Sources, Transport, and Fate of Nutrients in the Mississippi and Atchafalaya River Basins

Sponsored by the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force

November 7-9, 2006
Millennium Hotel Minneapolis
1313 Nicollet Mall
Minneapolis, MN 55403

Final Symposium Agenda

Tuesday, November 7

(Election Day; sessions start late to accommodate voting)

Opening and Welcome Session

11:00 am **Registration** (Lunch on your own)

12:30 pm **Welcome and Conference Introduction**
Janice Water, U.S. Geological Survey
Steve Ashby, U.S. Army Corps of Engineers

Welcome from Host State Representative
Brad Moore, Minnesota Pollution Control Agency

12:45 pm **Reassessment of the 2001 Hypoxia Action Plan**
Darrell Brown, U.S. Environmental Protection Agency
Presentation

Session 1: Overview of Mississippi River Basin Water Control and Hydrology

Moderator: Steve Ashby, U.S. Army Corps of Engineers

1:00 pm **Keynote: Restoring a Functional Distributary System for the Lower Mississippi/Atchafalaya Rivers: Challenges and Implications for Coastal Restoration and Gulf Hypoxia**
Len Bahr, Louisiana Governor's Office of Coastal Activities
Presentation

2:00 pm **Mississippi River Watershed Management– The Big Picture Status Report on Study of Land Management as Non-Structural Flood Control Measure**
Larry Banks, U.S. Army of Corps of Engineers
Presentation

2:30 pm **Variability and Trends in the Mississippi River Basin Streamflow**
Gregory Mccabe, U.S. Geological Survey

3:00 pm **Break**

Session 2: Trends in Sources and Transport of Nutrients and Sediment within Major Tributaries of the Mississippi-Atchafalaya River Basin (MARB)

Moderator: Richard Alexander, U.S. Geological Survey

3:30 pm **Streamflow and Nitrogen, Phosphorus, and Silica Flux at Selected Sites in the Mississippi River Basin, 1980-2005**
William Battaglin, U.S. Geological Survey
Presentation

4:00 pm **Agricultural Diffuse Sources**
Wayne Maresch, U.S. Department of Agriculture, Natural Resources and Conservation Service
Presentation

4:30 pm **Municipal and Industrial Point Sources**
Kavya Kasturi, U.S. Environmental Protection Agency
Presentation

5:00 pm **Audience Q & A**

5:30 pm **Adjourn**

Wednesday, November 8

8:00 am **Summary Points from Previous Symposia, Lessons Learned**
Richard Greene, U.S. Environmental Protection Agency
Presentation

- Gulf Hypoxia and Local Water Quality Concerns: *A Workshop Assessing Tools to Reduce Agricultural Nutrient Losses to Water Resources in the Corn Belt*
- Mississippi River Basin Nutrients Science Workshop
- Nutrient Loading and Removal in the Lower Mississippi River Basin: *Data, Trends, and Opportunities*
- Hypoxia in the Northern Gulf of Mexico; *Assessing the State of the Science*

Assessing the State of the Science Panel Discussion and Audience Q & A
Janice Ward, U.S. Geological Survey (Moderator)
James Baker, Iowa Department of Agriculture and Land Stewardship
Katie Flahive, U.S. Environmental Protection Agency
Richard Greene, Lower Mississippi River Sub-basin Committee on Hypoxia

Session 3: Transport and Transformation Processes within Major Tributaries of the MARB

Moderator: Greg McIsaac, University of Illinois

9:15 am **Hydrology (Precipitation) and Land-Use Change**
Simon Donner, Princeton University
Presentation

9:45 am **Subsurface Drainage: Status and Impact on Nutrient Transport**
Larry Brown, Ohio State University
Presentation

10:15 am **Break**

10:45 am **Riparian Nutrient Processing**
Durelle Scott, University of Nebraska
Presentation

11:15 am **Do In-stream Transformations Affect Nitrogen Loading to the Mississippi River?**
Todd Royer, University of Indiana
Presentation

11:45 am **Phosphorus Dynamics in Headwater Basins of the Upper Mississippi River in Wisconsin**
Emily Stanley, University of Wisconsin
Presentation

12:15 pm **Phosphorus Forms, Fluxes, and Transformations in the Upper Mississippi River**
William James, U.S. Army Corps of Engineers
Presentation

12:45 pm **Lunch** (on your own)

Session 4: Characterization of Sources, Transport, and Fate of Nutrients and Sediment from Major Tributaries to the Mainstem MARB and Gulf of Mexico

Moderators: Brian Hill, U.S. Environmental Protection Agency, and William Richardson, U.S. Geological Survey

1:45 pm **Patterns of Nitrogen Cycling in the Upper Mississippi River**
William Richardson, U.S. Geological Survey

2:15 pm **Nitrogen Loss Due to Denitrification in the Mississippi River**
Eric Strauss, Fort Hays State University
Presentation

2:45 pm **Downstream Patterns of Si, N, and P in the Upper Mississippi River Basin**
Brian Hill, U.S. Environmental Protection Agency
Presentation

3:15 pm **Break**

3:45 pm **Nutrients, Chlorophyll, and Suspended Sediment in the Upper Mississippi River: Patterns in Time and Space**
Jeff Houser, U.S. Geological Survey

4:15 pm **Nitrogen Processing in Flow-Controlled Backwater Systems of the Upper Mississippi River**
William James, U.S. Army Corps of Engineers
Presentation

4:45 pm **Achieving Hypoxia Action Goals in the Lower Mississippi Valley**
Stephen Faulkner, U.S. Geological Survey

5:15 pm **Audience Q & A**

5:45 pm **Adjourn**

Thursday, November 9

Session 5: Modeling of Sources, Transport, and Fate of Nutrients and Sediment

Moderator: Janice Ward, U.S. Geological Survey

8:00 am **Small-to Intermediate-Scale Modeling**
David Mulla, University of Minnesota
Presentation

8:30 am **Net Anthropogenic Nitrogen Inputs (NANI) to the Mississippi River Basin**
Greg McIsaac, University of Illinois
Presentation

8:55 am **Advances in Estimating Nutrient Sources, Transport, and Fate in the Mississippi/Atchafalaya River Basins Using SPARROW Model**
Richard Alexander, U.S. Geological Survey

9:20 am **Large-Scale Modeling: IBIS-THMB Dynamic Modeling System**
Simon Donner, Princeton University
Christopher Kucharik, University of Wisconsin
Presentation

9:40 am **Break**

10:00 am **Application of SWAT to the Upper Mississippi River Basin and Other Watersheds**
Philip Gassman, Iowa State University
Presentation

10:45 am **Fates of Eroded Soil Organic Carbon in the Mississippi Basin**
Stephen Smith, CICESE, Mexico; University of South Florida
Presentation

Session 6: Lessons from other River Systems

Moderator: Amy Parker, U.S. Environmental Protection Agency

11:30 am **Nitrogen Removal Capacity of Entire River Networks– Interactions of Geomorphic, Hydraulic and Biological Factors**
Wilfred Wollheim, University of New Hampshire
Presentation

11:00 am **Nutrient Problems and Abatement Strategies in the Pearl River Delta, China**
Todd Rasmussen, University of Georgia
Presentation

12:00 pm **Audience Q & A**

12:30 pm **Adjourn**