ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

WETLAND PROGRAM PLAN

08/28/2011

ENHANCING STATE AND TRIBAL PROGRAMS

Alabama's Wetland Monitoring Program Plan: 2011-2015

In 2006, EPA developed the *Elements of a State Water Monitoring and Assessment Program* (EPA-841-B-03) to help States plan and implement a comprehensive water quality monitoring and assessment program to protect and restore water quality of all waters of the State as described in the Clean Water Act [CWA]. The *Elements* document requires that each state develop a wetland monitoring program by 2014, and serves as a guideline to ensure that a State's Wetland Monitoring and Assessment Program not only meets the needs of the State's Monitoring Objective but also those required by the CWA Section 106(e)(1).

In 2011, ADEM will begin sampling wetland systems statewide as part of EPA's National Wetlands Conditional Assessment Survey (NWCA), and Piedmont and Coastal Plain wetland systems beginning in 2012 as part the Southeast Wetlands Monitoring Intensification Survey, a 2-year multi-state project. ADEM will analyze the protocols and data obtained during these surveys to develop a comprehensive wetland monitoring program that can be incorporated in Alabama's current Water Quality Monitoring Strategy.

The current proposal is aimed towards developing a 5-year Wetlands Monitoring Strategy that can be included in Alabama's overall 2010-2014 surface water monitoring strategy. Based on EPA's 2008 "Core Elements of an Effective State or Tribal Wetland Program Framework" ("Core Elements Framework") document, the activities outlined in this proposal are structured to develop a Wetlands Monitoring Program (WMP) that will meet ADEM's current and future monitoring needs in the 2015-2019 Monitoring Strategy, including monitoring and assessing Category 2B and 4A wetlands, wetland restoration projects, mitigated wetlands, and protected wetland areas. A workgroup will be established to ensure full participation of each of the programs in the development of the WMP. Program needs and progress towards program goals and objectives will be communicated to EPA annually via conference call.

Year One (2011):

Goals and Objectives: Develop a WMP workgroup and identify program partners. Identify and document the objectives of Alabama's long term wetlands monitoring program. Identify the data needed to achieve these goals and objectives for all wetlands statewide. Determine the objectives, methods, and indicators for the first 5-yr Wetland Monitoring Strategy Design to include in Alabama's overall Surface Water Monitoring Strategy.

Activities

1.) Establish a WMP Workgroup to establish long term wetland monitoring objectives to satisfy program needs and incorporate the elements of the "Core Element Framework".

2.) Gather and compile existing wetland inventory maps and location information such as: watershed, ecoregion size, landuse, and wetland types from available resources to categorize wetlands of the state.

3.) Research and develop a wetland delineation/determination method for wetland identification and verification, review methods used during the 2011 NWCA Survey and the multi-state Piedmont and Coastal Wetland Assessment Study to select the best indicators and sampling methods to meet ADEM's monitoring objectives as described in the 2011-2015 Surface Water Monitoring Strategy.

4.) Integrate the 5-yr WMP into Alabama's 2010-2014 Surface Water Monitoring Strategy. It will include a process for revising the WMP annually, based in part on data needs of and input from program partners.

5.) Report progress updates and program design modification to EPA for comments.

Year Two (2012):

Goals and Objectives: Complete an updated, accurate wetland inventory for the State of Alabama. Research and develop core and supplemental indicators to assess the condition and function of the wetlands to establish and compare "quality standards" and potential stressors that may impact wetland quality for long term monitoring and assessment to protect and restore water quality as described in the CWA as well as ADEM's Monitoring Strategy Objectives.

Activities

1.) Train field staff to delineate/determine wetlands for identification and categorizing wetland types based on vegetation, hydrology, and hydric soil indicators and begin recons of wetlands identified in existing wetland inventory.

2.) Research and adopt a list of indicators and stressors to measure wetland condition and function that are best suited to reach ADEM's monitoring objectives.

3.) Compile wetland inventory data collected and verified into an Arcview GIS program to create an accurate and updated wetland inventory for the State of Alabama to include level 1 assessment of the watershed indicators such as landuse information, population density, and potential disturbances.

4.) Train staff in Arcview and GIS Mapping programs for the interpretation of wetland inventory data, evaluation of potential stressors within the watershed to monitor and protect water quality standards, and provide conditional information to be used in future project planning as well as and reporting condition to public.

5.) Research and develop field methods and parameters to collect biological and water quality samples for further analysis to provide a measurement for evaluating water quality of wetland.

6.) Report progress updates and program design modification to EPA for comments.

Years Three (2013) and Four (2014):

Goals and Objectives: Research and develop a Quality Assurance Plan to be approved by EPA that ensures the validity and accuracy of data gathered. Research and develop a monitoring design to meet the State of Alabama's Monitoring and Assessment goals and objectives. Process data collected using selected methodologies and indicators to determine the effectiveness of the strategy in meeting ADEM's monitoring objectives. Test the ability of ADEM's surface water database (ALAWADR) to manage all WMP data and to identify gaps that need to be addressed.

Activities:

1.) Develop and revise existing SOPs, QAPPs, etc. as needed, based on data analysis and workgroup input, to incorporate wetlands monitoring and assessment into state's current monitoring plans.

2.) Develop a design that relies on a combination of stratified random sampling (probabilistic sampling along a gradient of wetland watershed conditions) and targeted sampling to support specific management decisions and needs. This approach mirrors ADEM's current Monitoring Strategy.

3.) Test ability of ALAWADR to manage all data used to identify, delineate, and classify wetlands, as well as all data and information collected as part of the WMP.

4.) Analyze and process wetlands data collected to establish baseline for reference conditions based on wetland types for future sampling activities and comparison of similar wetland types to determine and characterize wetland quality to protect and restore wetlands water quality.

5.) Report progress updates and program design modification to EPA for comments.

Year Five (2015):

Goals and Objectives: Evaluate monitoring program. Modify the wetlands monitoring strategy as needed to better meet the goals and objectives for the State of Alabama and to allow the future incorporation of other elements outlined in the "Core Elements Framework" into the Wetland Monitoring Program as needed. Research and modify SOPs and QAPPs to ensure the validity and accuracy of data gathered after any changes in strategy. Implement necessary changes to ALAWADR to manage all WMP data. Migrate WMP data into ALAWADR.

Activities:

1.) Develop a schedule to re-evaluate the monitoring program.

2.) Continue to research other wetlands program elements for future development.

3.) Update documents as needed to reflect changes in the program i.e., SOPs, QAPPs, and reporting documents.

4.) Identify and prioritize wetlands selected for monitoring to capture wetland quality over a variety of wetland conditions and functions such as protected and least-impacted wetlands to establish background or reference conditions statewide, restored or mitigated wetlands to document project effectiveness, and Category 2B and 4A wetlands as well as other wetlands as requested to meet the needs of other programs to document current water quality conditions.

5.) Revise ALAWADR as needed to manage all WMP data.

6.) Migrate 2011-2014 WMP data into ALAWADR.

7.) Provide a final Wetland Program Development summary to EPA.

8.) Update WMP Strategy based on program evaluation.