

## Expected Watershed Plan Components

A Comprehensive Watershed Management Plan (WMP) based on the best available science is considered an essential first step in restoring, protecting and conserving the watersheds that drain into Mobile Bay, Mississippi Sound and the Gulf of Mexico. A WMP is necessary to document existing environmental challenges and provide a vision and strategy for engaging city, county, state and federal agencies and our congressional delegation in improving how environmental resources are managed.

A WMP will definitively identify and categorize water quality issues and problems, identify climate change vulnerabilities, reasonably ascertain the magnitude of restoration and adaptation potential, identify human and financial capital needed to implement BMPs and engineering or other actions, institute reasonable implementation timelines, and document and measure success.

### **All WMPs developed under contract with the MBNEP must conform to the U.S. EPA's nine elements of watershed planning:**

1. Build Partnerships, including identification of key stakeholders and solicitation of community input and concerns
2. Characterize the watershed, including creation of a natural and cultural resource inventory, identification of causes and sources of impairments, identification of data gaps and estimation of pollutant loads (1)
3. Set Goals and Identify Solutions including determination of pollutant reduction loads needed and management measures to achieve goals (2-3)
4. Design Implementation Program including implementation schedule, interim milestones, criteria to measure progress, monitoring component, information/education program, and identification of technical and financial assistance needed to implement plan (4-9)

For more information: ([http://water.epa.gov/polwaste/nps/upload/watershed\\_mgmnt\\_quick\\_guide.pdf](http://water.epa.gov/polwaste/nps/upload/watershed_mgmnt_quick_guide.pdf))

### **Contents of the Document to be Produced**

The WMPs produced under contract with the MBNEP will include the following components:

#### **1. Literature/Data Review**

The plan will include a literature and data review of available monitoring, scientific, and planning information for the specified watershed. This review shall include but not be limited to relevant court cases; federal, state or local planning documents; scientific studies and publications; and other documents that may contain information relevant to calculating and gaining understanding of streambed sediment loading, stream flows, water use/restrictions, etc. for the watershed and its tributaries will be conducted. Sources may include but not be limited to the following:

- Source Water Assessments
- County and Municipal Stormwater Management Plans
- Other Federal, State or local Resource Management Plans
- Comprehensive Plans
- Facility Plans
- Wetland Assessments
- Wildlife Management Plans
- Aquatic GAP analyses

## 2. Data Gathering, Inventory, Characterization

Although many different components may be included in a watershed plan, EPA has identified nine key elements that are critical for addressing non-point source reductions and management. Data gathered and inventoried should include at a minimum:

- GSA Sediment loading analyses
- ADEM reports and other monitoring data
- USGS reports and other monitoring data
- Fisheries data
- Land use change data
- Sea level rise and storm surge data
- Other

Watershed plans produced under contract by the MBNEP will address at a minimum EPA elements “a” and “b” in the characterization of the watershed-

- a. **Identification of causes of impairment and pollutant sources** or groups of similar sources that need to be controlled to achieve needed load reductions, and any other goals identified in the watershed plan. Sources that need to be controlled should be identified at the significant subcategory level along with estimates of the extent to which they are present in the watershed
- b. **An estimate of the load reductions** expected from management measures

To the extent possible, the watershed plan will incorporate information related to climate change impacts determined by the following documented activities:

- A process-based model for the watershed that incorporates hydrodynamic feedbacks between surface water, land surface, soil, and groundwater zones to assess the sensitivity of the hydrological and water quality response to future climate conditions.
- At least three different climate change scenarios to assess impacts of, but not limited to, salt water intrusion, inundation of wetlands, water availability and quality, changes in habitat and species distribution, and increased storms on the watershed.
- A NatureServe Climate Change Vulnerability Index to identify plant and animal species within the watershed that are particularly vulnerable to the effects of climate change.
- A vulnerability assessment of climate change and sea level rise impacts on critical infrastructure and underserved communities.

## 3. Demographic Profile

Watershed plans will include a demographic profile of the watershed to characterize the people of the watershed. Data included in this section will include but not be limited to socioeconomic characteristics of a population expressed statistically, such as age, sex, education level, income level, marital status, occupation, religion, birth rate, death rate, average size of a family, average age at marriage, other.

## 4. Community Participation and Stakeholder Engagement

Watershed plans will contain a section describing efforts undertaken to capture the diversity of public opinions related to the scientific and sociological issues involved with watershed management, including a description of measures taken to ensure consistent, factual information is presented to all citizens. Activities used to gather community input throughout the planning process and for working with key stakeholders, including MBNEP committees will be documented. This section will document how input was gathered from the community related to watershed concerns and potential opportunities for achieving the vision of the plan; and how that input is incorporated into the planning and implementation process; how communications were managed with stakeholders and the community during the planning process, including number of public meetings anticipated and at what points in the process and frequency and usage of other media.

## **5. Management Alternatives and Restoration Opportunities**

Watershed plans will document historical and recent scientific research data and information used to inform management alternatives recommended to achieve load reduction goals and objectives of the WMP. An evaluation of these alternatives will be provided with recommendations/prioritizations for best courses of action. The WMP will not include specific engineering design specifications. However, it will provide detail, maps, sketches, and information sufficient for stakeholders to conceptualize potential engineering needs (hydrological modification, retention structures, stream restoration, etc.); address political issues (land disturbance ordinances, jurisdictional boundaries and cooperation, and environmental justice); direct land use planning (zoning actions/changes, establishment of buffer zones, easements, coastal zone enforcement/regulations, watershed management, etc.), and base overall watershed management decisions. The plan will include a list of restoration priorities with the following information:

- Where: Location
- What: Size (acres, linear feet)
- Why: Purpose of restoration; linkage to fisheries or other impacted resources of the Deepwater Horizon spill
- How much: Gross order of magnitude cost
- When: Recommended priority order of projects
- Who: Identification of possible implementing entities

## **6. Examination of the Regulatory Framework**

A thorough review of applicable federal, state, and local rules, regulations, laws, statutes, and ordinances addressing erosion, sediment containment, storm water management, stream restoration, nonpoint source pollution, etc., shall be conducted and cited in the watershed plan. Authorities and responsibilities granted to local, state, and federal entities to address water quality issues, including nutrient and pathogen control and storm water runoff will be discussed in the plan. If an enforcement or mitigation role or responsibility can be attributed to a particular resource agency under an existing authority, the agency/action will be identified or described.

## **7. Implementation Program and Financing Alternatives**

Detailed and specific timelines, responsibilities and resource needs will assure management measures are effectively, efficiently, opportunistically and expeditiously implemented in order to achieve short and long-term water quality, habitat and cultural protection goals and objectives. The WMP will be used as a definitive reference or “needs” document to secure political interest and human and financial capital to implement recommended actions. An implementation plan for the next three years, including financing mechanisms that provide a stable funding source for the management and restoration of the watershed will be included in the plan. For the purposes of developing management measures, the WMP shall address EPA elements “d”, “f”, “g”, “h”, and “i”.

The Implementation Plan will include but not be limited to the following:

- Description of the major issues negatively impacting the watershed, its water quality and fishery habitats;
- Identification of areas under most and least stress throughout the watershed;
- Recommendations of restoration projects with maps, outlining estimated linear feet or acreage restored, pollution reduction estimates, time sensitivities, complexities due to multiple property owners, descriptions of proposed traditional/innovative best management practices (BMPs) or other engineered solutions, and expectations of effectiveness, longevity and maintenance requirements of those practices that may be required.
- Recommendations of actions/projects to improve community resiliency to SLR and changing climates
- Rough order of magnitude cost estimates including: planning design/activities, real estate/ right-of-way acquisition, construction, outreach, other)
- Regulatory changes necessary to ensure sustainability of restoration into perpetuity
- Project Financing Options/Resource Development including but not limited to feasibility of creating public-private partnerships, private sector sponsorship, issuing bonds or tax-based financing, use of state revolving funds
- Identification of potential partners for implementation, including public, private and non-profit entities.

- Strategy for engaging federal, state and local agencies; private sector; and citizens in watershed plan implementation, including any training that may be required
- Recommendations for distributing plan once published

### **8. Monitoring and Evaluation**

Watershed management programs require a broad and effective monitoring and evaluation system to track performance against objectives and provide information to help managers at all levels with implementation. The watershed plan will include a strategy for monitoring the effectiveness of the actions recommended in achieving estimated load reductions and evaluating the success of achieving other outcomes identified in the plan.