

24. Saline Prairie

Rarity Rank: S1/G1G2

Synonyms: Barrens, Salt Barrens, Slicks

Ecological Systems: CES203.291 West Gulf Coastal Plain Saline Glade

General Description:

Saline prairie is a natural, mostly treeless natural community currently known from a few scattered sites in central and northwestern Louisiana. Typically only a few acres in size, they may be wet, mesic or dry prairies. The wet variants arise on low flat terraces subject to regular flooding adjacent to or near small to intermediate streams. Wet saline prairies usually grade upslope into mesic or dry saline prairies. In aspect, these prairies are usually a mosaic of variably dense herbaceous vegetation (thick to thin), with interspersed bare soil areas (“slicks”). Shrubs are intermixed to a greater or lesser degree, and may in places form saline shrub thickets.



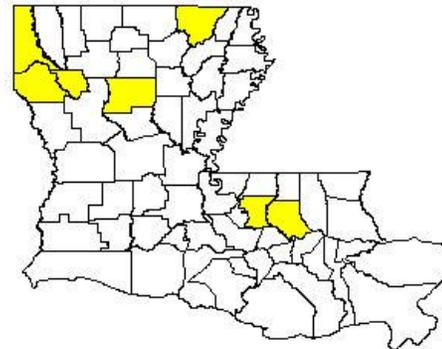
The soils for all saline prairies have high levels of exchangeable sodium and (at times) magnesium in the subsoil and near the surface horizons that have created extreme conditions for plant growth. Such conditions include relatively high alkalinity, very poor movement of water and air in the soil, resistance to wetting that can induce droughty conditions, resistance to drying once saturated, and sodic horizon in the subsoil that acts much like a dense claypan and is very resistant to root penetration. The soil, naturally low in fertility, contains relatively high levels of certain water-soluble salts that are injurious to plants and may produce alkali chlorosis and mortality. The principal soils supporting the community in the UWGCP and EGCP are the Bonn and Lafe series. Occurrences on the LWGCP are on Brimstone soils. The plant community therefore includes many halophytic (salt tolerant) forbs, grasses and grass-like plants.

Characteristic plants include *Aristida* spp. (three-awn grasses), *Aster subulatus*, *Atriplex pentandra* (orach), *Bacopa monnieri* (water hyssop), *B. rotundifolia*, *Carex glaucescens* (sedge), *Chasmanthium latifolium* (spikegrass), *Diodia teres* (poorjoe), *Distichlis spicata* (alkali grass), *Eleocharis* spp. (spikerush), *Fimbristylis castanea*, *Geocarpon minimum* (earthfruit, federally-listed as threatened, image above), *Heliotropium curassivicum* (heliotropes), *Hibiscus moscheutos* ssp. *lasiocarpus* (hibiscus), *Iris brevicaulis* (lamance iris), *Iva angustifolia* (marsh elder), *Juncus* spp. (rushes), *Ludwigia* spp. (primrose), *Lythrum lineare* (loosestrife), *Panicum virgatum* (switchgrass), *Phyla nodiflora* (frog-fruit), *Pluchea camphorata* (stinkweed), *Polygonum*

aviculare (knotweed), *Proserpinaca pectinata* (mermaid-weed), *Rhynchospora corniculata* (beakrush), *Schizachyrium scoparium* (little bluestem), *Solidago sempervirens* (seaside goldenrod), *Spartina pectinata* (prairie cordgrass), *Tradescantia occidentalis* (spiderwort), and *Tridens strictus* (sandgrass). Characteristic tree, shrub and vine species (nearby or very scattered in prairie) include: *Ampelopsis arborea* (peppervine), *Baccharis hamilifolia* (saltbush), *Berchemia scandens* (rattan vine), *Cephalanthus occidentalis* (buttonbush), *Crataegus berberifolia* (barberry hawthorn), *C. brachyacantha* (blueberry hawthorn), *C. virdis* (green hawthorn), *Fraxinus caroliniana* (Carolina ash), *Morella cerifera* (wax myrtle), *Pinus taeda* (loblolly pine), *Quercus lyrata* (overcup oak), *Q. nigra* (water oak), *Q. similis* (delta post oak), *Q. phellos* (willow oak), and *Ulmus crassifolia* (cedar elm).

Current Extent and Status:

Saline prairies are widely scattered in Louisiana. There are only three known intact saline prairies in the UWGCP. Two of them are in Red River Parish and one is in southern Caddo Parish. The Red River saline prairies are on industrial forest land and are being protected. The Caddo prairie is on non-industrial private land and LNHP is just beginning to work with the landowner toward conservation of the site. There are several other saline prairies in Caddo and Desoto parishes that require a field survey to determine their status. There is one named saline prairie in Morehouse Parish called Prairie de Butte that is now completely extirpated. There are patches of Lafe series soil near this site with some characteritic flora but no known intact prairies. In the Lower West Gulf Coastal Plain there are several high quality saline prairies in southeast Winn Parish. Two of these prairies support the federally-listed *Geocarpon minimum* (earth fruit). Saline prairies are suspected to occur in adjacent Caldwell Parish. Saline prairies were histoically known from East Baton Rouge Parish and Livingston Parishes and these prairies have now been extirpated (Smith 1999). Saline Prairies were not extensive in presettlement times. The estimated presettlement acreage for Saline Prairie is less than 2,000 with an estimated 10 to 25 % remaining (Smith 1993).



| SALINE PRAIRIE SPECIES OF CONSERVATION CONCERN (6) | | |
|--|-----------------------|------------------------------|
| BIRDS | MAMMALS | REPTILES |
| American Woodcock | Hispid Pocket Mouse | Western Slender Glass Lizard |
| Field Sparrow | Eastern Harvest Mouse | |
| Grasshopper Sparrow | | |

Priority Species Research and Survey Needs:

Field Sparrow and Grasshopper Sparrow: Survey's are needed to determine breeding (Field Sparrow) and wintering population abundances and to assess the amount and quality of available habitat statewide.

Eastern Harvest Mouse: Considered vulnerable in Louisiana. Intensive surveys are needed to update occurrence records and abundance for inclusion in the LNHP database.

Hispid Pocket Mouse: Louisiana represents the eastern edge of its range. Intensive surveys are needed to update occurrence records and abundance for inclusion in the LNHP database.

Western Slender Glass Lizard: Occurrence in saline prairies is 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 Saline Prairies.

Determine the microhabitat preferences and requirements of species occurring in saline prairies to understand how these species are utilizing the habitat to develop management recommendations.

Species Conservation Strategies:**1. Songbirds:**

- Continue to encourage landowners to maintain areas in an early successional stage to benefit bird species which depend on this habitat.
- Work with NRCS, USFWS, USFS to develop and distribute technical pamphlets which contain information about the importance of early successional habitat for species of conservation concern.
- Continue to monitor songbird abundance and reproductive success (with emphasis on species of conservation concern) in this habitat through the establishment of MAPS stations.

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 | Soil Erosion |
| Development/maintenance of pipelines, roads or utilities | | XXX | XXX | |
| Grazing practices | XXX | XXX | | |
| Incompatible forestry practices | XXX | XXX | XXX | XXX |
| Invasive/alien species | XXX | | XXX | XXX |
| Oil or gas drilling | | XXX | | |
| Recreational use/vehicles | XXX | XXX | XXX | XXX |

Habitat Conservation Strategies:

1. 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.
2. Conduct surveys to determine the current extent and condition of this habitat type.
3. Develop management plans/recommendations for this habitat type.
4. Prepare GIS layer of soil type locations where prairies might occur and provide this information to the timber industry.
5. Work with the legislature to provide incentives (tax breaks, etc.) to landowners to retain the natural state of areas where this habitat occurs.
6. Provide management guidelines for control of invasive species within this habitat type.
7. Support research to understand basic ecosystem characteristics and processes and to develop methods to reduce soil erosion.
8. Develop strategies to address damage from feral hogs within this habitat type.
9. Work with hunting clubs and other landowners to restrict ATV use to existing trails to prevent degradation of this habitat type.

References:

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