



MOBILE BAY NATIONAL ESTUARY PROGRAM

October 31, 2012

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Dear Sirs:

I am writing to provide comments regarding the report, *Water Management Issues in Alabama*, submitted to Governor Robert Bentley. The Mobile Bay National Estuary Program (MBNEP) applauds the Alabama Water Agencies Working Group efforts to undertake the arduous task of developing a statewide water management plan. As MBNEP undertakes the re-writing of the Comprehensive Conservation Management Plan (CCMP) for Coastal Alabama, the findings in this report will be incorporated into the recommendations of this five year strategy to protect and restore the critical ecosystem services provided by the Mobile Bay estuary.

MBNEP's mission is to promote the wise stewardship of water quality and living resources of the Mobile Bay estuary and Mobile-Tensaw Delta. Its purpose is to catalyze actions of estuary stakeholders, build community-based organizational capacity for sound resource management, and leverage commitment and investment in ensuring the estuary's sustainability. MBNEP's objectives are to 1) engage estuary stakeholders in the development and implementation of a CCMP that is based on sound science; 2) expand resources and involvement in the implementation of this CCMP; and 3) educate residents; visitors; lawmakers; local, State, and Federal government agencies; businesses and industries; conservation and environmental organizations; and academic institutions about how to best protect this nationally significant ecological, economic, and cultural resource to ensure its protection and conservation for our lifetime and beyond.

MBNEP receives a significant portion of its funding from the U. S. EPA to work in the Mobile Bay estuary, one of 28 "nationally significant" estuaries in the United States. The program is non-regulatory but rather brings parties interested in protecting our coastal assets together to take an active role in ensuring that community growth does not degrade critical ecological function.

The comments that follow are based on this premise. The Mobile Bay estuary provides the nursery area that supports the abundant fishery resources of this great State.

Everyone deserves the opportunity to experience the beauty and bounty of Alabama's estuaries - the

rivers, creeks, bays, and bayous; abounding diversity of fish and wildlife, productive wetlands; and forests, dunes, and beaches. The estuary thrives on an optimum mix of freshwater from upstream sources and salt water from the Gulf of Mexico. Any statewide plan must ensure maintenance of sufficient freshwater input to sustain the unique brackish conditions, water quality and chemistry necessary to support the exceptional diversity of plants and animals that underlies our coastal quality of life and drives the State's economy.

Monitoring Status and Trends

MBNEP supports the report recommendations that a comprehensive plan must be supported by sound science. That sound science should include initial assessments of the State's water resources to understand where the resources are, how they are used, and what types of water demands exist (and are forecasted). In assessing watersheds in the coastal basin, we have developed a protocol that consists of initial assessment, typically undertaken by the Geological Survey of Alabama (GSA) in partnership with Alabama Department of Conservation and Natural Resources (ADCNR), followed by the development of a comprehensive watershed management planning process that engages, in addition to the above, the Alabama Department of Environmental Management, cities, counties, and other key stakeholders. These plans address issues including but not limited to:

- Improvements to water quality by reducing nonpoint source pollution (including stormwater runoff and associated trash, nutrients, pathogens, erosion, and sedimentation);
- Reductions of outgoing pollutant loads into Mobile Bay;
- Remediation and restoration of natural ecosystem functions;
- Reduction of impacts, introductions, and incidences of invasive species;
- Recommendations/prioritizations for habitat restoration (within strategies for implementation)
- Provision of opportunities for increased public access, recreation, and ecotourism;
- Equitable distribution of environmental burdens and assets throughout the watershed;
- Identification of vulnerabilities in the watershed from increased sea level rise, storm surge and precipitation events due to climate change; and
- Identification of opportunities to mitigate future impacts of development in the watershed, where feasible.

This planning process would be well served by improvements in data from monitoring water flows and levels on a long term and seasonal basis; consistent monitoring of land use changes; and forecasts of impacts from future development or other predicted water use activities. Data acquired will strengthen the output of models developed to project impacts of these activities on the State's water resources. A current effort that may be of value as the working group moves forward is the Healthy Watersheds Initiative (HWI) being undertaken by EPA headquarters in partnership MBNEP, ADEM, ADCNR, GSA, and a host of other stakeholders. This project, which is currently in progress, consists of gathering all datasets that can be used to evaluate the condition of watersheds throughout the State as well as those located in Mississippi and Georgia that are part of the Mobile Bay Watershed. The team will develop indicators of biological condition, and each watershed will be "graded" to determine level of health. This project should be completed and available for use by the end of May, 2013. The HWI can contribute to the comprehensive database of Alabama's water resources among other uses.

MBNEP can leverage its resources to assist with conducting monitoring and assessment throughout the coastal area and will continue to work through established partnerships to support the watershed management planning process developed. We welcome the opportunity to expand those partnerships and maximize our leveraging capacity.

Ecosystem Restoration

As stated in the report, maintaining and protecting the integrity and health of natural stream channels, flood plains, riparian zones, ground water and aquifers, and aquatic biological resources is essential to a sustainable water resource future and is fundamental to any statewide water management plan. However, cumulative impacts of hydrologic modifications have altered stream channel characteristics.

Unfortunately, best management practices were not required for construction activities until the early 1990's, and sediment fencing to manage post-construction runoff was not required until recently.

One aspect of our CCMP planning included an evaluation by a group of thirty scientists representing a diversity of disciplines on the levels of impact of a suite of stressors that includes chemical contamination, dredging and filling, fire suppression, habitat fragmentation, invasive species, nutrient enrichment, pathogens, sea level rise, climate variability, freshwater discharge, and resource extraction on ecosystems services provided by a variety of coastal habitats. From this work it was determined that **freshwater wetlands; intertidal marshes and flats; and streams, rivers and riparian buffers were under significant stress from factors primarily related to land use change.** The ecosystem services provided by these habitats include nesting areas for birds and turtles, biodiversity, wildlife and fisheries habitats, and enhancements to water quality.

Land use and land cover change over the past 30-40 years has resulted in degraded freshwater wetlands, rivers, streams, and riparian buffers, and even intertidal marshes and flats. Restoration of these habitats will be necessary to re-establish natural hydrology to support biological conditions for fish and wildlife. Ecosystem restoration is not currently one of the basic steps or identified components of a statewide water management plan. Consideration of including a specific component on ecosystem restoration is suggested

Building functional capacity

MBNEP has had the opportunity to work with many State agencies and encourages agency cooperation and coordination of activities. Most recently, the collaborative efforts of GSA, ADCNR, ADEM, and ALDOT have resulted in the development and now implementation of a watershed management plan that includes the restoration of an impaired water body in the D'Olive watershed. The goal of this project is to remove this stream segment from the State's 303(d) list of impaired waters. Without the cooperation of these State agencies, this herculean effort would not be happening. We applaud the report recommendations that agency cooperation, coordination of efforts, and sharing of best practices is imperative to effectively manage Alabama's water resources.

Building functional capacity goes beyond cooperation among State agencies. Watersheds do not follow geopolitical boundaries and, as such, promoting a regional approach to watershed management is key to establishing consistency among cities, counties and the State. Implementation of the D'Olive Watershed Management Plan included the development of an intergovernmental task force to coordinate regulations and develop consistent standards for future development at a watershed scale. The working group should consider this structure as a possible jumping-off point for establishing a regional management mechanism.

Building legislative capacity

An analysis of the existing water resource regulatory framework with a goal of identifying areas to strengthen, clarify and streamline water policies will provide all interested parties with clear standards and expectations for protecting Alabama's water resources into perpetuity. The development of water policies that provide a legal basis for State management of Alabama should be developed only to the extent that any new regulations or streamlining there of be coupled with a long term commitment to timely enforcement. During over a year of seeking citizen input on coastal concerns, a repetitive

comment made was that regulations need to be streamlined/reduced so that the resources for enforcement aren't spread so thin.

Changing People's Perspectives- Education, Outreach, Involvement

Engaging citizens in protecting and preserving Alabama's water resources at the local level is key to effective implementation of a statewide water policy. In addition to an effective outreach and education campaign, the working group should consider employing social marketing techniques to effect behavior change on individual scale. The focus of social marketing is on achieving specific behavioral goals with specific audiences in relation to different topics relevant to social good, i.e. water quality and quantity. "A social change campaign is an organized effort conducted by one group (the change agent) which attempts to persuade others (the target adopters) to accept, modify, or abandon certain ideas, attitudes, practices or behavior." (http://en.wikipedia.org/wiki/Social_marketing). In addition, a sustained program of educating elected officials on water resource issues, including best practices for water resource management will be a necessary component of any education strategy.

Promoting new technologies

Ideally, an Alabama statewide water management plan would optimize water use and reuse, and support aquifer recharge while sustaining critical ecosystem functions. In fact, there is quite a bit of research being undertaken to create new technologies for achieving all of the above. A component in the statewide plan should encourage, even incentivize, the development and use of new technologies, and specifically green technologies to improve water resource management.

The Mobile Bay watershed covers an area of 43,600 square miles including portions of Mississippi, Georgia and Tennessee. It is the 4th largest drainage basin by volume on the North American Continent discharging 62,000 cubic feet per second into Mobile Bay. Land and water use decisions made as far away as Birmingham and even Atlanta can have water quality and quantity impacts on Mobile Bay, its surrounding estuary and the Gulf.

At the Southern Terminus to this watershed is the second largest intact river delta system in North America and includes at least 337 species of fish, 126 different amphibians and reptiles, 370 species of birds and 49 varieties of mammals including about 520,000 humans. At the bottom of this large funnel, are our two coastal counties- laced with waterways, surrounding Mobile Bay, boasting beautiful beaches, natural resource treasures that are economic and ecological engines that drive a significant part of our state's economy. Mobile Bay is also home to the Alabama State Port Authority, an agency that contributes over \$10 billion in revenues to the State of Alabama. The challenge of any statewide water management plan will be striking the right balance between supporting activities that generate tax revenue for the State, protecting the natural resources that provide unparalleled quality of life for both Alabama residents as well as visitors, and conserving the link between our heritage and the legacy that we will leave for generations to come.

MBNEP wholeheartedly supports the establishment of an Alabama statewide water management plan and looks forward to continuing and expanding partnerships with State agencies and others to implement the recommendations in the plan. If I can be of any assistance as the working group takes its next steps, please do not hesitate to contact me at rswann@mobilebaynep.com or 251.431.6409. Thank you for the opportunity to submit these comments.

Sincerest Regards,



Roberta Arena Swann
Director