

***Goals of 2004 AMRAT:*** *To provide a “snapshot” assessment of any invasive species present in Mississippi Sound and adjacent estuarine waters, and to determine the degree and extent of presence and establishment of any invasive species documented. The rapid assessment approach is designed to function as an indicator for further research or immediate management decisions.*

**Botanical components of AMRAT:** Both indigenous and nonindigenous plants and macroalgae will be documented at selected sites in marine and estuarine areas of Mississippi Sound. The field survey component of the rapid assessment will use three replicate samples from each site, with species identified to the lowest taxonomic level and recorded as either absent or present, along with an index of abundance (rare, common, abundant or dominant). Any unknown taxa will be collected for later identification by plant experts. Samples of abundant species may also be collected for future use in identification/verification if there are questions regarding taxonomy, or if the species is believed to be under-represented in existing plant collections (i.e., herbaria).

Targeted sampling locations consist of locations where the potential for introduction of invasive species is high; examples would be port areas, high boat traffic areas, sites with potential for contamination or introduction of species through ballast water releases, and mouths of bayous and rivers or embayments (species introductions via surface waters). Areas of concern that may also be a focus for sampling are wildlife management areas where invasive species could potentially become a major problem if not detected. The Alabama sampling event (September 2003) included roughly 50 plant sampling stations:

(1) phytoplankton samples from the waters around two offshore oil rigs and the Mobile Bay Light, collected in duplicate; samples consisted of 10 liters of surface water passed through a 10 micron mesh plankton net, which were checked in the laboratory for presence or absence of harmful algae;

(2) shorelines from just north of I-10 (tidal fresh) to coastal bays and locations to the east and west of the mouth of Mobile Bay, plus waterways and heavy use boat launches were assessed by recording the presence/absence of native vascular flora and invasive species.

Sampling stations were defined as the area within a 3-meter arc from the GPS position of the sampling vessel for the 2003 event; this allowed both wetlands/terrestrial margins and submerged aquatic habitats to be included in the assessment. Hard substrates adjacent to stations were also sampled to allow macroalgae to be included in the overall assessment.

Water quality data were collected at all sampling locations. Parameters measured at the water surface, mid-depth and bottom included depth, temperature, salinity, and dissolved oxygen. Other information recorded included station number, sample collectors, date, time, gear, sea state, cloud cover, wind speed and direction, and latitude and longitude.

Similar sampling plans are anticipated for use in assessing Mississippi Sound and adjacent waters. Equivalent water quality data should also be collected. There are a series of MDEQ water quality sampling stations that have existing data sets which may be available for reference purposes.

Potential Sampling Locations - AMRAT Mississippi

West Mississippi Sound (Hancock County):

Pearl River - mouth  
Campbell Bayou  
Bayou Toncre  
Heron Bay  
Lower Point Clear  
Bayou Caddy  
Jourdan River - mouth  
St. Louis Bay

Central Mississippi Sound (Harrison County):

Wolf River  
Cat Island  
Ship Island  
Gulfport Harbor  
Bernard Bayou  
Industrial Seaway  
Biloxi Back Bay  
Clay Point  
Deer Island

East Mississippi Sound (Jackson County):

Davis Bayou  
Graveline Bay and Bayou  
Mary Walker Bayou  
Pascagoula River - mouth (east and west)  
Bayou Cassotte  
Escatawpa River  
Horn Island  
Petit Bois Island  
Bangs Lake  
Grand Bay

This is a preliminary suggested list; please add (or remove) sampling locations. Bear in mind that our primary goal is to document the resident and introduced flora in any areas where the presence of invasive species is likely, and that our focus is on aquatic and wetland habitats.

***Note: A fauna oriented sampling crew plans to target the western portion of Mississippi Sound (west of Gulfport Ship Channel) prior to the scheduled sampling period from 30 Aug-3 Sept.***

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