

Year 2007 Projects

| Project Name  | Activity                 | Project Description   | Habitat Type     | Acreage  | Linear Miles |
|---|--------------------------|---|------------------|----------|--------------|
| Coastal Prairie and Wetland Enhancement               | Enhancement              | <p>Invasive, non-indigenous species are found throughout the United States and cause billions of dollars in damages to industry, agriculture, rangelands and waterways annually. Invasive species have devastating effects on natural areas, where they have displaced native plants and animals, taken over wetland habitats, choked water bodies, degraded entire ecosystems and completely converted important habitat types to other, less productive areas. Resource managers recognize invasive species as one of the most serious environmental threats of the twenty-first century. Conservation biologists consider invasive species as the second most serious threat to wildlife, especially endangered species, after habitat destruction. In fact, the U.S. General Accounting Office recently issued a report establishing invasive species as a national priority and noted the need for federal leadership and sponsorship of invasive species management. This project involved the enhancement and restoration of freshwater wetland, riparian forest, coastal flatwood and coastal prairie areas within Clear Creek Nature Park, owned by the City of League City. This property was recently purchased in 2002 by the City of League City as the result of intensive efforts of City officials, GBEP, Texas Parks and Wildlife Department, U.S. Fish and Wildlife Service, and Texas Sea Grant, and will be preserved in its natural state while allowing public access and low-impact use. This property is immediately adjacent to tidally influenced reaches of Clear Creek, a tributary to Galveston Bay, near its confluence with Galveston Bay. Enhancement and restoration were accomplished through the removal of woody invasive species, including Chinese tallow (<i>Sapium sebiferum</i>), Chinese privet (<i>Ligustrum sinense</i>) and others, primarily from remnant coastal prairie areas and in transition zones adjacent to forested areas. The project also involved developing interpretive signage, other materials and hosting events guided by naturalists, to inform park visitors of the ecological and economic dangers posed by invasive species and the benefits to humans and wildlife of maintaining healthy native ecosystems. Major Objectives: 1. Enhancement of coastal flatwoods, riparian forest and coastal prairie areas, including wetland areas in Clear Creek Nature Park, through removal of invasive species. Removal activities will be conducted under advisement of experts from natural resource agencies by experienced and licensed persons, using proven control techniques, taking care to have minimal impacts on non-target plant and animal species. 2. Re-establishment, where necessary and appropriate, of native grasses, forbs and trees typical of healthy plant communities in each respective habitat type. The need for re-establishment will be determined with the advice of experts from natural resource agencies, based on criteria such as whether native vegetation will re-establish naturally or be subject to invasion by non-indigenous species. 3. Public Education through interpretive signage, literature, field trips, workshops, etc. This information will demonstrate to the public and local decision-makers the value of rich and diverse habitats found in the Texas Coastal Zone, and the threats posed to them by loss to human impacts and degradation by invasive species.</p> | Freshwater Marsh | 25.00    | 0.00         |
| East Bay Wetland and Water Quality Protection Project | Protection / Maintenance | <p>The North Shoreline of East Bay, among many other similar areas around the Bay, is experiencing rapid erosion of up to 10 feet per year along its entire 20 mile length. The erosion has resulted in scouring that has left much of the shoreline with erosive bluffs and very patchy remnants of intertidal wetlands. Continued erosion of the shoreline would also pose a significant threat the present ecological diversity of the area. Salt water intrusion would be allowed to alter the ecology of brackish and freshwater wetlands and coastal prairie, breach shallow freshwater and intermediate lakes and depressions, altering hydrology and salinity gradients. With the above in mind, project partners set out to start the tedious task to protect the delicate ecosystem along the north shoreline of East Bay. Realizing that protecting the entire 20 mile length of shoreline would not be feasible at this point, the project team decided to concentrate efforts along the approximately seven miles of shoreline of Anahuac National Wildlife Refuge. The project site stretches from Robinson Bayou on the West to Oyster Bayou on the East. The East Bay Wetland Habitat and Water Quality Protection Project directly addressed action items HP-1 (restoring, creating and protecting wetlands) and HP-9 (reducing habitat erosion) from The Galveston Bay Plan. In addition, the project contributed and</p>   | Tidal Wetland    | 7,894.00 | 3.41         |

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|   |                          | <p>will contribute action item PPE-5 (developing volunteer opportunities). A total of 17,002 feet of refuge shoreline has been protected including 16,802 using concrete rip-rap material, and 200 feet of shoreline has been protected by concrete reef balls. The reef balls are placed in line (adjacent) with rip-rap protected shoreline. This placement will allow GBF and its partners to monitor and compare the effectiveness of the rip-rap and reef ball shoreline protection techniques. The constructed breakwater has successfully stopped shoreline erosion along 16,802 feet of project shoreline protected by the rip-rap technique. Future site monitoring will determine the effectiveness of the reef balls in stopping erosion along an additional 200 feet of shoreline. The reef balls were placed April 26, 2007 and it was too soon at the time of writing to determine their effectiveness. The breakwater has protected 301 acres of brackish marsh, 5,675 acres of intermediate marsh and 1,601 acres of salty prairie from saltwater intrusion (excluding short term storm events) and habitat conversion. Additionally, 400 acres of salt marsh have been protected from erosion (excluding short term storm events). Of the 17,002 feet of protected shoreline it is estimated that 6.8 acres is available for planting smooth cordgrass; 90% of the protected shoreline has some vegetation behind it. 82 volunteers have worked 249.5 hours transplanting smooth cordgrass behind 1,500 linear feet of the breakwater. The contractor and refuge staff also transplanted large clumps of cordgrass using the excavator during the breakwater construction. Additionally, some portions of the newly protected shoreline smooth cordgrass naturally recruited behind the breakwater. Marsh Mania (MM) 2006 was held at three sites around Galveston Bay, Armand Bayou Nature Center, Anahuac National Wildlife Refuge (ANWR) and Pierce Marsh (West Bay). The three sites combined hosted 147 volunteers working a total of 649 hours to restore four acres of wetlands. Smooth Cordgrass (<i>Spartina alterniflora</i>) was transplanted at both ANWR and Pierce Marsh sites while California Bulrush (<i>Scirpus californicus</i>) was planted along the shoreline at Armand Bayou Nature Center. The Pierce Marsh site also hosted several small scale mini-Marsh Mania events throughout the summer of 2006. The mini-MM events hosted an additional 142 volunteers whom worked 552 hours restoring an additional 4.5 acres within the Pierce Marsh complex. Volunteer groups comprised of students from Rice University and University of Houston Clear Lake, sailors from the US Naval submarine USS Texas and local employees of Aramco Services, Anheuser Busch (Houston Brewery and Galveston Distributing) and Sea World of San Antonio. At each volunteer event/site, GBF staff and its partners took time to educate each volunteer on the importance of wetlands within the Galveston Bay ecosystem. Discussions include the role wetlands have in flood and pollution control and their value as habitat for juvenile fish and invertebrate species important to the economy of the Galveston Bay region. Also discussed are the dramatic wetlands losses that have occurred throughout Galveston Bay and the importance of their roles in helping restore and protect this valuable habitat. Lastly, site specific information was relayed to the volunteers.</p> |                |        |      |
| Invasive Species Control at Galveston Island State Park | Enhancement              | <p>This project involves the removal of Chinese tallow control and prescribed mowing at the Galveston Island State Park, owned and maintained by Texas Parks and Wildlife Department. The park features large expanses of coastal prairie, much of which was previously infested with Chinese tallow. The Department and the non-profit Friends of Galveston Island State Park completed tallow control with assistance from the U.S. Fish and Wildlife Service. This grant supports the completion of initial tallow removal long term land management to prevent recurrent tallow problems and to maintain healthy native coastal prairie habitat within the park.</p>   | Barrier Island | 600.00 | 0.00 |
| McAllis Point Wetland and Habitat Conservation Project  | Protection / Maintenance | <p>The Trust for Public Land, GBEP, Texas Parks and Wildlife, the General Land Office, U.S. Fish and Wildlife Service and many other partners are working with the Galveston Island community to save a significant sample of the West End's natural heritage. The target site is a 300-acre parcel at McAllis Point, just west of Indian Beach. This conservation effort protected one of the last remaining large open spaces on Galveston Island, offering a refuge for wildlife, including sandhill cranes, shore birds, wading birds, waterfowl and grassland birds, and ensuring that this important land remains intact for future generations of Islanders. The Coastal Estuarine Land Conservation Program (CELCP); the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA); and the City of Galveston and many local public and private donors contributed to the project. Galveston County Beach and Parks Department will hold and maintain the property, with assistance from conservation organizations. This is also the first project that Galveston Bay Estuary program contributed funds</p>  | Barrier Island | 60.00  | 0.80 |

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|   |                  | directly for conservation acquisition.  |               |          |      |
| West Bay Bird Island Protection and Restoration | Re-establishment | West Bay Bird Island (WBBI) is located in West Bay northwest of Galveston Island and approximately 15 miles northeast of Freeport, Brazoria County, Texas. Situated inland of San Luis Pass, a natural pass connecting to the Gulf of Mexico, this area is a very dynamic inlet that continues to have dramatic shoreline change. WBBI, as with most other habitat types within West Bay, has suffered severe loss. WBBI is a significant rookery island that has lost approximately 63% of its emergent habitat over the last 41 years (1965 through 2006). Coastal marsh loss in West Bay has been attributed to the loss of shoreline features such as vegetated land spits, shoreline ridges and oyster reefs that protected intertidal marshes from erosional forces, stream channelization, sediment diversion, hydrologic alterations, increased channel dredging, dredge and fill activities, residential development and subsidence. Factors contributing to the erosion and shrinkage of WBBI include sea level rise and land subsidence, extreme tropical storms and hurricane events, geomorphologic processes at San Luis Pass, hydrodynamic processes forced by waves and tidal currents and anthropogenic changes to Galveston Bay. Because of the natural and economic values of WBBI, Texas Parks and Wildlife Department and our partners, acquired resources to protect and restore habitats at WBBI, in West Bay and at other locations on the Texas Gulf Coast. Construction involved dredging 66,700 cubic yards of sandy material from an approximate 1,500-foot linear diversion channel and utilizing this material to construct 4.9 acres of bird nesting habitat, 12.9 acres of marsh (10.8 acres of intertidal marsh and 2.1 acres of high marsh) and an approximate 600-foot long protective bar. The project also protected 14.1 acres of intertidal marsh and 1 acre of tidal sand flat. | Tidal Wetland | 33.90    | 0.00 |
| Total   |                  |   |               | 8,612.90 | 4.21 |