Kankakee Sands Ecological Restoration Planning

Newton County, Indiana

In 1997, the Applied Ecological Services, Inc. Team was retained to design, permit, and work with The Nature Conservancy in building their largest wetland and grassland restoration project ever undertaken. The AES Team organized and undertook all engineering, hydrological investigations including surcharge analysis, detailed ecological analyses, analysis of agricultural drainage systems and opportunities for their abandonment, herbicide carryover and seed bank analysis, and designed a restoration and management plan for the 7,200 acres of property. The project included a detailed investigation of site history using among other tools, aerial photography, and literature review.

This project involves the creation of 5,200 acres of wetland, and nearly 2,000 acres of mesic prairie and savanna system. Over 1,200 acres of emergent wetland is included in the 5,200-acre wetland restoration. The implementation will involve large-scale plantings using appropriate species for each zone, modification and disablement of agricultural drainage systems, and an aggressive management and monitoring program.

An ARC-INFO GIS platform was used for all design work. Data layers and plans were integrated with high-resolution topographic mapping, soils mapping, and maps of infrastructure which were surveyed using GPS technologies.

The analysis process involved meetings with stakeholders, tenant farmers, agency personnel, and communicating intentions of the project to enlist community support and eventual involvement. Detailed construction plans, specifications and labor and cost analyses were prepared for each phase. The project has involved the development of a 100-acre native plant nursery to propagate native genotype seeds for use in the restoration, also critical to the strategic plan was the development of relationships with landowners who own remnants of native plant communities where seed harvesting for nursery establishment and use in this restoration will occur.

Cost-recovery strategies, including the development of a 400-acre wetland mitigation bank, have been designed as a part of the overall program. An additional site of creative cost-savings solutions to successfully undertaking this large-scale ecological restoration project have been developed.

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