



Overview

Coastal tallgrass prairie was once abundant along the Gulf of Mexico in southeastern Texas and southwestern Louisiana. However, land conversion for agriculture and livestock has reduced the coastal prairie to under 1% of its pre-settlement area--from over 9 million acres to approximately 65,000 acres. Of this remaining area, only 100 acres can now be found in the state of Louisiana, and most of these are narrow strips lying along railroad rights-of-way. Due to the dire need for preservation of this endangered ecosystem, the U.S. Fish & Wildlife Service initiated the Duralde Cajun Prairie Restoration Project in Evangeline Parish in 1994. Project planners first arranged the purchase of 334 acres of Cajun Prairie (as the coastal prairie in Louisiana is known) and then conducted a range of restoration activities. The clearing of invasive tallow trees was the first step taken, and native plant species were later reintroduced by either transplanting native vegetation from imperiled prairie remnants or sowing seeds from the air. Observations made thus far suggest that transplanting has been more effective than seeding and that seeded areas may take as long as 10 years to fully recover. Nevertheless, more than 100 species of native Cajun Prairie plants have been re-established, and practitioners are hopeful that the site will eventually become an important sanctuary for the many species that depend upon the waning coastal prairie ecosystem for their survival.

Project Details

Lead Entity:

U.S. Fish & Wildlife Service

Lead entity types:

National Government

Adaptive management

Describe adaptive management processes and mid-course corrections taken to address unforeseen challenges and improve outcomes in each of the following categories:

Other:

The Duralde Cajun Prairie Project is the only Cajun Prairie restoration currently being undertaken on federally-owned land. It is hoped that these 334 acres will serve as a refugium for Cajun Prairie plants and animals and that they will mitigate the consequences of any further destruction of the remaining remnant strips.

State of Progress:

Implementation activities ongoing, including aftercare, maintenance, and adaptive management

Project Start:

1994-07-26

Project End:

1994-07-26

Global Regions:

Northern America

Americas

World

Countries:

United States of America

Ecosystem Functional Groups / Biomes:

Savannas and grasslands biome

Ecosystems:

Temperate subhumid grasslands

Extent of project:

- 100-200 ha

Extent of restoration:

- 100-200 ha

Degradations:

- Other forms of unsustainable agricultural practices

Description:

Today, substantially less than one percent of the coastal prairie remains. Although much of the former prairie has been converted to pasture for cattle grazing, the large majority has been destroyed for agriculture--sugarcane, grain crops and, in particular, rice. In Louisiana, the few remaining remnants of coastal prairie are narrow strips of land found along railroad rights-of-way. Most of these remnants are less than 30 meters wide, and the longest unbroken strips are only about 800 meters long. This extant prairie was either never tilled or has not been tilled since the railroad acquired the land ca 150 years ago. The estimated total area of intact Cajun Prairie (i.e. coastal prairie in Louisiana) is only 100 acres (Allen and Vidrine 1989). This ecosystem is ranked G2 (imperiled globally because of rarity or because of some factor(s) making it vulnerable to extirpation) by the Nature Conservancy (Grossman et al. 1994), and in Louisiana it is ranked S1 (critically imperiled in state because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation from the state) by the Natural Heritage Program (Smith 1995). While agriculture and livestock have historically been the primary causes of degradation, development now poses the greatest risk to what remains of the coastal prairie, as most of the above-mentioned remnants are privately held, with only a small percentage preserved on government land.

Planning and Review



Goals and Objectives



Was a baseline assessment conducted:

UNSURE

Was a reference model used:

YES

How was the reference model constructed?:

- The reference model is based on other diverse sources of information (e.g. other local or regional historical information, ecosystem classification systems, species range maps, successional models, Indigenous and Local Knowledge).

were_goals_identified:

YES

Goals and objectives:

- Other

Goals Description::

To restore degraded Cajun Prairie to the project site and thereby expand the remaining area of this critically endangered ecosystem.

Stakeholder Engagement



Were Stakeholders engaged?:

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Ecosystem Activities and Approaches



General Activities: In February 1993, the title to a 334-acre FmHa easement tract was transferred to the U.S Fish and Wildlife Service. This tract is located in Evangeline Parish between Eunice and Mamou, Louisiana. The site was an abandoned agricultural area that was covered with

thousands of Chinese Tallow Trees (*Sapium sebiferum*). The Tallow Trees were uprooted with bull dozers, wind rowed, and burned. The area was then disked and the levees removed. In January 1995, volunteers and Lacassine Wildlife personnel transplanted several truck loads of Cajun Prairie plants onto the site. The Cajun Prairie plants were obtained from a nearby remnant strip. A centrally located 90-acre portion of the tract was redisked in the spring of 1995. Using an airplane, seeds were sown on the 90 acres on May 2 and 9. The seeds included 270 lbs of Eastern Gamma Grass (*Tripsacum dactyloides*), 61 lbs of Aldous Little Bluestem (*Schizachyrium scoparium*), 171 lbs of Kaw Big Bluestem (*Andropogon gerardii*), 109 lbs of Cheyenne Indiangrass (*Sorghastrum nutans*), and 54 lbs of Alamo Switchgrass (*Panicum virgatum*). Seeds were again collected from remnants and sown into parts of the 90-acre plot in January 1996. In August 1998, seeds that were harvested from Attwater Prairie Chicken NWR in Texas were spread across the remaining acreage (244 acres). Also, in 1998 an experiment was begun to test the best time of year to plant seeds. Seeds were harvested from remnants and divided into four equal lots; one lot was planted in December 1998, two in February 1999, and one May 1999, with the two lots planted in February sown at two different sites. The results indicate that December was slightly better than February, and both December and February were much better than May. In the dormant seasons of 1998-99, 1999-2000, and 2000-2001, transplants were dug from remnants and transplanted into the Duralde prairie. In November 2000, seeds of 50 selected Cajun Prairie forbs were planted in monocultural plots. These seeds came from different remnants and are being planted together to test for increased seed production.

Categories of ecosystem restoration activities and approaches utilized:

- Ecological restoration

Specific type of rehabilitation and/or restoration approach implemented:

- Reconstruction or heavily assisted recovery (e.g. introduction of nearly all biota, major landform modification, major hydrological modification)
- Assisted natural recovery with planting, seeding, or faunal introductions (e.g. enrichment planting or seeding; farmer assisted natural regeneration; rewilding)

Restoration activities implemented:

- Control of invasive species
- Restoration of vegetation cover and ecosystem structure
- Soil and water management

Restoration activities implemented - cover and structure:

- Herbaceous species and subshrub planting (e.g. grasses, forbs, ferns, terrestrial mosses and lichens)
- Direct seeding or dibbling

Restoration activities implemented - invasive species:

- Species control measures, physical or mechanical (e.g. cutting, pulling, burning, covering, digging up, plowing, scalping, mowing, capturing, hunting)

Restoration activities implemented - soil and water:

- Grading to establish topography

Species used in project - composition:

- Mix of native species

Species used in project - origin:

- Wild collected germplasm

Project Outcomes



Eliminate existing threats to the ecosystem: Areas that were subject to transplanting are close to being 100% restored back to Cajun Prairie. The seeded areas, on the other hand, are taking much longer, and it appears that they could require as long as ten years to become fully restored. More than 100 species of native Cajun Prairie plants now call this site home, and a number of native grasses have become well established. In the 90-acre tract, the dominant grasses are eastern gamma and switch grass, while in the 244-acre tract, the dominant grass is little bluestem. The occurrence of other grasses is low, but small clumps can be found scattered across the entire refuge. Some of the more conspicuous forbs that have become established include several species of button snakeroot (*Eryngium yuccifolium*), hairy sunflower (*Helianthus mollis*), and sweet goldenrod (*Solidago odora*).

Monitoring and Data Sharing



Does the project have a defined monitoring plan?:

NO

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Long Term Management



STAPER



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