

38. Western Xeric Sandhill Woodland

Rarity Rank: S2S3 (S1 - Florida Parishes)/G2G3

Synonyms: Oak-Farkleberry Sandy Lands

Ecological Systems: CES203.056 West Gulf Coastal Plain Sandhill Oak and Shortleaf Pine Forest and Woodland

General Description:

Western Xeric Sandhill Woodlands develop on deep Tertiary marine sands (particularly of the Sparta formation in northwest Louisiana) and also on Pleistocene stream terraces. The soil is nutrient-poor and dries quickly. Trees are often stunted because of extreme site conditions. Fire is thought to be an important process in maintaining this community. However some xeric sandhill woodlands may be isolated by landscape features which make them less subject to fire (e.g., nearly surrounded by a floodplain). This community may have the appearance of a scrubby shrub-woodland. Small, natural openings may be scattered.



Overstory species may include *Pinus echinata* (shortleaf pine), *Pinus taeda* (loblolly pine), *Quercus stellata* (post oak), *Q. marilandica* (blackjack oak), *Q. incana* (bluejack oak), *Q. stellata* var. *margaretta* (sand post oak), and *Q. hemispherica* (upland laurel oak). Shrub species may include *Asimina parviflora* (dwarf paw-paw), *Vaccinium arboreum* (winter huckleberry, may be dominant), *Bumelia lanuginosa* (chittum-wood), *Ilex vomitoria* (yaupon), *Chionanthus virginicus* (fringe-tree), *Rhamnus caroliniana* (Indian cherry), *Polygonella americana*. (jointweed), *Stillingia sylvatica* (stillingia), and *Hamamelis virginiana* (witch-hazel). The herbaceous layer is sparsely developed, but may include *Opuntia humifusa* (prickly-pear cactus), *Andropogon* spp. (broomsedges), *Asclepias* spp. (milkweeds), *Aristida lanosa* and *A. desmantha* (three-awn grasses), *Smilax pumila* (sarsaparilla vine), *Cnidocolous texana* (bull-nettles), *Tephrosia virginiana* (goat's-rue), and *Tradescantia reverchonii* (downy spider wort). Foliose lichens (especially those in the genera *Cladina* and *Cladonia*) may occur in profusion. Many state-rare species are indigenous to this habitat, including *Astragalus soxmaniorum* (soxman's milk-vetch), *Zornia bracteata* (viparina), *Streptanthus hyacinthoides* (smooth twistflower), *Polanisia erosa* (large clammy-weed), *Penstemon murrayanus* (cupleaf beardtounge), *Eriogonum longifolium* and *E. multiflora* (wild buckwheats), *Silene subciliata* (scarlet catchfly), *Tetragonotheca ludoviciana* (Louisiana square-head), *Prunus gracilis* (sandhill plum), and others.

Current Extent and Status:

Presettlement extent of Western Xeric Sandhill Woodland habitat is estimated to have been 50,000 to 100,000 acres, with 10 to 25 % remaining today (Smith 1993). Northern Caddo Parish is a “hotspot” for this habitat with a relatively high concentration of sandhill woodlands. However, most of the sandhill woodlands there are highly degraded (MacRoberts and MacRoberts 1995). There are opportunities for restoration of this habitat in Caddo Parish.



There are several protected examples of sandhill woodlands on KNF in Natchitoches Parish, including one that is registered with the Louisiana Natural Areas Registry Program (Saline Bayou Sandylands Natural Areas, 64 acres). There is a well-known stream terrace sandhill woodland site near Goldonna in Winn Parish on an in-holding within KNF. The site has been known as a unique botanical area since the 1930s. The condition of the interior of the woodland needs to be determined.

There is a high concentration of stream terrace sandy woodlands mainly along the Calcasieu River and its tributaries in southwest Louisiana, as well as along the Sabine River. The principle soil series supporting these woodlands is Bienville loamy fine sand. Recent inspection of aerial photographs revealed that many of these stream terrace sandy woodlands, particularly the largest and highest in elevation, have been converted to densely-stocked pine plantations. At present there are only fragments of this habitat known in southwest Louisiana. Locating and protecting remaining examples of this habitat should be a conservation priority.

WESTERN XERIC SANDHILL WOODLANDS SPECIES OF CONSERVATION CONCERN (15)		
AMPHIBIANS Strecker's Chorus Frog	Loggerhead Shrike Prairie Warbler Field Sparrow	MAMMALS Ringtail
BIRDS Northern Bobwhite American Woodcock Yellow-billed Cuckoo Chuck-Will's-Widow	BUTTERFLIES Wild Indigo Duskywing Cobweb Skipper	REPTILES Western Slender Glass Lizard Southern Prairie Skink Northern Scarlet Snake Louisiana Pine Snake

Priority Species Research and Survey Needs:

Chuck-Will's-Widow: Research is needed to better understand the population dynamics of this species. Studies should focus on distribution patterns, habitat availability and use, nesting success, and territory size requirements. Implementation of night-time surveys along with sighting reports by foresters, birders, etc. are needed to augment sparse BBS records.

Loggerhead Shrike: BBS data for the period 1966-2000 indicate a 71% population decline range-wide. Monitoring of reproductive success and the effects of pesticides in reducing food availability are needed along with statewide evaluation of changes in available habitat.

Butterflies: Conduct surveys to determine the current distribution and abundance of all butterfly species, especially species of conservation concern, for inclusion in the LNHP database.

Ringtail: Louisiana represents the eastern edge of its range. Intensive surveys are needed to determine its current status in Louisiana.

Western Slender Glass Lizard: Occurrence in Western Xeric Sandhill Woodlands likely but imperfectly known. Glass lizards are declining over much of their range, regardless of habitat alteration. Determine the extent of any correlations between glass lizard occurrence and Western Xeric Sandhill Woodlands.

Louisiana Pine Snake: A sandhill specialist with a severely reduced range. Sandhills are also necessary for its principle prey – Baird’s Pocket Gopher (*Geomys breviceps*). The quality of remaining habitat has been degraded due to logging, fire suppression, short-rotation silviculture, and conversion to pasture lands. Some of the best remaining populations occur on industrial forest lands. Continue to support research into this species life history, limiting factors that reduce reproductive success, and the use of herbicides instead of prescribed burning on composition and/or density of ground cover vegetation and its effects on pocket gophers.

Species Conservation Strategies:

1. Chuck-Will's-Widow: Work with federal agencies and bird conservation organizations to produce technical pamphlets highlighting the habitat and management requirements of this species and make them available to landowners.
2. Louisiana Pine Snake:
 - Maintain open canopy pine woodland in xeric sandhill community.
 - Eliminate root chopping at sites under timber management.
 - Continue to work with timber industry, USFS, and USFWS to promote habitat and species conservation strategies to increase populations on quality sites.
 - Implement conservation and management recommendations of SWG project T10 upon completion.

Threats Affecting Habitat:

The following table illustrates the threats identified for this habitat type and the sources of these threats. This represents all threats and sources of threats identified across all ecoregions of the state where this habitat occurs.

Source of Threat	Threat			
	Altered Composition/ Structure	Habitat Destruction or Conversion	Habitat Disturbance	Habitat Fragmentation
Commercial/industrial development		XXX		XXX
Conversion to agriculture or other forest types		XXX		XXX
Development/maintenance of pipelines, roads or utilities		XXX		XXX
Fire suppression	XXX			
Incompatible forestry practices	XXX		XXX	
Oil or gas drilling		XXX		XXX
Parasites/pathogens	XXX			
Recreational use/vehicles			XXX	
Residential development		XXX	XXX	XXX

Habitat Conservation Strategies:

1. Conduct surveys to determine the current extent and condition of this habitat type.
2. Develop management plans/recommendations for this habitat type.
3. Develop relationships with mineral rights owners and work to minimize impacts from mineral extraction activities.
4. Provide education/outreach to promote conservation and preservation of this habitat type.
5. Identify priority areas for land acquisition or preservation/conservation.
6. Work with land managers/hunting clubs/extension agents, etc. to discourage the placement of food plots in this habitat type.
7. Work with the legislature to provide incentives (tax breaks, etc.) to landowners to retain the natural state of areas where this habitat occurs.
8. Support research to understand the basic ecosystem characteristics and processes of this habitat type.
9. Provide educational information on this habitat type and its importance to species of conservation concern to landowners/land managers through technical pamphlets and the LDWF website.

References:

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