

Final Meeting Summary

Third Meeting of the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force

September 24, 1998
Doubletree Hotel
Bloomington, Minnesota

The Mississippi River/Gulf of Mexico Watershed Nutrient Task Force (Task Force) met on September 24, 1998 in Bloomington, Minnesota. The meeting was chaired by **Charles Fox**, Assistant Administrator for Water, U.S. Environmental Protection Agency. **Peder Larson**, Commissioner, Minnesota Pollution Control Agency welcomed the Task Force on behalf of Governor Carlson.

The purposes of the Task Force meeting were to provide guidance, as necessary, to the Committee on Environment and Natural Resources (CENR) Hypoxia Science Assessment Teams, and to review the draft strategy for implementing short-term, win-win implementation activities for the Mississippi River/Gulf of Mexico watershed.

Governors' Letter

At the April, 1998 Task Force meeting, George Meyer proposed that Wisconsin and other States on the Task Force write to all states in the basin that are not members of the Task Force, making the other Governors in the basin aware of the Task Force and its activities. Dugan Sabins and Bruce Baker reported that they were hopeful the letter could be signed and sent within a matter of weeks.

Findings of the CENR Hypoxia Assessment

Dr. Donald Scavia, Senior Scientist
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service

Dr. Scavia provided an overview of the assessment process. He then introduced the three team members present and stated that the objectives for the day were to provide an overview of the following:

- the sources of nutrient inputs to the basin;
- approaches for reducing nutrient loadings; and
- the economic implications of nitrogen reductions.

Dr. Scavia stated that this integrated assessment is likely the largest of its kind in both scale and complexity. The findings will become public once an Editorial Review Board conducts a rigorous peer review of the topic papers. There are now five people selected for the editorial board and a sixth member is being selected. Task Force members stated that there is a need to be cautious about how the information is presented to the media and follow-up documentation should be provided.

Team 3 - Sources and Loads of Nutrients

Don Goolsby, USGS

Mr. Goolsby presented an overview of sources and loadings of nutrients (nitrogen and phosphorus) to the basin and discussed what human activities contribute to the loadings. He stated that in the 1970s there was an upward trend in nitrogen (primarily nitrate) loadings with no trend indicated from 1983 to 1996. The 17-year (1980-1996) average flux of total nitrogen to the Mississippi River Basin is 1,568 gigagrams per year (1,567,900 metric tons). The yields of nitrogen are highly variable from year to year, suggesting a large storage capacity in the soils. Preliminary findings indicate that the states that contribute the largest loads of total nitrogen include Iowa and Illinois (approximately 16 to 20 percent per state). Indiana, Kentucky, Tennessee, Missouri, Ohio, and Minnesota contribute 6 to 8 percent per state of the nitrogen load. Arkansas, Kansas, Mississippi, Nebraska, and Wisconsin contribute 1 to 3 percent per State of the total nitrogen loads. Sources of nitrogen loading include fertilizer applications, air deposition, manure, and legumes. Point source inputs from industrial and municipal sources account for approximately 17 percent of the loadings in the entire basin.

Team 5 - Methods to Reduce Nutrient Loads

Bill Mitsch, Ohio State University

Mr. Mitsch discussed potential approaches for reducing nutrient loads in the Mississippi River Basin which are being explored by his Team. These approaches include the modification of agricultural practices, greater point source controls through improved technology and tertiary treatment, landscape restoration for rural nonpoint source (NPS) problems (including wetlands and riparian corridors), urban NPS controls, Mississippi River Delta restoration, additional stream and river restoration, and atmospheric controls.

Dr. Mitsch stated the four assumptions associated with the nitrogen reduction approaches:

- 1) nitrogen is the limiting factor in the Gulf;
- 2) atmospheric sources of nitrogen are minor (<20 percent);
- 3) a reduction in loading in the watershed will lead to a corresponding decrease in the Gulf; and
- 4) instream processes affecting nitrogen loss are minimal.

Restoration of landscapes is one method to reduce nitrogen loading to the Mississippi River and the Gulf of Mexico and includes wetlands, riparian zones, and controlled drainage. Modeling scenarios predict that approximately 1.4 percent of the land area in the basin would have to have wetlands or riparian areas restored or created to decrease nitrogen loads.

Factors that must be considered in evaluating control strategies for nitrogen inputs to the basin include scale effect, system delay, agricultural and industrial production, synergistic effects/other nutrient limitations, the long-term prognosis, and catastrophic and rare events. Discussions emphasized that the methods ultimately recommended by Team 5 for implementation in the Mississippi River Basin would include a suite of all the approaches listed.

Team 6 - Evaluation of Social and Economic Costs and Benefits of Methods for Reducing Nutrient Loads

Otto Doering, Purdue University

Mr. Doering illustrated the ability of linked models to describe macro-economic and farm output impacts of hypoxia control strategies that might be recommended by the CENR process or the Task Force. Dr. Doering presented several economic scenarios that would result from reducing nutrient loadings in the Mississippi River Basin. These scenarios were based upon the preliminary findings of the other hypoxia science assessment teams. His emphasis was on reducing nitrogen from nonpoint sources—specifically nitrogen from cropland. Reduction benefits from point sources would be modest, because point source loads make up less than 20 percent of the total nitrogen loadings to the Mississippi River Basin.

The Mississippi River Basin accounts for about eighty percent of the total United States acres in major crop production (wheat, corn, soybeans, hay etc.). He illustrated the analytic capabilities of models with three scenarios. The first scenario evaluated point source-nonpoint source trading in which point sources buy controls from agricultural producers to reduce nitrogen pollution at the cost of \$20 to \$65/lb. In the second scenario, he used a complex model to examine the economic consequences and environmental benefits of first simply reducing nitrogen use; and second, reducing nitrogen inputs to the Gulf by moving high nitrogen use crops to other land areas. He found that taxing fertilizer would not be an effective mechanism to reduce excess fertilizer—a 70 percent fertilizer tax would achieve only a 10 percent reduction in nitrogen applied because it is so inexpensive. His models indicated that farmers often use "excess amounts" of nitrogen fertilizer for the typical year because there is a 10-20% chance that in a given year climate and other factors will yield a "bumper crop" that will more than offset the costs of "extra" fertilizer in "normal" years. He found that greater nitrogen-reduction benefits are obtained by reducing nitrogen losses. However, the economic disruptions in the basin that would result from 60 percent reduction in nitrogen inputs to the Gulf would be significant. Achieving a 20 percent reduction using this method might be reasonable.

Chuck Fox asked for comments from the Task Force members and then the participants in the audience.

Comments:

Ms. Glenda Humiston

U.S. Department of Agriculture Deputy Undersecretary for Resources and the Environment

Ms. Humiston felt that policymakers will need to consider other factors for evaluation such as impacts to rural communities, and other social and cultural components. She also indicated that the timeline for completion of the science assessment is ambitious and felt that more time would be needed for stakeholder involvement. While the CENR process is intended to inform the public and the Task Force, the Task Force is the primary mechanism for soliciting recommendations from the public and developing policy. Also, she mentioned that ancillary benefits may need to be factored in such as endangered species issues and global climate change issues. In addition, it is difficult to place an exact dollar value on benefits accrued by improving water quality such as aesthetics, social, and cultural values.

Mr. Peder Larson, Minnesota Pollution Control Agency

Mr. Larson agreed that the time frame for the science assessment was ambitious.

***Mr. Chet Boruff, Deputy Director,
Illinois Department of Agriculture***

Mr. Boruff asked what the ultimate goal for restoration for the Gulf is driving the analysis. Don Scavia said that there is not a good historical picture of the Gulf, but further analyses will be conducted.

Mr. Ron Kucera, Missouri Natural Resources Department

Mr. Kucera cautioned everyone to be sure that the data showing low nitrogen inputs from states on the western side of the Mississippi River basin may be due to nutrient flux, because agricultural production is occurring in this region and possibly the soils are holding more nutrients for a longer period of time.

Other comments from the Task Force members included the need to identify the assumptions in Dr. Doering's model, the need to consider socially achievable options, and the need to include many of the land-use and wetlands restoration benefits in the scenarios. Several Task Force members mentioned the need for additional monitoring to evaluate nutrient loadings, particularly in the smaller watersheds. One Task Force member felt the science team assessments were very helpful, particularly the data showing point source and nonpoint source contributions of nitrogen into the basin. Comments from the audience included the following:

Mr. Gyles Randall, University of Minnesota

Mr. Randall stressed the need to employ a variety of approaches to reduce nitrogen inputs into the basin. Don Scavia stated that the science assessment will examine a balance or mix of approaches and look at methods that provide ancillary benefits, such as habitat restoration and flood control. He stated that there is a need to protect agriculture output and farm income, as well as flood control and transportation/navigation.

Terry Fracl, American Farm Bureau Federation

Mr. Fracl said that the models should look at the ratio of fertilizer used compared to product output, not just the amount of fertilizer used.

Dan McGuiness, National Audubon Society

Mr. McGuiness reiterated the need to diligently enforce the existing laws and to stop any further draining of wetlands. He also expressed the need to consider the way of life and the economy upstream as well as downstream.

Dan Bruene, Conservation Districts of Iowa

Mr. Bruene challenged the Task Force to involve every producer up and down the Mississippi River watershed. Farmers have to be confident that nitrogen inputs are coming from agricultural practices before they are willing to help.

Melissa Samet, Earthjustice Legal Defense Fund

Ms. Samet commented on the suite of options proposed. In light of the option mentioned by Dr. Mitsch to restore agricultural land to wetlands, she encouraged halting current destruction of wetlands. She said that the U.S. Army Corps of Engineers is altering wetlands along the Mississippi River in an effort to raise the levees. Major General Phillip Anderson, U.S. Army Corps of Engineers, responded to her concerns and stated that a supplemental Environmental Impact Statement, dealing with this issue, is being prepared and the Corps is minimizing and compensating for the loss of wetland acres. Ms. Samet felt that the Task Force should be addressing these kinds of issues that affect the hypoxic zone. She also urged the Task Force not to slow down the time frame. The implementation will not happen until the science assessment is complete so the process needs to keep moving.

Les Everett, Minnesota Stewardship Project

Mr. Everett stated that his project encourages a multi-agency process and demonstration projects and looks at current agricultural practices as well as changes for the future. He supported Glenda Humiston's remark about the need to consider the impacts on farmers and recommended holding these Task Force meetings throughout the basin.

Rob Moore, Central States Education Center

Mr. Moore encouraged holding these meetings within the basin to hear other stakeholder comments. He also stated that the Gulf problem is a symptom of a bigger problem. The science teams need to look at other issues such as drinking water problems due to nitrates, which is a problem in a number of upper basin states. Other programs such as the Safe Drinking Water Act, Source Water Protection, TMDLs, nutrient water quality standards, and antidegradation may be of assistance. He supported the need for widespread education on these issues.

Win-Win Strategy

***Robert Wayland, Director, Office of Wetlands, Oceans, and Watersheds
U.S. Environmental Protection Agency***

Mr. Wayland gave an overview of the draft strategy developed by the Coordination Committee and stated that it is based on existing programs with recommended modifications that can be implemented to reduce impacts to the hypoxic zone. The draft strategy is based on the premise that actions to improve water quality "up-river" will also benefit the Gulf of Mexico, and nonpoint source measures will have a benefit to the environment as well as landowners. Most of the actions mentioned in the draft strategy focus on nutrient management and habitat restoration and build on existing programs and the Clean Water Action Plan. He said that the purpose of the discussion was not adoption of the strategy, but to hear any comments and suggestions. He then opened up the floor for comments.

Comments:

***Lois Schiffer, Assistant Attorney General,
Environmental and Natural Resources Division, U.S. Department of Justice***

Ms. Schiffer felt that specific targets and goals need to be included to make the strategy effective.

Chuck Fox, U.S. Environmental Protection Agency

Mr. Fox felt the Task Force should produce some kind of document and charged the Coordination Committee with addressing the comments brought up today as well as the proposed time frame. He then opened the discussion up for comments on how information will be collected and what indicators will be used to track improvements.

***Lois Schiffer, Assistant Attorney General,
Environmental and Natural Resources Division, U.S. Department of Justice***

Ms. Schiffer felt that the number of enforcement actions from secondary treatment facilities should be added to the list of indicators.

Glenda Humiston, U.S. Department of Agriculture

Ms. Humiston felt that the language in the strategy needed to be qualified to read "within existing budgets" and include more information on existing activities.

Major General Phillip Anderson, U.S. Army Corps of Engineers

Mr. Anderson pointed out that the overall strategy could reference opportunities for the Corps of Engineers to partner with states and other federal agency partnerships programs, such as the Upper Mississippi River Environmental Management Program, the Demonstration Erosion Control Program, and the Coastal Wetlands Planning, Protection, and Restoration Act.

Peder Larson, Minnesota Pollution Control Agency

Mr. Larson asked if the strategy will include any new money and will resources be allocated to different states based on loadings of nitrogen? Chuck Fox stated that there is a need to make basinwide information available to help inform state-level decisions. The CWAP funding that goes to the states can be used for States' priority needs, but there is a need to move beyond funding to find other ways to implement solutions.

Howard Hankin, U.S. Department of Agriculture/NRCS

Mr. Hankin stated that there needs to be consistency in how information is reported. While every farmer in a watershed may have a nutrient management plan, the federal and state agencies collecting water quality management information on nutrients may report on it in different formats. Mr. Hankin recommended building on existing programs, for example, taking one of the unified watershed assessment priority watersheds and linking it with stream corridor restoration activities. These outcomes could potentially be projected to a broader scale to monitor conservation practices.

Melissa Samet, Earthjustice Legal Defense Fund

Ms. Samet reacted to the discussion saying that she strongly urged going forth with the strategy but to include more details on how actions will be completed to focus implementation. She also stated that certain programmatic issues need to be better coordinated and implementation needs to

be tracked through permit compliance, total number of wetlands restored, and implementation of TMDLs, not just the TMDLs themselves.

Natalie Walker, Earthjustice Legal Defense Fund

Ms. Walker felt that it makes sense to call it an interim document. The Task Force needs to be flexible and not create a lumbering, bureaucratic process.

John Hall, University of Wisconsin

Mr. Hall indicated that the role of USDA needs to be better defined and urged innovative approaches for nutrient reductions.

Jim Giattina, Director, Gulf of Mexico Program

Mr. Giattina felt that the group already has information from Don Goolsby's studies on areas to target that can be coordinated with the Unified Watershed Assessments being undertaken on the Clean Water Action Plan. He stated that short-term commitments can be defined that everyone can commit to.

Marie Zellar, Clean Water Fund

Ms. Zellar would like to see how the Task Force efforts link to other watershed protection programs. The Task Force can help drive other processes if they have a clear direction.

Mark Ten Eyck, Minnesota Center for Environmental Advocacy

Mr. Eyck felt that this is a great opportunity to explore flood damage issues and the need to address tile drains.

Several Task Force members asked for clarification on the use of the strategy and the proposed next steps. Chuck Fox stated that the strategy will serve as a framework. One Task Force member felt uncomfortable releasing the strategy before the science assessment is complete and felt that the strategy may not be win-win for everyone involved. There was discussion whether to wait for the information from the science assessment or to go forward with the strategy. Several members proposed calling it an interim draft or simply a framework of existing programs. Others felt that they need to go beyond short-term commitments and plan actions for the long-term. One Task Member asked if this strategy will be linked to the President's budget. Other Task Force members stated that the states and local conservation districts are already targeting areas and pursuing actions such as wetlands restoration and set asides to mitigate nitrogen inputs into the basin.

Chuck Fox thanked all of the participants for coming and indicated that the next Task Force meeting will be held in January or February of 1999.

Major Actions

Governors' letter

- Send comments from Task Force members to Dugan Sabins.
- Complete Governors letters.

Tribal Letter

- Initiate a parallel effort to produce a similar letter to tribes (Heather Westra, Bob Wayland, and Fred Swader).

Win-Win Strategy

- Coordination Committee will consider all comments. A revised draft will be available prior to the next meeting