

WETLAND SCIENCE

GBM[®] & Associates provides expertise in the field of Wetland Science. Specific areas of expertise and project experience include: wetland identification and delineation, wetland restoration and enhancement, wetland creation for wastewater treatment, modeling of wetland systems to project short term and long term development resulting from hydrologic management, and water quality and land use practices.

Experience and Capabilities

- Identified and delineated wetlands in the Vicksburg, Tulsa and Little Rock US Army Corps Of Engineers districts according to the guidelines of the 1987 Corps Of Engineers Wetlands Delineation Manual.
- Experienced in development of Section 404 Permit Applications and in coordinating activities with the Corps Regulatory Branches.
- Identified plants and characterized soils and hydrology in potential wetland areas to determine impacts of industrial activities to surrounding land features.
- Completed planning and development of wetland areas as required for mitigation and/or restoration of injured resources.
- Participated in ecological risk assessments to evaluate impact of industrial activity on wetland ecosystems.
- Completed planning and construction of artificial wetland systems for treatment and control of non-point source runoff.
- Developed site closure/restoration plan to convert approximately 115 acres of wastewater treatment impoundments at a closed kraft pulp/paper mill to diverse wetlands habitat. Submitted the restoration plan to the Arkansas Department of Environmental Quality and obtained Arkansas' first ever authorization for a closure of this type and magnitude. Prepared the engineering plans and specifications for the construction contract and provided on-site construction management services. Worked with the Conservation Fund-Fresh Water Institute and Arkansas Game and Fish Commission to identify and acquire the appropriate plant species for compatibility with the proposed habitat type.
- Used existing data to identify areas for wetland systems development to benefit watershed water quality.



WETLAND SCIENCE (cont.)

- Conducted wetland reconnaissance surveys to characterize the impact of industrial activities on a backwater embayment of the Arkansas River. Planned and completed wetland restoration and enhancement activities associated with the industrial impacts on approximately 50 acres in cooperation with the Arkansas Department of Environmental Quality and the US Army Corps of Engineers. The activities included placement of geotechnical materials to stabilize unconsolidated materials and prevent erosion, and plantings of native wetland plant species.



- Designed, constructed, and maintained an artificial wetland system for the treatment of munitions manufacturing wastewater. Monitored the treatment system chemical parameters to evaluate the effectiveness of the technology on organic and inorganic contaminants.

- Provided construction design and permitting assistance for a wetlands treatment system encompassing 150 acres at a bleached kraft pulp/paper mill. The project included field investigation, soil sampling and preparation of necessary documentation to support the Arkansas Department of Environmental Quality permit application.



- Developed the lake restoration and enhancement plan to remediate historical dioxin contamination in Lake Dupree in cooperation with the Arkansas Department of Environmental Quality and the Arkansas Game and Fish Commission. The remediation project involved the draining of the lake and the removal of bottom sediments. The restoration and enhancement phase included grading the bottom of the lake to provide variable depth regimes, placement of spawning substrates, placement of fish habitat, selection and planting of native wetland plant species on two established islands, and the restocking of the lake with fish.

GBM^c Contacts
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