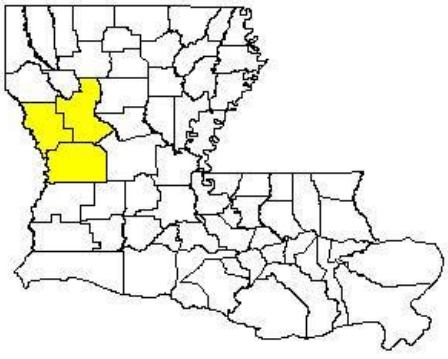
## 28. Sandstone Glade/Barren

***Rarity Rank:*** S1S2/G1G2
***Synonyms:*** Catahoula Barren, Sandstone Outcrop
***Ecological Systems:*** CES203.364 West Gulf Coastal Plain Catahoula Barrens

***General Description:***

This natural community develops on outcropping sandstone in pine forests, chiefly in a belt running from northeast to southwest across central Louisiana, and is primarily associated with the Catahoula formation. The community appears as a complex of sandstone boulders, intermixed with shrubs and trees occurring as individuals or in patches. Associated soils are characteristically acidic and are highly erodable, often eroding to form an irregular, sandstone-studded landscape of gullies, bluffs, and miniature gorges and buttes. Much of the soil and rock is unvegetated. Tree species present may include *Pinus palustris* (longleaf pine), *P. echinata* (shortleaf pine), *P. taeda* (loblolly pine), *Quercus stellata* (post oak), *Q. incana* (bluejack oak), *Q. marilandica* (blackjack oak), and *Liquidambar styraciflua* (sweetgum). Shrubs may include *Ilex vomitoria* (yaupon), *Vaccinium arboreum* (winter huckleberry), *V. elliottii* (Elliott's blueberry), *Bumelia lanuginosa* (chittum-wood), and *Crataegus* spp. (hawthorns). Common herbaceous species are *Bigelowia virgata* (rayless goldenrod, often the dominant herb), *Andropogon* spp. (broomsedges), *Eragrostis* spp. (love grasses), *Liatris* spp. (blazing-stars), and *Aster* spp. (asters). *Talinum parviflorum* (small-flowered flame-flower) may rarely be present. Saxicolous mosses and lichens abound.

***Current Extent and Status:***



Sandstone glades are thought to have occupied less than 2,000 acres in presettlement times with an estimated 50 to 75% remaining today (Smith 1993). Most known occurrences are on the Kisatchie District of KNF in southern Natchitoches Parish. There are a handful of known glades on private land in varying condition. There are probably more examples of this habitat both on KNF and on private lands.

| SANDSTONE GLADE BARREN<br>SPECIES OF CONSERVATION CONCERN (6) | | |
|---|---|---|
| **AMPHIBIANS** | **BIRDS** | **BUTTERFLIES** |
| Southern Red-backed Salamander | Chuck-Will's-Widow | Cobweb Skipper |
| | Loggerhead Shrike | |
| | Field Sparrow | **REPTILES** |
| | | Western Slender Glass Lizard |

***Priority Species Research and Survey Needs:***

Chuck-Will's-Widow: Research is needed to better understand this species' population dynamics. 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 rangewide. Monitoring of reproductive success and the effects of pesticides on food availability are needed along with a statewide evaluation of changes in available habitat.

Cobweb Skipper: Conduct surveys to determine current distribution and abundance for inclusion in the LNHP database.

Western Slender Glass Lizard: Occurrence in Sandstone Glades 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 Sandstone Glades.

***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 available to landowners.

***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.

| | Threat | |
|---|---|---|
| **Source of Threat** | Altered Composition/ Structure | Habitat Disturbance |
| Fire suppression | XXX | |
| Incompatible forestry practices | XXX | XXX |
| Recreational use/vehicles | XXX | XXX |

***Habitat Conservation Strategies:***

1. Conduct surveys to determine the current extent and condition of this habitat type.
2. Develop educational materials about the importance and rarity of this habitat for the general public.
3. Encourage the use of precribed fire as a management tool.
4. Provide educational information on this habitat type and its importance to species of conservation concern to landowners/land managers through technical pamplets and the LDWF website.
5. Support research on the community classification of sandstone glades.

***References:***

LNHP. 1986-2004. The natural communities of Louisiana. Louisiana Natural Heritage Program, Louisiana Department of Wildlife and Fisheries, Baton Rouge, LA.

MACROBERTS, M. H., AND B. R. MACROBERTS. 1991. The distribution of *Sarracenia* in Louisiana, with data on its abundance in the western part of the state. Phytologia 70(2):119-125.

———, AND ———. 1993a. Vascular flora of sandstone outcrop communities in westeren Louisiana, with notes on rare and noteworthy species. Phytologia 75(6):463-480.

———, AND ———. 1993b. Why don't west Louisiana bogs and glades grow up onto forests? Phytologia 74(1):26-34.

MACROBERTS, B. R., AND M. H. MACROBERTS. 1993. Floristics of two Louisiana sandstone glades. Phytologia 74(6):431-437.

MARTIN, C. 2002. Riparian Habitat Management for Mammals on Corps of Engineers Projects. Ecosystem Management and Restoration Research Program, ERDC TN-EMRRP-SI-29.

MARTIN, D. L., AND L. M. SMITH. 1991. A survey and description of the natural plant communities of The Kisatchie National Forest, Winn and Kisatchie Districts. Louisiana Department of Wildlife and Fisheries, Baton Rouge.

SMITH, L. M.1993. Estimated presettlement and current acres of natural plant communities in Louisiana currently recognized by the Louisiana Natural Heritage Program. Louisiana Natural Heritage Program, Louisiana Department of Wildlife and Fisheries, Baton Rouge, LA.