

## Response to Public Comments

As published in the [Federal Register](#) on November 23, 2007, the public was invited to comment on the [Draft Gulf Hypoxia Action Plan 2008](#) for Reducing, Mitigating, and Controlling Hypoxia in the Northern Gulf of Mexico and Improving Water Quality in the Mississippi River Basin. The public comment period on the Draft 2008 Action Plan formally closed on January 4, 2008. The Task Force analyzed over [750 comments](#) received on a diverse set of topics. What follows is the Task Force's response to these comments, organized by topic.

**Including voluntary vs. regulatory approaches in Action Plan:** Comments were received on both sides of this issue, advocating for a local voluntary incentive-based approach as well as calls for regulatory approaches.

The Task Force acknowledges that many of the actions taken by landowners, municipalities and state governments are voluntary, specifically regarding reductions of non-point sources of nutrient pollution, including the continued implementation of cost-effective, voluntary, best management and conservation practices at the local and regional level. However, it should also be understood that solely targeting non-point source reductions through voluntary means is unlikely to result in achieving the goals of the plan. Existing regulatory programs and initiatives provide additional means of achieving nutrient reductions throughout the Mississippi/Atchafalaya River Basin, and are included in the Action Plan, which describes a suite of actions that, fully implemented, will lead to reductions in the hypoxic zone.

**Inclusion of nitrogen and phosphorus standards and criteria:** This issue spans requests from inclusion of additional criteria and standards language to the removal of criteria and standards language from the plan.

Public comments received on water quality criteria and water quality standards varied widely from requests that more emphasis be placed on state adoption of numeric nutrient criteria to requests that numeric nutrient criteria be de-emphasized in the Action Plan. Several comments also noted that the draft water quality standards language appears to be in conflict with the voluntary nature of the Hypoxia Action Plan.

The Task Force agrees that the Hypoxia Action Plan is voluntary in nature, specifically regarding reduction of non-point sources of nitrogen and phosphorus pollution through best management and conservation practices at the local and regional level. However, the Task Force also recognizes that solely targeting non-point source reductions through voluntary means is unlikely to result in achieving the goals of the plan, particularly in a watershed as large and diverse as the Mississippi/Atchafalaya River Basin. Utilizing existing programs, including state and federal regulatory mechanisms such as water quality standards, provides additional means of achieving nutrient reductions throughout the Basin.

The Clean Water Act (CWA) gives states the primary authority for setting water quality standards to protect designated uses. EPA has the authority to publish national recommended water quality criteria, and to review and approve state water quality standards packages. If EPA determines that state water quality standards are not consistent with the CWA, EPA has the authority to establish federal water quality standards. EPA also provides assistance and guidance to states, where needed,

as states develop and implement their own water quality standards programs. EPA has and will continue to strive to better understand the science behind nitrogen and phosphorus in big river systems. In the interim, it is important that states and tribes establish quantitative nutrient criteria, when necessary to protect designated uses for all waters where criteria can be developed based on sound science. EPA continues to work cooperatively with states and tribes by providing them with direct financial and technical support as they appropriately focus on developing and adopting numeric nutrient criteria into water quality standards for tributaries to the Mississippi River. EPA expects that implementing these water quality standards will not only assist states in protecting in state water quality, but also may result in reduced nutrient loadings to the Gulf of Mexico.

As a result of the comments received on the water quality standards language in the draft Action Plan, the Task Force has modified the language in the final Action Plan to better reflect the collaborative nature of EPA's work with States and Tribes on numeric nutrient water quality standards.

**Coastal, Within Basin, and Quality of Life goals:** These comments included requests for strengthening the coastal goal, changing the coastal goal, and comments that the goals are unrealistic.

The Task Force considered the findings of the [EPA Science Advisory Board's Hypoxia Advisory Panel](#) in evaluating whether to modify the goals. Thus, these goals are based on the best available science. Furthermore, the Task Force understands the difficulty of meeting the 2015 goal stated in the *Gulf Hypoxia Action Plan 2008* and so included a revision that takes into account the uncertainty of the task but attempts to maintain momentum and progress achieved to date. As such, at this time, the Task Force accepts the advice of EPA's Science Advisory Board on this topic...*"The 5,000 km<sup>2</sup> target remains a reasonable endpoint for continued use in an adaptive management context; however, it may no longer be possible to achieve this goal by 2015...it is even more important to proceed in a directionally correct fashion to manage factors affecting hypoxia than to wait for greater precision in setting the goal for the size of the zone. Much can be learned by implementing management plans, documenting practices, and measuring their effects with appropriate monitoring programs."* (EPA Science Advisory Board 2008, 2).

The within basin goal is aimed at emphasizing the importance to Task Force of improving water quality within all the states of the Mississippi/Atchafalaya River Basin, the title of the document was changed to further underscore the importance of addressing water quality issues throughout the Basin.

**State and Federal Nutrient Reduction Strategies:** Comments on this topic included support for the state nutrient reduction strategies as the "key element" of the plan, and several suggestions for creating flexible and effective state strategies, as well as concerns that federal strategies would lead to a "nutrient TMDL for the Gulf of Mexico".

The Task Force agrees that state nitrogen and phosphorus reduction strategies called for in Action #1 of the 2008 Action Plan are a critical element in reducing the size of the hypoxic zone and improving water quality throughout the basin. Additionally, because the soils, hydrology, land use, and cropping practices as well as the legal, legislative, and administrative framework vary considerably across the 31 states in the Basin, the Task Force recognizes that no single approach to nutrient reduction would be effective in every state. The state nutrient reduction strategies will

provide a road map for each state, a more detailed basis for budget development and implementation, and a vehicle for coordination with other states in the Basin.

The federal nutrient reduction strategies identified in Action #2 are primarily aimed at providing a context to aid in federal intra and interagency coordination to ensure that programs and initiatives are aligned to best leverage results in terms of reducing the hypoxic zone and mitigating its effects. The creation of a TMDL for the Gulf of Mexico is not supported by the actions or intent of the Task Force or the Action Plan.

**Roles of States and Federal Agencies:** Comments were received that the Action Plan is inconsistent in addressing the role of the states, roles of states versus federal agencies in implementing the plan.

The [Gulf Hypoxia Action Plan 2008](#) provides an overview of how federal agencies, states and tribes within the Mississippi/ Atchafalaya River Basin are working together to take action to reduce the size of the hypoxic zone, while protecting and restoring the human and natural resources of the Mississippi River Basin.

Key actions to accelerate the reduction nitrogen and phosphorus in the surface waters of the Mississippi/Atchafalaya River basins include the development and implementation of both state and federal nutrient reduction strategies. The Task Force acknowledges that the state nutrient reduction strategies must be flexible, that state resources alone will not be adequate to implement strategies at the scale required to reduce the size of the hypoxic zone, and that federal partners must show leadership and provide input and assistance as needed to the states in the development and implementation of these strategies.

However, The States are uniquely qualified to identify the key stakeholders within their states who can influence opinion and support needed changes in practices and programs. State agencies have established relationships with their constituents, whether agricultural producers or regulated entities such as wastewater facilities.

Federal agencies also have significant programs and projects that affect water quality in the Gulf and locally throughout the Basin. In some cases, a Federal agency may have direct lead for a specific activity, such as management of water flow and navigation on large, interstate rivers or management of fisheries. In other cases, federal programs help to set the parameters of programs that are co-implemented or delegated to states, such as technology standards for wastewater treatment or criteria used as the basis for water quality standards. Broader federal strategies are also needed to establish a context and approach to guide and coordinate the actions of these other partners.

The approach espoused in the Action Plan allows Federal and State agencies and stakeholders in each state to focus on activities that will be most effective in their area. More information on the specific roles of the Task Force partners in implementing the actions of the Action Plan can be found in the [Operating Plan](#).

**Point Sources:** Comments were received regarding the accuracy of point source contributions, and the need for continual improvement of the methods used to reduce point sources.

The work of the Task Force will maintain a basin-wide context for the continued pursuit of both incentive-based, voluntary efforts for nonpoint sources and existing regulatory controls for point sources, and recognizes that additional analysis of detailed nutrient pollution contributions from multiple sectors, including point sources and non-agricultural contributions needs to be undertaken.

During the process of the reassessment, the Task Force completed a major technical report—[\*The Management Action Review Team Report\*](#) (MART report), published in November 2006. The report is a compilation of information on point sources in the Mississippi River Basin and available programs that assist landowners, municipalities, and others in the basin to reduce nutrient loadings. It also shows how such programs could more effectively address nutrient reduction if they were aligned and integrated with the 2008 Action Plan. For more information on the science, please refer to MART report and other comprehensive reviews of current science and management options available on the Task Force website (<http://www.epa.gov/msbasin/tfproducts.htm>).

**Include Quantitative Targets for nutrient load reduction:** Comments included a request for the inclusion of quantitative targets for nutrient load reduction in the plan.

A quantitative target for nitrogen and phosphorus reductions was identified as one of the “Conclusions from the Reassessment” in the Action Plan; however, given the existing uncertainties regarding seasonality and nitrogen composition, and even the level of nutrient reductions required to reduce the size of the hypoxic zone, the Task Force chose to place emphasis in the Actions of the plan on targeting the watersheds within the Basin with the most significant contributions of nitrogen and phosphorus to the Gulf of Mexico as part of comprehensive state and federal nutrient reduction strategies.

Because the soils, hydrology, land use, and cropping practices as well as the legal, legislative, and administrative framework vary considerably across the 31 states in the Basin, the Task Force also recognized in the Action Plan that no single approach to nutrient reduction would be effective in every state. Furthermore, the Task Force reaffirms that it is extremely important to accelerate actions that manage factors affecting hypoxia. An adaptive management approach, including nutrient reductions, monitoring and evaluation, can inform continuing efforts. The States and Federal agencies must coordinate efforts across organizations and programs and use adaptive management to modify the strategies as new information and innovative solutions are acquired to identify critical watersheds, assess current conditions, and maximize potential nitrogen and phosphorus reductions with the most cost-effective approaches.

**Biofuels:** Comments included a request for action to ensure that expanding biofuels mitigates adverse impacts on water quality.

The Federal strategies to be designed as the Action Plan is implemented are primarily aimed at providing a context to aid in federal intra- and interagency coordination to ensure that programs and initiatives are aligned to best leverage results in terms of reducing the hypoxic zone and mitigating its effects. Management of agricultural lands in the Mississippi River Basin is not static but invariably changes in response to changes in the demand for agricultural commodities and as new technologies are developed and implemented. Adaptive management, an approach that involves continual feedback between the interpretation of new information and improved management actions, is a major tool used by the Action Plan, which will help to mitigate the concerns and effects of changing agricultural practices.

**Economic Impacts and study:** Concerns were raised regarding negative economic impacts that might result from the implementation of the Action Plan, as well as the current lack of data on the economic and social costs and benefits.

The Action Plan calls for development of nutrient reduction strategies for states within the Mississippi/Atchafalaya River Basin encompassing watersheds with significant contributions of nitrogen and phosphorus to the Gulf of Mexico. Recognizing that these strategies should incorporate many of the concerns about the potential socio-economic effects of reducing nutrient loads, Action #5 in the Action Plan calls for Federal Task Force members to take the lead in conducting a comprehensive economic evaluation of the costs and benefits of reducing nutrient loads in the Mississippi Basin. The results of this comprehensive analysis will be used by the States and Federal Agencies in their development of nutrient reduction strategies in the Basin.

**Change Institutional Framework:** Comments were based on changing the institutional framework of the Task Force.

Any environmental problem that covers the immense size and scale of the hypoxic zone in the Gulf is bound to be laden with obstacles. The geographical separation of the source of the problem from the end result, balancing the needs and priorities of millions of stakeholders in thousands of jurisdictions, adapting to changes in the agricultural landscape, and limited resources to address an increasing problem are just a few of the issues that the Task Force faces. Considering these obstacles, the structure of the Task Force and the approach is effective under current conditions.

However, the institutional structure may evolve as the Task Force progresses through this and future reassessments. Currently the Task Force is considering the efficacy of other institutional frameworks that address ecological problems of similar scale and complexity. The states represented from within the Basin meet regularly outside of the confines of the Task Force, and the Task Force is engaging other states and federal agencies as it moves to implement the plan.

**Need for increased and coordinated funding:** Many comments identified the need for increased and coordinated funding to implement the Actions in the Action Plan.

The Task Force acknowledges that funding is the most critical need to fully implement the Action Plan. A joint federal interagency effort is reviewing options for a cross-cut budget to help fund implementation. The Annual Operating Plan is an important step in implementation of the Plan. It provides a roadmap for implementing each action, including current funding levels and critical needs for continuing implementation. Task Force members are communicating with the Congress to ensure that the need for coordinated funding is clear.

**Action Plan Based on Sound Science:** Concerns were raised that the Action Plan should be based on "sound scientific data"

The recommendations in the 2008 Action Plan are based on the results of a major reassessment of the state of the science for the causes, effects, and management actions for reducing Gulf hypoxia. The reassessment included the following components:

- In the fall of 2006, the Task Force agencies and the Sub-Basin Committees completed a series of four scientific symposia on the science surrounding Gulf hypoxia and nutrient sources, fate, and transport in the Mississippi/Atchafalaya River Basin.
- The Task Force completed a major technical report—[A Science Strategy to Support Management Decisions Related to Hypoxia in the Northern Gulf of Mexico and Excess Nutrients in the Mississippi River Basin](#) (Monitoring, Modeling and Research or MMR Report), published in 2004. The report describes the scientific information needed to support management actions and defines the scope, interrelation, and framework of the activities needed to provide that information. It also describes existing programs and activities, identifies gaps and limitations in those activities, and outlines the actions and resources needed to overcome the gaps and limitations.
- The Task Force completed a second major technical report—[The Management Action Review Team Report](#) (MART report), published in November 2006. The report is a compilation of information on point sources in the Mississippi River Basin and available programs that assist landowners, municipalities, and others in the basin to reduce nutrient loadings. It also shows how such programs could more effectively address nutrient reduction if they were aligned and integrated with the Action Plan. The MART report represents the first time the Task Force has compiled a snapshot of programmatic information, and thus it can be used as a resource for future reassessments.

In August 2006, the Task Force asked EPA's Science Advisory Board (SAB) to provide independent advice on scientific advances since 2000 that might have increased understanding and options in three general areas: characterization of the cause(s) of hypoxia, characterization of nutrient fate, transport, and sources, and the scientific basis for goals and management options. The Science Advisory Board convened an expert panel under the auspices of the chartered SAB. This SAB Hypoxia Advisory Panel consisted of 21 distinguished scientists from academia, industry and government agencies with expertise in the fields of oceanography, ecology, agronomy, agricultural engineering, economics and other fields. During the process, the Panel held numerous public meetings and considered information from invited speakers as well as over 60 sets of public comments in the development of their report. Published in January 2008, the report is available for review at: [http://yosemite.epa.gov/sab/sabproduct.nsf/C3D2F27094E03F90852573B800601D93/\\$File/EPA-SAB-08-003complete.unsigned.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/C3D2F27094E03F90852573B800601D93/$File/EPA-SAB-08-003complete.unsigned.pdf).

**Advancing the Science - Monitoring and Modeling:** Concerns were raised regarding the importance of increasing the emphasis on monitoring in the watershed, and the lack of funding to support monitoring efforts. Concerns were also raised that the need for increased monitoring raises doubts on whether the best information is being used to model nutrient source, fate and transport.

The Task Force recognizes that increased and improved monitoring is an essential element for advancing the science surrounding nitrogen and phosphorus source, fate, and transport. Funding is a critical issue and is identified in the Action Plan and discussed earlier in this document.

In response to Action #3 in the 2001 Action Plan, the Task Force issued an integrated monitoring, modeling and research strategy - [A Science Strategy to Support Management Decisions Related to Hypoxia in the Northern Gulf of Mexico and Excess Nutrients in the Mississippi River Basin](#)

(Monitoring, Modeling and Research or MMR Report), for the Basin and Gulf to guide the development of the nutrient reduction strategies as well as future efforts in monitoring, modeling and scientific research.

It is also important to recognize the inherent difficulties in using models to guide actions. Models are continually improving and need to go through a process of evaluation, validation and improvement, particularly in the Mississippi/Atchafalaya River Basin, where large scale river models need to be evaluated at varying spatial scales for use by managers and landowners at the local level. Models are continually improving, and there are several models available to describe the flow of nutrients throughout the Mississippi/Atchafalaya River Basin, however, the Task Force agrees that no model should be used as the sole basis for making policy or funding decisions.

**Advancing the Science - General Science/Management:** Concerns were raised regarding the existing scientific uncertainties in regard to nutrient source, fate and transport and hypoxia in the Gulf.

The Task Force again recognizes the need for increased funding for research and development of methods to reduce nitrogen and phosphorus loads in the surface waters of the Mississippi River basin and ultimately into the Gulf of Mexico. Since the 2001 Action Plan, researchers have advanced the understanding of nutrient transport and fate in the Mississippi/Atchafalaya River Basin and the consequences on Mississippi/Atchafalaya River Basin water quality and the Northern Gulf of Mexico's hypoxic zone. States and Federal agencies will seek to further advance science in the priority needs recommended in the MMR and SAB reports.

Given the existing scientific uncertainties related to nutrient source, fate, and transport, the Task Force is committed to continuing the adaptive management approach to reduce the size and impact of the Gulf hypoxic zone and improve water quality in the Basin. This adaptive management approach involves continual feedback between the interpretation of new information and improved management actions and is the key to targeting actions within watersheds where they will be most effective. For more information on the science, please refer to SAB report and other comprehensive reviews of current science and management options available on the Task Force website: <http://www.epa.gov/msbasin/tfproducts.htm>.

**Improve Tracking and Accountability:** Comments were received requesting that increased detail and specificity be added to the plan, including measurable actions, a timeline, dates, and a regular reporting requirement

Taking cues from the policy themes agreed on by the Task Force in January 2007, the 2008 Action Plan has added specificity and accountability to the actions in the plan. This is not intended to mean moving to a more rigid "one-size-fits-all" prescription, but rather increased specificity in the implementation actions to be pursued while maintaining the flexibility to adjust to more efficient and effective actions if warranted. The specificity in actions will improve the Task Force's ability to identify metrics that can be used to quantitatively track progress.

This can be seen in the **Next Steps: Getting Results** section of the Plan. The Task Force has assigned Leads to each action, and included the following sections for each action: "Why do this?" - descriptions that briefly explain the problem and outline some of the results we can expect, a "How

do we do this” -provides a roadmap for moving forward, and “What are the Critical Needs” - listing details on the critical needs that will be required to achieve each action.

Two new tools have also been included to improve the Task Force’s ability to measure and track progress -- the Annual Operating Plan and the Annual Report.

Five Annual Operating Plans will provide short-term roadmaps to maintaining forward progress. Each Operating Plan will be a compilation of actions that the various state and federal members of the Task Force have planned to undertake to implement the *Gulf Hypoxia Action Plan 2008*. Each item the Operating Plan specifically implements one of the eleven actions in the 2008 Action Plan. The Operating Plans will include, where known, funding levels and specific milestones for the current fiscal year. The plans will also identify critical needs for the next fiscal year to acknowledge and analyze barriers to progress and to assist in state and federal planning and funding. The [FY 2008 Operating Plan](#) is currently available for viewing on the Task Force website.

In addition, Action #7, “Track interim progress on the actions to reduce nitrogen and phosphorus by producing an annual report on federal and state program nutrient reduction activities and results” provides an annual report which will include a specific set of indicators to help gauge the progress of the Action Plan between reassessments.

**Improved Communication and Outreach:** Comments received emphasized the importance of communication and outreach to the stakeholders throughout the Mississippi/Atchafalaya River Basin.

The Task Force also recognized the importance of “Improved Communication and Outreach” as another of the six major policy themes for the reassessment and 2008 Action Plan. “Given the cooperative and voluntary nature of the Action Plan, the Task Force must engage a wide range of stakeholders and facilitate broad acceptance of the plan in order to maximize opportunities for stakeholders to pursue the identified actions” ([Gulf Hypoxia Action Plan 2008 p. 5](#)). To that end, the Task Force included Action #10 “Promote effective communications to increase awareness of hypoxia and support the activities of the Task Force.” Included as part of that actions deliverables is at Task Force Communications strategy. More information on the communication and outreach efforts of the Task Force and State and Federal members of the Task Force is available in the [FY 2008 Operating Plan](#).

**Agricultural Policy (the Farm Bill), Land use and Agricultural Practices:** Comments were received regarding hypoxia and the effects of implementing the action plan on agriculture and agricultural practices as well as requests that hypoxia be considered in the Farm Bill.

The Farm Bill is currently under discussion in the Congress, and it is your right to contact your elected representatives to express your opinion. The Administration’s Farm Bill recommendations proposed to increase the funding and acres committed to both land retirement and working lands programs, and to create a Regional Water Enhancement Program to focus efforts in key watersheds. Congress did not adopt all the Administration’s proposals and it is too soon to determine how Conservation Programs will fare in the current negotiations. Whatever the nature of the provisions, we at USDA will do the best we can within the law to deliver effective, efficient, and profitable conservation options to agricultural producers. \*

Additional work with drainage systems, particularly subsurface drainage systems in the Upper Midwest, has been identified as a USDA priority. The Agricultural Drainage Management Systems Task Force was formed in 2003 to develop and transfer technology to help reduce nitrate loads from tile drainage systems. Additional emphasis is being placed on wetlands through programs such as the Conservation Reserve Enhance Program and demonstrations of new drainage water management techniques are underway through a multi-state Conservation Innovation Grant.

More information on the effects of land use and hydrology is available in the recent Science Advisory Board Report on Gulf Hypoxia ([http://yosemite.epa.gov/sab/sabproduct.nsf/C3D2F27094E03F90852573B800601D93/\\$File/EP-A-SAB-08-003complete.unsigned.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/C3D2F27094E03F90852573B800601D93/$File/EP-A-SAB-08-003complete.unsigned.pdf)).

\* Note that the 2008 Farm Bill was passed and signed into law in June 2008.