Lower Mississippi Symposium

Nutrient Loading & Removal in the Lower Mississippi River Basin: Data, Trends & Opportunities

Sponsored by the Lower Mississippi River Sub-basin Committee on Hypoxia

June 1–2, 2006
Royal Sonesta Hotel
300 Bourbon Street
New Orleans, LA 70130

Symposium Agenda with Presentation Handouts

Thursday, June 1

7:30 am **Registration**

8:30 am **Welcome and Introduction**
Doug Daigle, Lower Mississippi River Sub-basin Committee on Hypoxia

8:35 am **Review of Hypoxia Action Plan and Explanation of Reassessment Process**
Darrell Brown, U.S. Environmental Protection Agency
Presentation Handout

8:50 am **Gulf Science Symposium, Summary and Findings**
Alan Lewitus, NOAA
Presentation Handout

Session 1: Overview of the Lower Mississippi River Basin

9:05 am **Trends in Nutrient Concentrations and Loads in the South-Central U.S.**
Dennis Demcheck, Louisiana Water Science Center, USGS
Presentation Handout

9:25 am **Suspended Sediment, C, N, P, and Si Yields from the Mississippi River Basin**
Dr. Eugene Turner, LSU Coastal Ecology Institute
Presentation Handout

9:45 am **The Conservation Effects Assessment Project for Wetlands In the Lower Mississippi Alluvial Valley**
Dr. Stephen Faulkner, National Wetlands Research Center, USGS
Presentation Handout

10:05 am **Question Panel:** Phil Bass, Gulf of Mexico Program; Robert Delaney, Lower Mississippi River Conservation Committee

10:35 am **Break**

Session 2: Current Status of Nutrient Monitoring in the Lower Mississippi River Basin

10:50 am **History and Status of USGS Monitoring of Nutrient Concentrations and Loads in the Mississippi-Atchafalaya River System**
Dennis Demcheck, Louisiana Water Science Center, USGS
Presentation Handout

11:10 am **State Agency Water Quality Monitoring on the Lower Mississippi River**
Dugan Sabins, Louisiana Department of Environmental Quality
Presentation Handout

11:30 am **Question Panel:** Dr. Alan Lewitus, NOAA; Dr. Nancy Rabalais, LUMCON

12:00 pm **Lunch (on your own)**

Session 3: Municipal and Point Sources

1:15 pm **Hurricane Impacts on Municipal Sewage and Stormwater System**
Jorge Ferrer and Dale Champau, Department of Public Works, Baton Rouge
Presentation Handout

1:35 pm **Wetland Assimilation Plans for the Orleans Parish Wastewater Treatment Plant**
Sarah K. Mack, Sewerage and Water Board of New Orleans
Presentation Handout

1:55 pm **Management of Nitrate Discharges in Refinery Effluent**
Richard Cotton, Exxon-Mobil Refinery
Presentation Handout

2:15 pm **Question Panel:** Dr. Larry Beran, Industry-Led Solutions; Peter Tennant, ORSANCO

2:45 pm **Break**

Session 4: Tributary Watersheds

3:00 pm **Trends in Flux of Nutrients from the Yazoo River**
Richard Coupe, USGS
Presentation Handout

3:20 pm **Municipal Point Source Impacts on the Loosahatchie River**
Dr. Larry Moore, University of Memphis
Presentation Handout

3:40 pm **Question Panel:** Richard Ingram, Mississippi Department of Environmental Quality; Ken Brazil, Arkansas Natural Resources Commission

Session 5: Agricultural Management and Practices in Lower Mississippi River Basin Watersheds I

4:10 pm **Coulee Baton Micro-Watershed Project: A Locally Led Watershed Solution, Vermillion Parish, Louisiana**
Dr. Ernest Girouard, Vermillion Soil and Water Conservation District
Dr. Larry Beran, Industry-Led Solutions
Presentation Handout

4:30 pm **USDA Natural Resources Conservation Service Implementation of Nutrient Management Plans**
Dr. Jerry Lemunyon, NRCS
Presentation Handout

4:50 pm **Question Panel:** Dr. John Westra, LSU Agricultural Center; Michael Sullivan, USDA Natural Resource Conservation Service

5:10 pm **Conclude Day One**

Friday, June 2

Session 6: Agricultural Management and Practices in Lower Mississippi River Basin Watersheds II

8:00 am **USDA-ARS Research on Innovative Drainage Water Management with BMP Combination to Reduce Agricultural Nutrient Transport to Lower Mississippi River Basin Surface Waters and the Gulf Hypoxic Zone**
Dr. Timothy W. Appelboom, USDA-ARS Soil and Water Unit
Presentation Handout

8:20 am **Estimated Sediment Loss from Cotton Fields under Conservation and Conventional Tillage in the Bayou Bartholomew Watershed**
Dr. J. Scott McConnell, University of Arkansas– SEREC
Presentation Handout

8:40 am **Nutrient Balance and Soil Fertility Status/Trends in the Midsouth States: Water Quality Implications**
Dr. Cliff Snyder, Potash & Phosphate Institute
Presentation Handout

9:00 am **Nitrogen Transformations in Flooded Agricultural Fields**
Dr. Clifford Ochs, Department of Biology, University of Mississippi
Presentation Handout

9:20 am **Question Panel:** Dr. Martin Locke, USDA-ARS Sedimentation Lab; Dr. Eugene Turner, LSU School of the Coast and Environment

9:50 am **Break**

Session 7: The Role of Wetlands in Nutrient Cycling

10:05 am **Restoration of Water Quality Functions in Riparian Forests of the Lower Mississippi Alluvial Valley**
Dr. Stephen Faulkner, National Wetlands Research Center, USGS
Presentation Handout

10:25 am **The Impacts of Global Trends of Climate and Energy on Nutrient Loads and Hypoxia in the Mississippi Delta (From Session 9: Future Trends)**
Dr. John Day, LSU School of the Coast and Environment
Presentation Handout

10:45 am **Assimilation of Municipal Effluent in the Coastal Wetlands of Louisiana**
Dr. Robert R. Lane, LSU School of the Coast and Environment
Presentation Handout

11:05 am **Question Panel:** Ken Teague, U.S. Environmental Protection Agency, Region 6; Dr. Piers Chapman, LSU School of the Coast and Environment/CREST Program

11:35 am **Lunch (on your own)**

Session 8: The Distributary Region of the River: Obstacles and Opportunities

1:00 pm **Effects of Mississippi River Water on Phytoplankton Growth in Upper Barataria Estuary, LA**
Dr. Nancy Rabalais, LUMCON
Presentation Handout

1:20 pm **Nutrient Dynamics in the Upper Breton Sound Estuary as Affected by the Caernarvon Diversion**
Dr. Robert Lane, LSU School of the Coast and Environment
Presentation Handout

1:40 pm **Current USGS Data on Nutrient Cycling in the Atchafalaya**
Charles Demas, USGS
Presentation Handout

1:55 pm **Water Quality Restoration in Atchafalaya River Basin Cypress Swamp via Denitrification**
Dr. Andy Nyman, LSU School of Renewable Natural Resources
Presentation Handout

2:10 pm **Atchafalaya River Nutrients: When is a Basin a River?**
Dr. Paul Kemp, LSU School of the Coast and Environment
Presentation Handout

2:30 pm **Question Panel:** Andrew Barron, Barataria-Terrebonne National Estuary Program; Dr. Brian Fry, LSU Coastal Energy Institute

3:00 pm **Break**

Session 9: Future Trends

3:15 pm **Potential Future Strategies and Mechanisms of Mississippi River Modification to Meet Multiple Objective Water Resources Problems and Needs in the Near and Long Terms**
Edmond J. Russo, Jr., P.E., Chief, Coastal Engineering Branch, USACE
Presentation Handout

3:35 pm **Climatic Influences on Riverine Nitrate Flux: Implications for Coastal Marine Eutrophication and Hypoxia**
Dr. Dubravko Justic, LSU Coastal Ecology Institute
Presentation Handout

3:55 pm **Questions Panel: Dr. Cliff Snyder, Potash and Phosphate Institute;**
Dr. Len Bahr, Louisiana Governor's Office of Coastal Activities

4:25 pm **Conclusion:** Doug Daigle, Lower Mississippi River Sub-basin Committee on Hypoxia

4:30 pm **Adjourn**

Posters

Source Areas in the Lower Mississippi River Basin: Ills and Cures in the Yazoo River Basin
Charles Cooper, Martin Locke, and Scott Knight USDA-ARS, Water Quality and Ecology Research Unit, National Sedimentation Laboratory, Oxford, MS

Depletion of Residual Nitrate-Nitrogen From an Alfisol as Influenced by Long-term Nitrogen Fertilizer Application and Irrigation Method
J Scott McConnell, University of Arkansas - SEREC, Monticello, Arkansas
Dr. Paul Francis, University of Arkansas at Monticello
Dr. Robert Stark, University of Arkansas at Monticello

Inorganic Nitrogen Concentrations in Rice Floodwater
Nathan Slaton, Trenton Roberts, Dr. Rick Norman, R.E. DeLong, and C.V. Tucker. University of Arkansas at Fayetteville

Louisiana's Master Farmer Program
Dr. John Westra, LSU Agriculture Center, Baton Rouge, LA