

Implementation of Recommended Management Measures

Recommended management measures for each critical issue confronting the three watersheds listed above are presented below. Management measures are separated into two categories: 1) those that can be accomplished in the short term (implemented within 0 to 2 years), and 2) those that will take longer to accomplish (implemented over 2+ years). **Table ES-1** summarizes which management measures apply to each watershed. The table includes a rough-order-of-magnitude cost estimate to implement each measure.



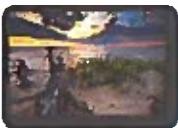

TABLE ES-1: MANAGEMENT MEASURES BY WATERSHED			
Management Measure	Brief Description	Cost	Proposed Implementation Schedule—Short Term and Long Term
 <p>Public education and outreach (Bon Secour River, Oyster Bay, and Skunk Bayou watersheds)</p>	<p>This management measure will build upon the momentum generated during the WMP development process. This measure is to <i>Develop and Execute a Communications Plan</i> and to <i>Host and Participate in Educational and Outreach Events</i></p>	\$20,000 per year	<p>Short-term Objective: Initiate immediately and continue throughout implementation of the WMP.</p>
 <p>Litter reduction (Bon Secour River, Oyster Bay, and Skunk Bayou watersheds)</p>	<p>This management measure is intended to reduce the volume of litter generated within the three watersheds. This project involves the implementation of <i>Signage, Litter Traps, Maintaining Good Housekeeping Practices, and Education and Outreach.</i></p>	\$510,000 to \$960,000	<p>Short-term Objective: Initiate immediately and continue throughout implementation of the WMP.</p>
 <p>Increase conservation easements and protected habitat (Bon Secour River, Oyster Bay, and Skunk Bayou watersheds)</p>	<p>The purpose of this management measure is to preserve land to reduce the impact of future development. Five recommended parcels include <i>Bon Secour and Oyster Bay Wetland Acquisition Projects, Little Point Clear Unit, Benton Tract, and Little Point.</i> Another purpose of this measure is to assess and prioritize additional target areas for preservation.</p>	\$14 million to \$20 million	<p>Short-term Objective: Initiate action immediately. Purchase parcels recommended for preservation and continue prioritizing other preservation opportunities.</p>
 <p>Install living shorelines (Bon Secour River, Oyster Bay, and Skunk Bayou watersheds)</p>	<p>This intent of this management measure is to protect shorelines from erosion by employing natural bank stabilization. This measure will be implemented using the <i>Living Shoreline</i> technique on prioritized unprotected shorelines.</p>	\$250 per linear foot of shoreline	<p>Short-term Objective: Initiate immediately and continue throughout implementation period of WMP.</p>

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Management Measure	Brief Description	Cost	Proposed Implementation Schedule—Short Term and Long Term
 <p>Increase vegetative buffers (Bon Secour River, Oyster Bay, and Skunk Bayou watersheds)</p>	<p>This management measure involves implementing vegetative buffers along the riparian corridor of disrupted streams. This measure is intended to <i>restore and protect the riparian corridors of prioritized streams.</i></p>	<p>\$13,000 to \$30,000 per acre</p>	<p>Short-term Objective: Initiate immediately and continue throughout implementation period of WMP.</p>
 <p>Implement invasive species treatment and monitoring (Bon Secour River, Oyster Bay, and Skunk Bayou watersheds)</p>	<p>The purpose of this management measure is to control invasive species in all three watersheds. The measure involves frequent implementation of controls to <i>eradicate invasive species in prioritized areas.</i></p>	<p>\$100 to \$300 per acre treated</p>	<p>Short-term Objective: Initiate immediately and continue throughout implementation period of WMP.</p>
 <p>Protect continued use of biological resources to preserve culture, heritage, and knowledge of the watersheds (Bon Secour and Oyster Bay watersheds)</p>	<p>This measure aims at preserving the cultural heritage of the watersheds and recognize the contribution of the biological resources that helped build this region. This includes recording oral histories of individuals who have lived in the watershed for decades and have memories of how resources within the watershed have been and continue to be used.</p>	<p>\$25,000</p>	<p>Short-term Objective: Initiate immediately and continue throughout implementation period of WMP.</p>
 <p>Implement water quality monitoring—ongoing project (Bon Secour River and Skunk Bayou watersheds)</p>	<p>This management measure is intended to implement ongoing water quality monitoring in the Bon Secour River and Skunk Bayou Watersheds. <i>Defining an implementation program</i> to manage defined impairments and pollutant sources.</p>	<p>TBD, based on program requirements</p>	<p>Short-term Objective: Initiate project immediately; have local citizens involved in the water quality monitoring effort</p>
 <p>Initiate and implement the Alabama-Mississippi Clean Marina Program (AMCMP) (Bon Secour and Oyster Bay watersheds)</p>	<p>This management measure is intended to encourage marinas in the Bon Secour River and Oyster Bay watersheds to participate in the AMCMP, which is designed to promote environmentally responsible and sustainable marina and boating practices with the goal of reducing nonpoint source pollution.</p>	<p>TBD, based on program requirements</p>	<p>Short-term Objective: Initiate immediately and encourage continued participation throughout implementation period of WMP.</p>

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Management Measure	Brief Description	Cost	Proposed Implementation Schedule—Short Term and Long Term
 <p>Install regional stormwater management facilities (Bon Secour River Watershed)</p>	<p>The purpose of this management measure is to reduce stormwater runoff and contamination in Bon Secour River Watershed. This project involves the installation of <i>wetland detention pond facilities</i> in the Bon Secour River Watershed.</p>	<p>\$9.4 million to \$12.5 million</p>	<p>Long-term Objective: Initiate project within 2 years of adopting the WMP.</p>
 <p>Implement Stream Restoration Projects (Bon Secour River Watershed)</p>	<p>The intent of this management measure is to restore degraded streams which interrupt valuable ecosystem services in the Bon Secour River watershed. This project involves <i>prioritizing stream lengths for restoration and implementing restoration techniques</i>.</p>	<p>\$100,000 to \$400,000 per stream mile</p>	<p>Long-term Objective: Initiate project within 2 years of adopting the WMP.</p>
 <p>Conduct studies to determine the effects of expanding impervious cover on groundwater recharge (Bon Secour River Watershed)</p>	<p>The purpose of this management measure is to collect watershed-specific groundwater data which can be correlated with streamflow data to determine the effects of expanding impervious cover due on water resources.</p>	<p>TBD, based on program requirements</p>	<p>TBD, based on program requirements</p>

Watershed Management Plan Implementation Strategy

Successfully addressing the critical issues and areas identified in this WMP will require an entity who will champion watershed management, building on the momentum generated while developing the WMP. Since many of the critical issues extend beyond political and jurisdictional boundaries and will need the cooperation of landowners and the general public, the initial implementation strategy includes establishing a Watershed Management Task Force (WMTF). The primary responsibility of the WMTF will be overseeing implementation of the management measures, many simultaneously, and providing a platform for coordination on matters that affect local water quality conditions and natural and recreational resources.

Feedback gained through the stakeholder and public outreach efforts associated with this WMP stressed the need for short-term wins or tangible successes promptly following WMP adoption to gain the confidence of the stakeholders and build on the momentum generated through WMP development. Parallel with this need to capture early successes is the need to foster and harness interest in environmental stewardship of the watersheds. With these considerations in mind, management measures were grouped into two phases. Short-term management

measures were chosen based on their likelihood of successful implementation within the next 2 years. However, not all of the critical issues identified within this WMP can be addressed within 2 years of WMP implementation. For example, stormwater management within the watersheds will require coordination with private landowners and securing funding to implement actions that will have the greatest economic value. Thus, several of the recommended management measures have been put into a long-term phase of WMP implementation.

On a routine basis (e.g., annually), the WMTF should assess progress toward meeting WMP goals and objectives for each of the three watersheds (see Chapter 1). Results of performance monitoring as discussed in Chapter 11 should be used to assess whether specific management measures are addressing the critical issues and areas they were designed to address or whether adjustments need to be made.

Funding

Various federal, state, and local funding mechanisms are available for use in implementing the WMP as presented in Chapter 10. Simultaneously leveraging multiple funding opportunities will maximize WMP success. Identifying and securing required funding will be one of the primary responsibilities of the WMTF.

Monitoring and Adaptive Management

Monitoring is an essential component to the success of this WMP. Routine monitoring of the three watersheds will allow the WMTF to track progress over time to assess the effectiveness of implemented management measures and determine whether changes or additional actions are needed to achieve the goals and objectives of the WMP. Data collected during the monitoring phase will help establish baseline conditions for future assessments and identify new watershed issues that may not currently be known or may arise in the future. Compared to other watersheds in the region, relatively little data exist for the Bon Secour River, Oyster Bay, and Skunk Bayou watersheds, making a full assessment of current watershed conditions or comparison to historical conditions more challenging.

Citizen participation through volunteering is a key element of the Watershed Monitoring and Sampling Plan. Community members will be encouraged to play an active role in watershed management by volunteering to collect data as members of field sampling teams and participating in public outreach events such as the annual Alabama Coastal Cleanup. Citizen participation in watershed monitoring and sampling will not only enable successful implementation but also will establish a sense of community ownership in the watersheds.

Adaptive management will be implemented to maximize the effectiveness and efficiency of implemented management measures and consist of an annual review of progress reports for each watershed and comparison of watershed conditions against goals and objectives identified in this WMP. This review and comparison will allow decision makers to evaluate the success of implemented management measures and recommend changes or additional management measures needed to achieve stated goals and objectives. Adaptive management will ensure that implementation strategies are constantly being evaluated and updated based on the best available science and adjusted according to changing watershed conditions. Adaptive management will also ensure that staff time and funding resources are used in the most efficient way possible to produce measureable results.