Title
Joppa preserve – wetland and wildlife habitat restoration

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Abstract

Joppa Preserve is a representative piece of a greater Trinity River, bottomland hardwood forest that once dominated this portion of North Texas. Located in Dallas County, the existing core (327 acres) of the project is located downstream of the Dallas Floodway, a flood damage reduction project completed in 1959. As the project sponsors, Dallas County and the U.S. Army Corps of Engineers (USACE) initiated a feasibility study with project implementation costs estimated at $12,000,000. This study is intended to identify existing natural resources, environmental constraints, and develop a restoration plan for Joppa Preserve. Objectives of this feasibility study included identifying the environmental degradation resulting from previous construction and restoration of Joppa Preserve. Water resources within Joppa Preserve include Lemmon Lake, Little Lemmon Lake, Honey Springs, and an unnamed tributary of Five Mile Creek. This feasibility study identified measures designed to restore critical ecosystem components. Potential ecosystem restoration alternatives included restoration and expansion of wetlands and habitat improvements to existing riparian forests. The most critical hydraulic need included the repair of a large earthen embankment isolating Lemmon Lake from the Trinity River. Numerous field surveys were conducted by personnel of U.S. Fish and Wildlife Service (USFWS) and Wendy Lopez and Associates, Inc. (WLA) to detail existing conditions and define natural resources within the project area, evaluate potential ecosystem restoration opportunities, and identify any constraints that might limit the implementation of future ecosystem restoration measures. Several coordination and workgroup meetings were undertaken with USACE, USFWS, Dallas County, City of Dallas, and WLA, to refine these critical steps in the plan formulation process. Through the use of IWR-PLAN software, WLA completed an Incremental Cost Analysis (ICA) in which multiple alternatives were evaluated in a habitat improvement process. USFWS and WLA modeled wildlife utilization by employing the Habitat Evaluation Procedure (HEP). Possible combinations and solutions were identified and presented the best financial investments through the life of the project. Alternatives included: lake embankment restoration, expanding the boundaries of Joppa Preserve, wetland creation, aquatic habitat improvements to Little Lemmon Lake, maintenance of water levels, restoration of a poison ivy parkland, repair of the water outfall control structure, reforestation, and a recreation plan. The plan of interest derived from this process included acquiring additional buffer areas for Joppa Preserve, improving the lakes complex, restoring 15 acres of grassland/woodland, removing existing and creating new water control structures, reforestation of 3 acres of bottomland hardwood habitat, acquiring 69.5 acres of climax communities, and restoring 1500 linear feet of the lake embankment.

Biographical Sketch for Melinda Clary: Ms. Clary's scholastic background consists of two degrees from Texas Tech University, a Bachelor of Science degree in Wildlife Management received in 1998 and a Master of Science degree in Zoology received in 2000. As a graduate student, she completed and published a study on small mammal communities on Fort Bliss Military Base and participated in numerous mammal surveys throughout state parks and wildlife management areas. In addition, she was hired as a research assistant for the “Texas Park and Wildlife for the 21st Century” project, which involved creating exhibits in ArcView, as well as organizing large conferences for public involvement. As an Environmental Scientist at Wendy Lopez & Associates, Inc., Ms. Clary has served as Task Manager on numerous projects from jurisdictional wetland delineations to wildlife habitat restorations. In addition, she has been responsible for the preparation of several technical documents such as environmental and biological assessments.

Biographical Sketch for Greg Tickle: Mr. Tickle has 27 years of environmental study and project management experience encompassing various aspects of natural resources impact analysis and planning. His areas of expertise encompass environmental assessments and impact statements, jurisdictional wetland delineation, wetland creation, wildlife habitat analysis/planning, threatened/endangered species surveys, baseline natural features inventory, land planning/feasibility studies, environmental site assessments, design and construction administration. As a project manager, Mr. Tickle has been responsible for numerous field investigations and technical reports involving linear corridor studies, facility site development, master planning, and regulatory compliance activities in 16 states and Mexico. In addition to his environmental expertise, Mr. Tickle has the technical expertise of a Registered Landscape Architect. His qualifications to direct technical natural system analyses and impact studies are considerably strengthened by his planning and landscape architectural experience; the two disciplines are complementary when evaluating resources and mitigating potential impacts, since wetland and natural resource restoration require detailed analysis and construction sequencing.