

STATEMENT OF QUALIFICATIONS



NATURAL RESOURCES SERVICES



PROVIDENCE

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Providence's Natural Resources Services Group includes six biologists and ecologists. Each has received USACE wetland delineation training and has extensive project experience throughout the United States, including Louisiana, Texas, Oklahoma, Mississippi, Alabama, Georgia, Florida, Tennessee, Arkansas, Kentucky, New Jersey, West Virginia, Ohio, and Indiana.

Our services cover the following primary areas:

Wetland Delineations

Providence biologists have conducted wetland delineations on sites ranging from less than one acre to over 3,000 acres for public and private sector clients. All wetland delineations are conducted in accordance with guidance found in the Regional Supplement to the U.S. Army Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (U.S. Army Corps of Engineers, Wetland Regulatory Assistance Program, 2010).

We primarily work with the Galveston, Fort Worth, New Orleans, Vicksburg, and Mobile Districts of the USACE on a regular basis. However, Providence has worked with many other USACE districts, including Jacksonville, Savannah, Little Rock, Tulsa, Memphis, Nashville, Louisville, St. Louis, Huntington, and Pittsburgh districts.

Threatened and Endangered Species Surveys

Providence maintains a solid working relationship with U.S. Fish and Wildlife Service (USFWS) Field Office biologists as well as state Natural Heritage Program personnel. We provide liaison assistance for clients during formal and informal Section 7 Endangered Species Act consultations. Development of a sampling protocol, subsequently vetted by the USFWS prior to any field activity, is paramount for expedient project execution. Our biologists have completed threatened and endangered species surveys across the eastern United States for species including the brown pelican, piping plover, Indiana bat, various protected wading birds, black-capped vireo, bald eagle, red-cockaded woodpecker, gopher tortoise, running buffalo clover, and Louisiana black bear.

Regulatory Compliance

Providence maintains a positive relationship and excellent reputation with state and federal resource and regulatory agency personnel in the regulatory compliance throughout the southeastern United States. We provide permitting services that include:

- Coastal Use Permitting (LDNR, Alabama Department of Conservation and Natural Resources – Coastal Section, the Texas Coastal Management Program, Florida Department of Environmental Quality, and the Mississippi Department of Marine Resources)
- Federal Energy Regulatory Commission (FERC) 7c Environmental Resource Report Preparation and Blanket Clearances
- Section 10/404 Permitting (various USACE districts)
- Section 401 Water Quality Certifications (various state agencies)



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- Water Use Permits
 - Louisiana Scenic Rivers Permitting
 - National Wildlife Refuge Special Use Permits (USFWS)
 - Levee Board Permits
 - Various Parish/County/Local Permits and Authorizations
 - Construction Stormwater Permits
 - Hydrostatic Test Water Discharge Permits

Mitigation Banking

Providence offers mitigation banking services that range from initial site selection and evaluation, to preparation of a prospectus and negotiating with Mitigation Area Review Teams for ultimate approval of the bank. Total acreage of forested wetland mitigation banks that Providence personnel have been involved with exceeds 11,000 acres.



Ecological Studies and Monitoring

Providence has expertise in ecological studies and monitoring efforts, such as assessment of mitigation bank survival / mortality inventories, innovative techniques for wetland creation and enhancement, and anthropogenic effects on unique ecological features in coastal Louisiana.

Coastal Ecology and Engineering

Providence is experienced in coastal issues and engineering as demonstrated by our execution of engineering design and environmental permitting for multiple projects along the Louisiana coastal zone. These projects include:

- A pilot project using storm-generated vegetative debris for marsh creation in the Rockefeller Wildlife Management Area
- Marsh restoration and hydrologic restoration of Point Au Fer Island for the National Marine Fisheries Service in Terrebonne Parish
- Restoration required for Clovelly Farms in Lafourche Parish
- Restoration along a major crude oil pipeline in St. Bernard and Orleans Parishes
- Restoration from impacts associated with the Shell Mars Pipeline in Lafourche Parish
- LDNR Cheniers and Natural Ridges study that involved unique ecological features in areas of Cameron and St. Tammany Parishes
- Environmental Assessment and Biological Assessment for the Cameron Parish Shoreline Restoration Project (Louisiana Office of Coastal Protection and Restoration)



PROJECT EXPERIENCE

This section of the SOQ focuses on the experience of Providence natural resources staff and their ability to provide the services described in the previous section. A few key projects in each category are described.

WETLAND DELINEATIONS

Project: Tiger Pipeline Wetlands Delineations and Flagging
Location: Bienville, Caddo, DeSoto, Red River, Jackson, Ouachita, Richland, and Franklin Parishes, LA and Panola County, TX
Client: Energy Transfer Company

A team of four Providence ecologists collected wetlands and ecological data on a portion of an approximately 180-mile pipeline crossing through Texas and north Louisiana. The data were collected over a week-long period in the vicinity of Shreveport, LA. A 350-foot wide corridor was surveyed utilizing DGPS units within one meter of accuracy. The data included delineating wetlands using the USACE Regional Supplement, producing field sketches of wetland/land use boundaries, classifying wetland/land use types, compiling photograph exhibits, and mapping water bodies. Daily reports of field progress were given to the field coordinator and data were uploaded to the Houston project office using USENDIT for the office coordinator to review and use for updating GIS files.



Prior to construction, Providence provided six, two-man teams of biologists to flag wetland boundaries along the pipeline right-of-way from Carthage, TX to Delhi, LA. A 60-foot wide permanent right-of-way and temporary workspaces of varying width were flagged prior to clearing crew mobilization. Providence teams used Trimble GPS units to identify wetland and water body crossings and access those locations using all-terrain vehicles and 4x4 trucks. Daily reports of field progress were submitted to the ETC field coordinator to maximize efficiency.



In addition to flagging wetlands and water bodies, Providence biologists conducted wetland delineations for laydown and contractor yards, project variances, and pipeline reroutes. Providence personnel also provided support to environmental inspectors and took part in survey oversight.

Project: Energy Transfer Company Lone Star Gateway Pipeline
Location: 15 Counties across West Texas
Client: TRC Companies, Inc.

Four Providence biologists collected biological data on Energy Transfer Company's approximately 570-mile pipeline traversing approximately 15 counties across West Texas. Each biologist worked as part of a two-man team and data were collected over approximately two months. The terrain across the project corridor included plateaus, canyons, arroyos, plains, forests, deserts, and brush. Surveys were conducted by ATV and on foot. Data collection included delineating wetlands using the Regional Supplement to the U.S. Army Corps of Engineers Wetland Delineation Manual (Great Plains Region), delineating water bodies, assessing threatened and endangered species habitats, compiling photograph exhibits, and mapping water bodies. Daily reports of field progress were given to the field coordinator.



Project: Post-Construction Restoration Monitoring and Reporting for the Sabine Pass / Creole Trail Natural Gas Pipelines
Location: Cameron and Calcasieu Parishes, LA
Client: Cheniere Energy, Inc.

This effort was initiated to satisfy conditions listed in the Federal Energy Regulatory Commission (FERC) Wetland and Waterbody Construction and Procedures, the FERC Upland Erosion Control, Revegetation, and Maintenance Plan, the LDNR Coastal Use Permit, and the USACE Aquatic Resources Mitigation Plan (ARMP) for the Sabine Pass and Creole Trail pipelines relating to unavoidable wetland, upland, and water body impacts.



Initial monitoring was required for six months post-construction and annually for three years. Providence biologists are collecting field data, habitat descriptions, and other pertinent information on the impacted wetlands, uplands, and water bodies crossing the approximately 110-mile pipeline right-of-way and providing reports summarizing sampling methodology and results of the six month and years one and two post-construction monitoring efforts. Data collection consists of observations of hydrologic indicators, identification of dominant vegetation and relative percent covers of each species, presence of invasive species, effectiveness of erosion control measures, and a general assessment of the wetland restoration progress.

THREATENED AND ENDANGERED SPECIES SURVEYS

Project: Endangered Species Survey and Biological Assessment for Gopher Tortoise (*Gopher polyphemus*)
Location: Mobile County, AL
Client: Gulf South Pipeline Company, LP

Providence conducted a Biological Assessment of gopher tortoises along a 3,410-foot relocation route of a 30-inch diameter natural gas pipeline north of Copeland Island, AL. Providence was responsible for conducting the survey as per Section 7(a)(2) of the Endangered Species Act. The U.S. Fish and Wildlife Service (USFWS)-approved methodology included a pedestrian survey within suitable habitat along the

project route utilizing line transects, documenting species encountered, documenting suitable habitat, and recording locations of gopher tortoise burrows and habitat using GPS. To determine if burrows were active, Providence personnel designed a telescopic camera to be placed inside the burrow. The USFWS concurred with the biological assessment regarding no effect on the species.



Project: Red-Cockaded Woodpecker (*Picoides borealis*) Survey
Location: St. Tammany Parish, LA
Client: Harrison Law, LLC



Providence conducted a survey of red-cockaded woodpeckers on a 403-acre tract of land near Slidell, LA. We were also responsible for conducting the survey as per USFWS Red-cockaded Woodpecker Survey Protocol (USFWS 2005). The red-cockaded woodpecker's preferred habitat is in stands of pines of at least 10 acres, between 60-150 years of age. Their nesting and breeding season lasts from late April to early June.

The survey methodology included review of topographic and aerial photographs, an on-foot survey, increment boring of potential old-growth pines, survey of adjacent properties for the presence of suitable nesting habitat, cavity tree surveys, and the collection of other associated field data. Upon completion of the survey,

Providence personnel coordinated survey results with the USFWS during their review of the data report. The USFWS concurred with Providence's findings of no effect on the species.

REGULATORY COMPLIANCE

Project: Wetlands Analysis for Environmental Permitting Services
Location: Louisiana, Statewide
Client: Louisiana Department of Transportation and Development (LA DOTD), Environmental Section

Providence was awarded a statewide, multi-year environmental services contract from the LA DOTD to assist its environmental department with natural resources compliance issues. Permitting services were conducted for approximately 85 road and bridge projects across the state, including LDNR coastal use permits, USACE individual and nationwide permits, LDEQ water quality certifications, and various parish permits. Providence also secured USCG bridge permits as well as scenic rivers permits from the Louisiana Department of Wildlife and Fisheries.



Project: System-Wide Regulatory Compliance Assistance
Location: Louisiana, Statewide
Client: Texas Gas Transmission, LLC

Providence provides on-call assistance to Texas Gas Transmission (TGT) for regulatory compliance issues associated with their natural gas pipeline system. We have secured a variety of permits and authorizations for TGT including:



- USACE (New Orleans, Memphis, Louisville, Huntington districts)
- USFWS Threatened and Endangered Species consultations in Louisiana, Mississippi, Tennessee, Kentucky, Indiana, Arkansas, and Ohio
- Hydrostatic Test Notice of Intent in Tennessee, Mississippi, Kentucky, and Louisiana
- Aquatic Resource Alteration Permits for the Tennessee Department of Environment and Conservation
- Levee District Request for Letter of No Objection in Louisiana
- Coastal Use Permits in Louisiana

Project: Hurricane Ike Debris Removal
Location: Texas, Statewide
Client: Texas Department of Transportation, Subconsultant to Metric Engineering, Inc.



A team of nine Providence biologists served as Natural Resource On-Site Specialists (NROSS) for Hurricane Ike debris removal operations in Galveston County, TX. Working under the Texas Department of Transportation (TxDOT), NROSS personnel provided regulatory expertise for obtaining USACE, USFWS, TCEQ, Texas Historical Commission, Galveston County Floodplain Administrator, and National Marine Fisheries Service clearances for debris removal. NROSS personnel conducted initial site assessments to determine needed resource agency guidance, permitting requirements, and coordinate with debris removal contractors. In addition, NROSS personnel monitored debris removal operations seven days per week and 12-16 hours per day so as to ensure best management practices were observed on federal, state, and private lands throughout the project areas.

MITIGATION BANKING

Project: Mitigation Banking Services
Location: Louisiana, Mississippi, Arkansas
Client: Public and Private Interests

Wetland mitigation banking projects totaling over 11,000 acres in USACE New Orleans, Vicksburg, Tulsa, and Mobile districts.

Providence provides the following services: site identification, evaluation of the feasibility of sites, wetland delineations, preparation of permit applications and mitigation bank restoration plans, preparation of mitigation bank prospectuses and final mitigation banking instruments, planting



(through a subcontractor), monitoring and reporting, in addition to coordinating and communicating with the Inter-Agency Review Team (Mitigation Bank Review Team). Examples of projects included the re-establishment of bottomland hardwood forest from agricultural use as well as converting areas historically in pine production to bottomland hardwood forest.

Additionally, Providence worked with public and private interests to identify suitable land and establish project-specific mitigation sites for large projects with substantial wetland impacts.

Project: Ihagee Creek Stream Restoration Project
Location: Russell County, AL
Client: Dixie Pipeline Company

Providence coordinated with regulatory agencies and landowners to restore approximately 226 linear feet of Ihagee Creek along an existing six-inch diameter natural gas pipeline right-of-way. Ihagee Creek's channel had meandered eastward into the pipeline right-of-way causing significant pipeline exposure and a safety hazard.

Stream restoration was recommended (rather than short-term bank stabilization) so that long-term erosion control and aesthetics would be maximized. Once restored, the banks were stabilized with coconut fiber matting and log vanes were installed to redirect the flow of the creek away from the cut bank. Native herbaceous and hardwood floodplain species were planted for additional stabilization. Stream restoration methods were thoroughly analyzed to maximize the number of restoration credits generated. Providence provided assistance with wetland delineation and jurisdictional wetland determination, USACE permitting, threatened and endangered species surveys and reporting, stream restoration planning, and construction oversight.

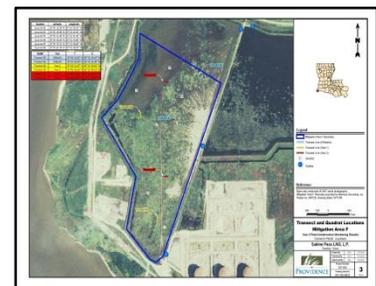


ECOLOGICAL STUDIES AND MONITORING

Project: Mitigation Area Ecological Monitoring and Reporting at the Sabine Pass LNG Terminal
Location: Cameron Parish, LA
Client: Cheniere Energy, Inc.

This effort was initiated to satisfy conditions listed in USACE Galveston District Permit No. 23426 as per the Revised Aquatic Resources Mitigation Plan relating to Mitigation Areas D and F as outlined for unavoidable wetland impacts resulting from the Sabine Pass LNG Terminal.

Initial monitoring of Areas D and F was required six months after construction, then annually for the following three years. According to the Plan, Areas D and F are designed to create non-tidal, freshwater wetlands and must have at least 25 percent cover after six months and reach 80 percent cover after three years. Providence biologists collected field data, habitat descriptions, and other pertinent information on the sites and provided reports summarizing sampling methodology and results of the



six month, year one, and year two post-construction monitoring efforts. Line intercept methodology was used to establish two transect locations within each mitigation area using a stratified random design. Data collection included vegetation diversity, dominance, total percent cover, and species diversity/composition.

Project: **Mitigation Area Ecological Monitoring and Reporting at the Golden Pass LNG Terminal**
Location: Jefferson County, TX
Client: Golden Pass LNG LLC

Providence provided ecological monitoring and reporting services to satisfy portions of the conditions listed in USACE Galveston District Permit No. SWG-2004-02118 as per the Aquatic Resources Mitigation Plan. The Plan relates to the Pintail Flats Wetland Creation Project for unavoidable wetland impacts resulting from the construction of an LNG terminal by Golden Pass LNG.

Twelve temporary 10-foot by 10-foot vegetation sampling plots were established according to standard quadrat vegetation sampling methodology. Quadrat locations were selected using stratified random sampling methods, and GPS coordinates were recorded at the southwest corner of each temporary quadrat. Data collection included vegetation diversity, dominance, percent cover, and species diversity/composition.

In addition to the 12 temporary sampling plots, four 100-foot transect locations were determined using a stratified random design. Data collected along these transects included species diversity and percent cover.

COASTAL ECOLOGY AND ENGINEERING

Project: **Rockefeller Wildlife Refuge Marsh Creation Using Storm-Generated Debris**
Location: Cameron Parish, LA
Client: Louisiana Department of Natural Resources

Design, engineering, permitting, and construction oversight for the Rockefeller Marsh Creation Project Using Storm-generated Vegetative Debris pilot project for LDNR. It involved backfilling with vegetative storm debris from Hurricane Rita and hydraulically-dredged sediments from approximately 4.5 acres of an abandoned access canal on the Rockefeller Wildlife Refuge.

Segregated storm debris staging areas along LA 82 were all within an approximate 20-mile radius of the project site, for which green waste was a major component. Vegetative debris was evaluated for contamination with clean debris subsequently hauled to the project site for deposition. Dredged sediments from an adjacent canal were pumped into the area. Following dewatering and stabilization, the area was planted with appropriate wetland vegetation. The objective of debris/sediment deposition is to slow open water expansion and create substrate for eventual emergent marsh creation.

Project: **Caminada Headlands and Shell Island Restoration Projects**
Location: Coastal LA
Client: Louisiana Department of Natural Resources

Providence prepared a water quality assessment associated with restoration of the Caminada Headlands and Shell Island barrier island shoreline reaches of the Barataria Basin. The project area consisted of the proposed five borrow areas in the Mississippi River (at Nairn) and the near-south areas of the Gulf of Mexico

(Empire, Sandy Point, South Pelto and Ship Shoal), and the two restoration sites (Caminada Headlands and Shell Island). The three proposed borrow areas for Shell Island restoration were the Mississippi River at Nairn, Empire, and Sandy Point. The two proposed borrow areas for Caminada Headlands restoration were South Pelto and Ship Shoal.

Providence divided the data collection into two steps: 1) assimilation and evaluation of relevant, existing data; and 2) sampling of both borrow areas and restoration areas. A thorough examination of the existing data revealed that insufficient data was available, and thus a field sampling and laboratory analysis plan was developed to acquire the needed data. In addition to data collection, Providence identified potential water impacts associated with the projects, and prepared an executive summary relative to water quality for inclusion in the project Environmental Impact Statement (EIS).

Project: Cote Blanche Hydrologic Restoration / School Bus Bayou Project
Location: St. Mary Parish, LA
Client: Office of Coastal Protection and Restoration, State of Louisiana

Project consisted of repairing the 5,000-foot rock breakwater structure, repairing rock weirs at the mouth of School Bus Bayou, and refurbishing/replacing U.S. Coast Guard (USCG) warning signs for rock structures and sheetpile weirs. Included engineering of a hydrologic restoration project on the northern shoreline of Cote Blanche Bay. Constructed in several phases, the project entailed the design and construction of approximately 6,000 linear feet of wooden bulkhead, 5,000 linear feet of rock breakwaters, several weirs constructed of steel sheetpile, and rock weirs at the intersection of School Bus Bayou and Humble Canal.

Project: Cameron Parish Shoreline Restoration Project at Holly Beach
Location: Cameron Parish, LA
Client: Office of Coastal Protection and Restoration, State of Louisiana

Providence provided regulatory compliance for the shoreline restoration project at Holly Beach. The goal of the project was to re-nourish approximately 8.7 miles of eroding shoreline by depositing beach-compatible sand extracted from offshore. Providence's role primarily involved preparation of a Biological Assessment (BA) and Environmental Assessment (EA).

The BA was conducted in compliance with Section 7(a)(2) of the Endangered Species Act; it included reporting and on-foot surveys for piping plovers and their habitat. The surveys were conducted by Providence biologists along the entire 8.7-mile shoreline within the project area to assist with a determination of potential impacts of the proposed project on piping plovers and their habitat. The BA was conducted with emphasis on piping plovers, but other species, including sea turtles, gulf sturgeon, and the West Indian manatee, were also evaluated.

The EA analyzed potential environmental impacts associated with the proposed project, as required by the Bureau of Ocean Energy Management, Regulation and Enforcement, for issuance of a non-competitive negotiated agreement to OCPR for use of off-shore sand resources to construct the project. The EA involved an alternatives analysis, primarily through literature review and field analysis, on impacts of the proposed project on considering various physical, biological, cultural, and socio-economic resources. Specifically, the biological resources assessed included essential fish habitat, threatened and endangered species, and vegetation, wildlife, benthic, and aquatic habitats and communities.