



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, MOBILE DISTRICT
P.O. BOX 2288
MOBILE, AL 36628-0001

December 8, 2020

South Alabama Branch
Regulatory Division

SUBJECT: Department of the Army Permit, File Number
SAM-2014-01046-LET, Mobile Bay National Estuary Program, Mon Louis Island Marsh
Restoration

Mobile Bay National Estuary Program
Attention: Ms. Roberta Swann, Director
Email Address: rswann@mobilebaynep.com
118 North Royal Street, Suite 601
Mobile, Alabama 36602

Dear Ms. Swann:

Reference is made to the Mon Louis Island 2020 Marsh Restoration Monitoring Report submitted to our office on August 11, 2020, for Department of the Army (DA) file number SAM-2014-10146-LET. The project is located on East Fowl River and Mobile Bay, at 11745 Old Ship Yard Road, in Section 33, Township 7 South, Range 1 West; at Latitude 30.449021° North and Longitude 88.107147 West°; in Theodore, Mobile County, Alabama.

Based on our review of this monitoring report, and in response to your recent request to discontinue Mon Louis Island faunal community monitoring, the U.S. Army Corps of Engineers, Mobile District has determined that the faunal community monitoring will no longer be required for your project. Please note that continued vegetative monitoring is still required, as corrective action may be needed if success criteria have not been met by the end of the five-year monitoring period. The approved tidal marsh restoration success plan states that "each annual report will compare the vegetation success criteria outlined in the Restoration Plan for the marsh restoration area to the reference site." Relative to that monitoring requirement, the following additional information is required in accordance with the approved tidal marsh restoration success monitoring plan (attached):

-- Please provide a comparison of the vegetative cover of the restoration site to the reference marsh site.

You are receiving an electronic copy only of this letter. If you wish to receive a paper copy, you should send a written request to this office at the following address: U.S. Army Corps of Engineers, Mobile District, Regulatory Division, Post Office Box

2288, Mobile, Alabama 36628. Electronic copies of this letter are also being sent to your agent, Thompson Engineering, Inc., Attention: Ms. Suzanne Sweetser, at: ssweetser@thompsonengineering.com; and the Alabama Department of Environmental Management, Mobile Branch / Coastal Section, Attention: Mr. Scott Brown, at coastal@adem.alabama.gov.

Please contact me at (251) 694-3779 or lacey.m.leaptrott@usace.army.mil if you have any questions. For additional information about our Regulatory Program, visit our web site at www.sam.usace.army.mil/Missions/Regulatory.aspx. Also, please take a moment to complete our customer satisfaction survey located near the bottom of the webpage. Your responses are appreciated and will allow us to improve our services.

Sincerely,

Lacey M. Leaptrott
Project Manager
South Alabama Branch
Regulatory Division

Attachments

PROPOSED TIDAL MARSH RESTORATION SUCCESS MONITORING
Mon Louis Island Restoration Project, Mobile County, Alabama

MONITORING DESIGN

The marsh monitoring program design includes the use of a reference marsh for collection of data that can be compared to the data collected from the restored marsh. Use of the reference site allows for evaluation of data to distinguish between conditions at the restored marsh site separate from those occurring on a regional basis. The tidal marsh at Deer River will be used as the reference marsh; this marsh has been surveyed annually, from 2009 to 2013, and provides a robust history of vegetative and faunal communities for comparison with the restored marsh.

The planted marsh will be monitored at one-year intervals for up to five years after completion of planting. In addition a thorough census of the transplanted marsh species will be performed approximately 6 months after planting. Replanting will be completed as necessary to maintain a density of at least 4,050 plants per acre during the first year post-construction.

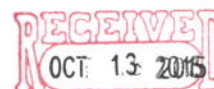
In the event that establishment of the marsh is unsuccessful (*i.e.*, survivorship rates cannot be maintained such that percent cover is no less than the reference marsh after five years), appropriate action will be taken to correct the deficiencies. However, previous experience with projects in similar habitats suggests that nearly full coverage of the marsh restoration site should be achieved within three to five years of planting the specified species. If full coverage of the site is achieved in less than five years after planting, the monitoring program will be discontinued.

VEGETATION SUCCESS

The Mon Louis Island marsh restoration effort will be deemed successful if the new marsh attains a level of cover at least equal to that of the reference marsh (approximately 90%), with a vegetative community comprised of target brackish marsh species (smooth cordgrass, *Spartina alterniflora*; black needlerush, *Juncus roemerianus*; and saltmeadow

Prepared by Barry A. Vittor & Associates, Inc.
(rev. 10-12-2015)

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cordgrass, *Spartina patens*). The following metrics will be assessed near the peak-growing season.

Vegetation Density

Standard metrics will include stem density counts by species from within three permanently marked quadrats that will be established along each of three transects across the reference marsh and three transects at the restored marsh site. One randomly located quadrat will also be sampled within the reference marsh and within the restored marsh.

Percent Cover

Visual percentage cover estimates will be made from within the permanently marked quadrats at each of the established transects, and at the randomly located quadrats. Color photographs of each quadrat, and of marsh conditions in north and south directions at each location, will be taken during each sampling event.

Exotic/Undesirable Species

Observations will be made during each annual survey, of the presence and abundance of any exotic or undesirable plant species. These could include common cane (*Phragmites australis*) as well as Chinese tallow tree (*Triadica sebifera*), which may become established in the more-elevated margins of the restored marsh and shoreline stabilization areas. Any exotic/invasive species such as tallow tree will be removed as soon as discovered in the restoration site. Common cane found within the restored marsh area will also be removed, while cane located along the fringing shoreline rock berm will be left in place to provide additional erosion control.

FAUNAL COMMUNITIES IN THE RESTORED MARSH

Macro-Invertebrate Community

Benthic invertebrates will be sampled using sediment cores from the marsh surface or shallow intertidal creeks. Cores will be typically seven to ten centimeters in diameter, and taken to a depth of 10 centimeters. Three replicate samples will be collected annually at each of two reference marsh stations and two restored marsh stations. Benthic

invertebrates will be sorted, identified, and enumerated. Standard measures of community indices such as species abundance, richness, and diversity will be calculated from the data.

Marsh epifaunal invertebrates, such as gastropods and small crabs, will be identified and counted from within ¼ square meter plots placed upon the marsh surface. Three replicate samples will be collected annually at each of the reference marsh stations and restored marsh stations.

Nekton Community

Lift nets, which enclose approximately a six square-meter area of vegetated marsh at high tide and are sampled as the tide recedes, will be used in densely vegetated marsh surface habitats to quantitatively sample fish and invertebrates on the intertidal marsh surface. Triplicate net collections will be taken annually at each of the reference marsh stations and restored marsh stations.

TIDAL CREEK MORPHOLOGY

The constructed tidal creek will be measured each year, for bank-to-bank width and water depth. These measurements will be taken at three equally spaced locations from the rock berm opening. Ground-level photographs will be taken at each of the measurement locations. Additionally, measurements will be made at the rock berm opening during each survey such that a figure can be developed depicting accurate depths and width of the opening.

MARSH ELEVATION

Surface elevations within the restored marsh will be surveyed at 30 randomly selected locations after the marsh sediment has become stable and solid enough to allow final grading. This survey will be repeated one year after final grading, to determine whether target elevations have been met.

SUCCESS CRITERIA REPORTING

An annual report will be prepared to present data on status of the tidal marsh restoration project for up to five years following completion of planting. Each annual report will compare the vegetation success criteria outlined in the Restoration Plan for the marsh restoration area to the reference site. The reports will build on each prior year's data and report. Standard indices such as diversity, abundance, and richness will be presented, where appropriate. Similarity indices such as cluster analysis and non-parametric Multidimensional Scaling will also be presented. The report will be submitted within six months of the monitoring event each year.