STATE NUTRIENT REDUCTION STRATEGY DEVELOPMENT WORK GROUP REPORT AND REQUESTED ACTIONS OF THE TASK FORCE

September 2010

Workgroup Members: Richard Ingram (MS), Darrell Brown (USEPA), Rob Magnien (NOAA), Dugan Sabins (LA), Susan Sylvester (WI), John Kessler (OH), Mike Woodside (USGS), Warren Goetsch (IL), Ken Brazil (AR), Karen Flournoy (USEPA), Joe Piotrowski (USEPA), Bill Melville (USEPA), Rosaura Conde (USEPA), Sylvia Malm (USEPA), Howard Hankin (USDA/NRCS), Wayne Anderson (MN), Dennis McKenna (IL), Dean Lemke (IA), Doug Daigle (LMRSC), Katie Flahive (USEPA), Jacques Oliver (USEPA), Tom Davenport (USEPA)

Purpose of Document:

The purpose of this document is to advance development of comprehensive state-level nutrient reduction strategies. The document 1) provides background on the relationship of state-level nutrient reduction strategies with the Hypoxia Action Plan; 2) identifies drivers and desired benefits for the development of state-level nutrient reduction strategies; 3) discusses state challenges, constraints, and estimated resource needs for strategy development; 4) identifies potential resources for state-level nutrient reduction strategy development; 5) lists components of state-level nutrient reduction strategies that states feel are important; and 6) requests specific actions of the Task Force to support development of comprehensive state-level nutrient reduction strategies.

Background:

After several years of reassessment and planning activities, the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force (Task Force) released its *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* (Hypoxia Action Plan). Action #1 of the Hypoxia Action Plan states "Complete and implement comprehensive nitrogen and phosphorus strategies for states within the Mississippi/Atchafalaya River Basin encompassing watersheds with significant contributions of nitrogen and phosphorus to the surface waters of the Mississippi/Atchafalaya River Basin (MARB), and ultimately to the Gulf of Mexico."

Recognizing the heterogeneity of soils, hydrology, land use, and cropping practices as well as legal, legislative, and administrative framework variances across MARB states, the Task Force recognizes that no single approach to nutrient reduction would be effective in every state. However, a generally common approach and set of key factors will increase the likelihood of advancing toward the coastal goal of the Hypoxia Action Plan. Development of state-level strategies will serve as a guide for state and federal agencies within each state, allow for a more detailed basis for budget development and implementation, and provide a vehicle for coordination with other states in the Basin. Once the state-level strategies are developed and adopted by the broad reach of stakeholders throughout each state, and funding sources are

identified, federal and state agencies and many involved stakeholders can work together to accelerate their efforts to reduce nutrient impacts on local waters and the Gulf.

State-level nutrient reduction strategies should be completed as soon as possible, but no later than 2013. Strategies should use the best available tools to target those watersheds with significant contributions of nitrogen and phosphorus to the surface waters of the MARB and ultimately to the Gulf of Mexico. Implementation of the state-level strategies should be started as soon as practical after completion, but no later than 2013. *(Source: Hypoxia Action Plan 2008)*

The Hypoxia Action Plan, following the recommendation of the U.S. Environmental Protection Agency's (EPA) Science Advisory Board, concludes that significant reductions in nitrogen and phosphorus are needed. To achieve the Coastal Goal for the size of the hypoxic zone and improve water quality in the Basin, a dual nutrient strategy targeting at least an aggregated 45% reduction in riverine total nitrogen and total phosphorus loads (measured against the average load over the 1980-1996 time period) at the outlet of the Gulf may be necessary. States may also have nutrient reduction targets identified in Total Maximum Daily Loads. While this is a daunting task, state nutrient reduction strategies ultimately need to be written to address both of these reduction targets at the appropriate scale. Some states may choose to adopt these reduction targets from the beginning; other states may choose a more graduated approach with the understanding that higher reduction targets will be needed to reach the water quality goals.

In an effort to advance implementation of the Hypoxia Action Plan and become more action oriented in its approach, the Task Force is currently working to develop and support several priority projects/activities. The development of this report and implementation of its requested actions, collectively, is one of these projects/activities. Additional projects/activities currently underway include: development of a new Task Force Charter and Accountability Framework; updating and implementing the Monitoring, Modeling and Research Report; and moving forward the Iowa Drainage Initiative and the U.S. Department of Agriculture's Farmable Wetlands Program. Appropriate outputs from these projects/activities should be considered and leveraged when planning for the development of state-level nutrient reduction strategies. A separate document, *Relationships of Task Force Initiatives/Projects,* will help to identify these.

Drivers and Desired Benefits for the Development of State-level Nutrient Reduction Strategies:

Drivers and desired benefits for the development of state-level nutrient reduction strategies vary among Task Force states and federal agencies; however, drivers and desired benefits that have been most often identified by Task Force members are:

- Protecting vital national resources, including the Mississippi and Ohio Rivers, their tributary watersheds, and the Gulf of Mexico;
- Enhancing existing state efforts and efficiencies to improve in-state water quality through more focused planning and leveraging of resources;
- Public pressure from national, regional, and local stakeholders in the form of petitions, lawsuits and other means for the advancement of nutrient numeric standards, and the desire of Task Force members to avoid court-decreed solutions;

- Developing and providing stakeholders with approaches and tools that will help to achieve nutrient numeric standards, when promulgated by states or EPA and approved by EPA;
- Creation of opportunities for additional resources (new and leveraged among state and federal agencies) that development of the strategies might bring; and
- Local public health benefits, e.g., protecting local drinking water sources.

State Challenges, Constraints, and Resource Needs:

All states are faced with significant and diverse water resource management challenges, such as eutrophication and hypoxia, impaired waters monitoring and assessment, total maximum daily load development, nutrient criteria development, coastal land loss, and other issues. States are being asked to do more with fewer resources. The national economic down-turn has resulted in administrative constraints, such as state hiring freezes and contracting limitations, as states have struggled to meet their obligations. In the midst of these challenges and constraints, the voluntary development of state nutrient reduction strategies at this scale can appear daunting.

All states need resources to support development and implementation of nutrient reduction strategies. The lack of funding and other resource support has been cited by many states as a major impediment to move forward with the development of state-level nutrient reduction strategies. Based upon input from numerous Task Force states, estimated resource needs for state-level strategy development range from $200,000 – $500,000 per state ($415,000 per state average).

Potential Resources for State-level Nutrient Reduction Strategy Development:

A number of existing federal agency programs present opportunities for funding and supporting development of state-level nutrient reduction strategies, however, in some cases there may be geographic and/or programmatic limitations. Table 1 identifies these resources. Also, new resources, currently in the federal budgeting process, are hoped for that could be used to support development of state-level nutrient reduction strategies.

In addition to individual state-level nutrient reduction strategies, support is needed for development of nutrient reduction strategies by key federal agencies. Action #2 of the Hypoxia Action Plan states "Complete and implement comprehensive nitrogen and phosphorus reduction strategies for appropriate basin-wide programs and projects. Target first those programs and projects with significant federal lead or co-implementation responsibilities." Federal Task Force members should work together to develop such strategies, which should include providing the support needed to effectively implement state-level nutrient reduction strategies.

Table 1
Potential Resources for State Nutrient Reduction Strategy Development

Agency	Program	Funding Availability	Key Eligibility Requirements	Contact
US EPA	Water Quality Management Planning – Section 604(b) https://www.cfda.gov/index?s=program&mode=form&tab=step1&id=1cc2291e668544383cf612747f33a869	Money goes directly to the state. Available funding equates to 1% of the state's State Revolving Fund allocation. Funding level FY 2010: $20.682M	Grant funds are used to determine the nature and extent of point and nonpoint source pollution and to develop water quality management plans. States are encouraged to give priority to watershed restoration planning.	Section 604(b) regional coordinators: List included in appendix.
US EPA	Water Pollution Control Program Grants – Section 106 http://www.epa.gov/owm/cwfinance/pollutioncontrol.htm and https://www.cfda.gov/index?s=program&mode=form&tab=step1&id=49a87b2880350572a96c0a1387fa3342	Grants go directly to state water pollution control agency; amount based on formula. Funding level FY 2010: $229.264M	Available to establish and implement ongoing Clean Water Act pollution control programs, including permitting, pollution control activities, monitoring, and enforcement; advice and assistance to local agencies; and the provision of training and public information.	Section 106 national coordinator: Robyn Delehanty 202-564-3880 delhanty.robyn@epa.gov
US EPA	Nonpoint Source Implementation Grants – Section 319 http://cfpub.epa.gov/fedfund/search2.cfm?prog_num=44 and http://www.epa.gov/owow/nps/319/319Guide.htm	Grants go directly to state agency; amount based on formula. Funding level FY 2010: $200.9M	Limited to nonpoint sources of pollution. Focus is on implementation of nonpoint source nutrient management practices/controls. Funding for strategy development should be clearly focused on driving implementation to reduce nutrient pollution.	Section 319 regional coordinators: http://www.epa.gov/owow/nps/reg_nps_coord.pdf
US EPA	Wetlands Program Development Grants – Section 104 http://cfpub.epa.gov/fedfund/search2.cfm?prog_num=65	Competitive Grant Program Funding level FY 2010: $16.53M	Available to states, tribes, local governments, interstate associations, and others to support efforts to protect wetlands by providing funds to enhance existing programs or develop new programs. Priority will be given to funding projects that address the three current priority areas identified by EPA: Developing a comprehensive wetlands monitoring and assessment program; improving the effectiveness of compensatory mitigation; and refining the protection of vulnerable wetlands and aquatic resources.	Section 104 regional coordinator: http://www.epa.gov/owow/wetlands/grantguidelines
USDA	Conservation Innovations Grants (CIG) http://www.nrcs.usda.gov/technical/cig/index.html	Competitive grant program. Applicants must match 50% of the total project cost.	Funding for implementation only. CIG is a voluntary program intended to stimulate the development and adoption of innovative conservation approaches and technologies, while leveraging Federal investment in environmental enhancement and protection, in conjunction with agricultural production. Under CIG, Environmental Quality Incentives Program (EQIP) funds are used to award competitive grants to non-Federal governmental or non-governmental organizations, federally-recognized Tribes, or individuals. Proposed projects must involve EQIP-eligible producers (farmers, ranchers, and owners of private, non-industrial forest land). At least 50 percent of the total cost of the project must come from non-Federal matching funds (cash and in-kind contributions) provided by the grantee. CIG funds are awarded through a nationwide competitive grant process. In addition to the nationwide grants competition, the State component of CIG is available in select states each year.	National and State competitions and contacts: http://www.nrcs.usda.gov/technical/cig/
USDA	Natural Resources Conservation Service (NRCS) http://www.nrcs.usda.gov/programs/cta/	N/A	NRCS collaborates with partners, including state agencies, through the Conservation Technical Assistance program, a voluntary program through which NRCS delivers conservation technical assistance to conserve, maintain, and improve natural resources, including developing and implementing resource management plans.	http://offices.sc.egov.usda.gov/locator/app
USGS	U.S. Geological Survey www.usgs.gov	Varies widely from year to year.	USGS is available for technical assistance, water quality monitoring, and assessments. USGS currently conducts joint-monitoring with several states.	www.usgs.gov
NOAA	Coastal Zone Management Act http://coastalmanagement.noaa.gov/programs/czm.html	Funding only to Gulf of Mexico coastal states.	Projects must coincide with goals of Coastal Zone Management Act. For example, a project that involves planning for restoration wetlands on the coast, which has the effect of reducing nutrient entry to the Gulf would be eligible.	http://coastalmanagement.noaa.gov/programs/czm.html

Essential Components of State-level Nutrient Reduction Strategies:

Generally, states prefer the flexibility of determining their own nutrient reduction strategy approach and components. However, to increase the likelihood of success in achieving the goals of the Hypoxia Action Plan, an aligned approach of MARB states is needed. Based upon input from Task Force states, there is broad, general agreement on many of the strategic components that states feel should be included in a comprehensive state-level nutrient reduction strategy. These are listed below:

- Characterizing Watersheds and Identifying Nutrient Sources and Contributions
- Priority Setting
- Evaluating and Selecting Appropriate Analytical Tools
- Establishing Quantitative Reduction Targets
- Establishing Current Status and Historical Trends
- Examining Current Regulations, Programs, and Policies
- Identifying and Documenting Appropriate Input Management Practices and Technical Assistance Programs (e.g., Input Management, Water Management, Proven and Innovative Nonpoint Source Best Management Practices, Point Source Management)
- Designing and Implementing Effective Monitoring
- Identifying and Creating Economic Incentives and Funding Sources

In addition to the components listed above, many states also consider as important strategic components: establishing a vision, involving and engaging stakeholders, effective education and outreach, tracking and reporting progress, and developing nutrient numeric standards.

As mentioned previously, appropriate outputs from current Task Force priority projects/activities should be considered and leveraged when planning for the development of state-level nutrient reduction strategies. A separate document, *Relationships of Task Force Initiatives/Projects*, has been developed to help identify these.

It is important to recognize that not all states are in agreement over the sequence of strategy development. Some states prefer to begin with establishing spatially-referenced quantitative nutrient reduction targets that would guide development of their state-level strategies. Other states prefer moving ahead with strategy development and implementation using already established TMDL loading targets in a process that would ultimately also establish spatially-referenced quantitative nutrient reduction targets and improve existing and future TMDLs.

Regardless of the approach, development of the strategy components will require intrastate coordination among state and federal agencies and the development of roles and responsibilities of partnering agencies. Implementation of each of these strategy components will have associated costs that will need to be addressed through the creation of new funding and resource leveraging opportunities among state and federal agencies.

States will have the benefit of looking at a number of new resources which can be used to design a nutrient reduction strategy. These include *An Urgent Call to Action: Report of the State-EPA Nutrient Innovations Task Group*, the Chesapeake Bay Program's *Tributary Strategies*, the Gulf of Mexico Alliance's *Coastal Nutrient Reduction Strategy Template*, Mississippi's *Delta*

Nutrient Reduction Strategies and *Summary of State Nutrient Reduction Programs*, and other developing information.

Nutrient Reduction Strategy Development Workshops:

To help states make progress in the development of nutrient reduction strategies, workshops designed for participating states to develop a template that can be implemented at the state level are being planned. A key consideration of the workshops will be for each participating state to include as participants representatives of its environmental/health and agricultural/conservation agencies, as well as key stakeholder organizations in each state. Several workshops are being planned throughout the MARB at locations that will allow optimal participation by states. The first workshop will be held in conjunction with the fall Task Force meeting in Tunica, Mississippi.

Actions Requested of the Task Force:

The following actions are requested from the Task Force:

1. From Task Force states, funding and other support to develop state-level nitrogen and phosphorus reduction strategies as soon as possible;
2. Funding and logistical support for several nutrient reduction strategy development workshops designed for participating states to develop a template that can be implemented at the state level. A key consideration of the workshops will be for each participating state to urge participation by representatives of its environmental/health and agricultural/conservation agencies, as well as key stakeholder organizations. The workshops will be held throughout the MARB to allow participation of all states.
3. From federal Task Force members, implement Action #2 (i.e., complete and implement comprehensive nitrogen and phosphorus reduction strategies for appropriate basin-wide programs and projects). The federal strategies should also support development and implementation of the state-level strategies; and
4. Continued communication and logistical support to promote the exchange of ideas and transfer of technologies among Task Force states during strategy development and implementation.

An affirmative response from the Task Force to the above requested actions would provide the resources needed to develop comprehensive state-level nutrient reduction strategies and create opportunities to fully implement the first two actions of the Hypoxia Action Plan.

Appendix A:

List of EPA 604(b) contacts.

Region	Contact	Phone Number	Email
1	Johanna Hunter	617-918-104	hunter.johanna@epa.gov
2	Jane Leu	212-637-3815	leu.jane@epa.gov
3	Patricia Iraci	215-814-5727	iraci.patricia@epa.gov
4	Ed Springer	404-562-8410	springer.ed@epa.gov
5	Tom Cook	312-886-7182	cook.tom@epa.gov
6	Teresita Mendiola	214-665-7144	mendiola.teresita@epa.gov
7	Regina Kidwell	913-551-7332	kidwell.regina@epa.gov
8	Cynthia Gonzales	303-312-6569	gonzales.cynthia@epa.gov
9	Jared Vollmer	415-972-3447	vollmer.jared@epa.gov
10	Janette Rau	206-553-0483	rau.janette@epa.gov