to add more language in the report addressing planned diversions for the lower Mississippi River.

At the end of the day, Dr. Dale asked panelists to think about their top priorities for recommendations.

June 14, 2007:

During the morning session, the Panel resumed its discussion of Chapter 2 on Characterization of Hypoxia. Panelists discussed whether overfishing contributed in any way to hypoxia and heard comment from Dr. Eugene Turner (Louisiana State University) who was in the audience. A panel member commented that although annual N loadings had decreased in recent years, spring loads had not. The Panel discussed the pros and cons of various models, the purposes for various monitoring, and the effect of excess manure hot spots.

A series of public comments were presented in the morning session. Dean Lemke and Jim Baker, both of the Iowa Department of Agriculture and Land Stewardship, presented public comments during the morning session. Both commentators emphasized the need for targeted wetlands to reduce N and P loadings to the Basin. Dennis McKenna of the Illinois Department of Agriculture also spoke to the Panel and requested the HAP address the time lag between nutrient reduction and hypoxia reduction. Mr. McKenna asked why there had been no change in hypoxia in response to the 20% reduction in N over the 1980 – 1996 levels. Dr. Eugene Turner of Louisiana State University asked the panel to just recommend more wetlands rather than recommend reducing regulatory impediments to wetlands. Dr. Turner addressed the issue of lag effects. Doug Daigle of the Lower Mississippi Sub-Basin Committee on Hypoxia asked the Panel to focus more on the lower Mississippi. Mr. Daigle also requested that the Panel clarify the difference between loadings to the Gulf and nutrients coming from the land.

Following the public comment period, the Panel discussed Chapter 3 on Nutrient Fate, Transport and Sources, beginning with the section on modeling. One panelist suggested the Draft reflect more types of uncertainty, not just statistical parameter uncertainty. From the audience, Janice Ward of the U.S. Geological Survey (USGS) requested the Panel provide more specific language that might help USGS prioritize its monitoring. Also from the audience, Amy Park of EPA's Office of Science and Technology requested specifics on which models should be linked. The Panel discussed the need for pilot projects as well as the need for a conceptual model to capture all of the linkages between human activity and hypoxia.

Following lunch, Dr. Dale implored the Panel to categorize key recommendations. Panelists divided into smaller break-out session to begin addressing specific revisions for

the Draft Advisory and to discuss key recommendations.

June 15, 2007:

During the morning session, the Panel discussed the need to provide a set of recommendations that integrate conservation options. Also discussed was the need to define and standardize use of various agricultural terms. Dr. Dale assigned various panelists to these tasks. The Panel turned its attention to the need to define the baseline against which N and P percentage reductions were recommended. Dr. Dale assigned this task to a panelist so that it could be discussed in the next HAP teleconference. The Panel discussed whether to focus on nitrate or total nitrogen in its recommendations. Dr. Dale then turned the Panel's attention to a draft conceptual diagram identifying the various linkages between human activity and hypoxia. For the remainder of the morning, the Panel brainstormed their top priority recommendations.

On behalf of the Panel,
Respectfully Submitted,

Holly Stallworth, Ph.D.
Designated Federal Officer

Certified as True:

Virginia Dale, Ph.D.
Chair, Hypoxia Advisory Panel

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.