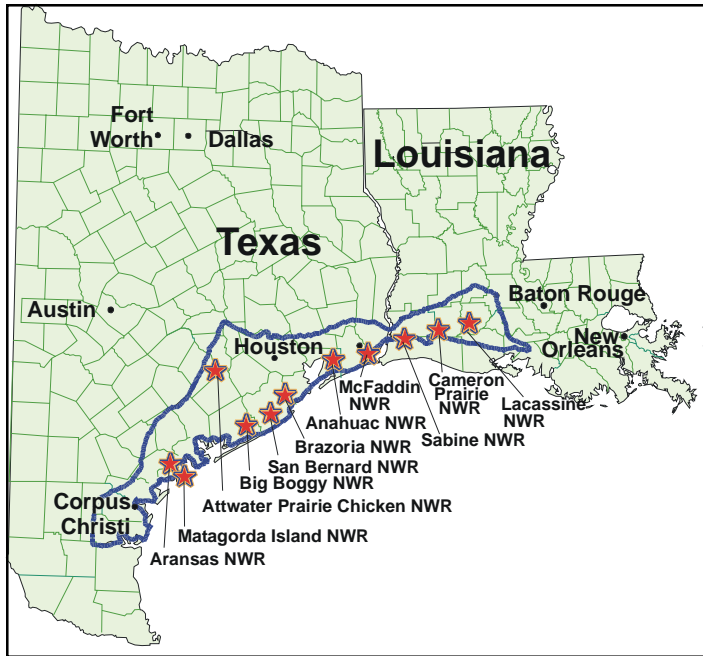


Coastal Prairie

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Location of the coastal prairie. The stars indicate management and restoration sites in the Department of the Interior. (NWR = National Wildlife Refuge).

The coastal prairie, located along the coastal plain of southwestern Louisiana and southcentral Texas, is the southernmost tip of the tallgrass prairie ecosystem so prevalent in the Midwest. The coastal prairie ecosystem once covered as much as 3.8 million ha (9 million acres); today, more than 99% of this land has been lost to agriculture, range improvement, and urbanization. The remainder is highly fragmented and severely threatened by invasions of exotic species and urban sprawl. In Louisiana, the former 1 million ha of coastal prairie have now been reduced to about 100 ha. In Texas, only about 100,000 ha of coastal prairie remain intact.

Biodiversity at risk. Wildflowers, forbs (nonwoody, broad-leaved plants), and

grasses once covered the region, and prairie birds, prairie voles, butterflies, and other prairie insects and creatures were abundant. The coastal prairie was home to herds of bison and pronghorn antelope, and red wolves roamed the plains. Today, this ecosystem is currently listed as “imperiled globally” by The Nature Conservancy and the Texas Natural Heritage Program, and the Louisiana Natural Heritage Program lists it as “critically imperiled.” The Texas Organization for Endangered Species lists the vegetation associations within the coastal prairie as “threatened and endangered communities.” There are many species at stake in coastal prairie. For instance, a dozen plant species in this ecosystem, including orchids and sedges, are regarded as “state-

rare” and two others are listed as “critically imperiled.” The coastal prairie is the only place where the federally endangered Attwater’s greater prairie chicken (*Tympanuchus cupido attwateri*) is found; there are fewer than 100 birds remaining in the wild and efforts to restore them to coastal prairie are now using captive bred birds. The coastal prairie is also exclusive wintering ground of the federally endangered whooping crane (*Grus americana*) of which there are only about 150 remaining.

Many of the tallgrasses typically found in the Midwest prairie region occur in the coastal prairie as well, such as bluestems, coneflowers, and blazing stars, mingled with species native to the coastal wetlands and sandy pine savannas of the eastern region: gulf cordgrass (*Spartina spartinae*), saltmarsh morning glory, pine lilies, and sundews (*Drosera*).

What is coastal prairie? This region is distinctive from the Midwestern grasslands in the amount of rainfall: 142.24 cm (56 inches) annually compared to a mere 71 cm (28 inches) in the Midwest. Such an

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Grasses and flowering plants such as those shown above are characteristic of the coastal prairie as well as the more familiar Midwestern prairie.

abundant amount of rainfall typically produces forests rather than grasslands; scientists believe that the coastal prairie developed because of the hard clay layer underneath the topsoil, which inhibited root formation of larger species such as forest trees. Before settlement, natural fires such as those set by lightning also contributed to keeping the growth of trees and shrubs in check while stimulating the growth of native grasses.

Restoration efforts. Although many of the native populations of plants and animals have been lost in this critical habitat, there are still enough remnants to give hope to restoration efforts. The U.S. Fish and Wildlife Service (USFWS) lists restoration of the coastal prairie as one of the top priorities for the region. Several USFWS national wildlife refuges are managing and restoring the coastal prairie, including Lacassine and Cameron Prairie refuges in Louisiana and Anahuac, Aransas, Attwater, and Brazoria refuges in Texas.

Additional groups involved in restoration and management include the Texas

Nature Conservancy, Texas Parks and Wildlife, Louisiana Nature Conservancy, Louisiana Heritage Program, Cajun Prairie Restoration Society, University of Texas A&M Extension Service, and USDA Natural Resources Conservation Service.

Coastal prairie management and restoration are two of the primary mission goals of the U.S. Geological Survey's National Wetlands Research Center (NWRC). The NWRC provides assistance to land managers in the revegetation, restoration, and management of the gulf coastal prairie.

Some of the research projects at the NWRC relevant to coastal prairie restoration and management currently focus on planting procedures of native grasses and other coastal prairie plants to determine what combinations of native species would have the best chance of success in coastal prairie restoration efforts. Other projects are concerned with the effects of natural and prescribed fire on land and resource management and on community processes in the coastal prairie ecosystem.

Controlling invasive species. At Brazoria National Wildlife Refuge in Angleton, Texas, the NWRC conducts coastal prairie restoration and management studies. Recent studies at Brazoria focused on how prescribed burns of prairie land can be used to control the Chinese tallow (*Sapium sebiferum*), an invasive plant that is currently threatening native habitats throughout the southeastern United States and is a particular danger to the native coastal prairie ecosystem.

The coastal prairie is a unique and vital part of the biosphere that has almost vanished within the last 100 years. Though much has been lost both in terms of land coverage and native species, much biodiversity yet remains and is in need of being protected and preserved. Future restoration efforts must focus not only on encouraging development of native species, but also on discouraging invasive species and the encroachment by urban sprawl and agriculture.



NWRC scientists are experimenting with various combinations of plant species native to the coastal prairie to determine which ones are best suited to restoration efforts. Since most of the coastal prairie has essentially vanished, restoration often means starting over from scratch.