

XERIC SANDHILL SCRUB (TYPIC SUBTYPE)

Concept: Xeric Sandhill Scrub is the widespread longleaf pine community of dry, coarse, infertile sands, which have a low diversity scrub oak layer strongly dominated by *Quercus laevis*, but which have fairly high cover of *Aristida stricta* and other herbs rather than the sparse vegetation of the Sand Barrens. The Typic Subtype covers most examples of the Sandhills and Coastal Plain, where plants characteristic of the coastal fringe are absent.

Distinguishing Features: Xeric Sandhill Scrub is distinguished from most other communities by the presence of a scrub oak layer strongly dominated by *Quercus laevis*. *Quercus marilandica* is absent, but *Quercus margarettae* and *Quercus incana* are often present. The Typic Subtype is distinguished from the Coastal Fringe Subtype by the absence of characteristic coastal fringe flora, such as *Cladina evansii*, *Rhynchospora megalocarpa*, *Ilex vomitoria*, and *Quercus geminata*.

Xeric Sandhill Scrub is distinguished from Sand Barren by higher plant cover in the herb layer, especially of *Aristida stricta*. Bare sand patches of any size are absent unless the soil or vegetation has been disturbed. Lichens and specialized psammophytes such as *Stipulicida setacea* and *Minuartia caroliniana* (= *Arenaria caroliniana*), may be present but are minor in abundance in comparison with *Aristida stricta*.

Synonyms: Xeric Sandhill Scrub (Turkey Oak Variant); Xeric Sandhill Scrub (Coastal Plain Variant); *Pinus palustris* / *Quercus laevis* / *Gaylussacia dumosa* / *Aristida stricta* Woodland (CEGL003586). Ecological Systems: Atlantic Coastal Plain Fall-Line Sandhills Longleaf Pine Woodland (CES203.254). Atlantic Coastal Plain Upland Longleaf Pine Woodland (CES203.281).

Sites: Xeric Sandhill Scrub occurs on deep sands throughout the Coastal Plain, including the extensive sand sheets on uplands of the Sandhills region, dunes association with river, rims of Carolina bays, Coastal Plain scarps, and relict beach ridges and dunes.

Soils: Soils characteristically are Typic Quartzipsamments, usually mapped as the Lakeland, Kureb, or Candor series, less often as Alpin or Cainhoy. A minority are mapped as Mandarin (Typic Haplhumod) or Centenary (Entic Haplhumod). Examples occur on a number of other soil map units but probably represent inclusions. The coarse sand, with almost no fine particles and little organic matter, has extremely low capacity for nutrient storage as well as for water retention.

Hydrology: Site are excessively drained, but less extremely so than the Sand Barrens. Water passes quickly through the coarse soil, leaving dry conditions soon after rain events. Perhaps more than in the Sand Barrens, roots of larger plants may reach the water table and find a more abundant water supply.

Vegetation: Vegetation structure is characteristic of most longleaf pine communities, with an open, patchy woodland to savanna canopy and a dense grassy herbaceous layer. In the long

absence of fire, the midstory becomes dense and shrubs expand, but otherwise they are sparse and very patchy. *Pinus palustris* typically is the only canopy tree. The midstory is dominated by *Quercus laevis*. Small numbers of other small tree species may be present, most frequently *Quercus incana* and *Diospyros virginiana*, and less frequently *Quercus margarettiae*, *Sassafras albidum*, *Nyssa sylvatica*, and occasionally *Crataegus* sp. The most frequent and extensive shrubs are *Gaylussacia dumosa* and *Toxicodendron radicans*, and CVS data (Palmquist, et al. in prep) show a surprising high frequency of *Hypericum hypericoides* (perhaps *H. stragulum*). Other shrubs often noted in site-based species lists include *Vaccinium tenellum*, *Rhus copallina*, and *Robinia nana*. The herb layer is dense to moderate, with *Aristida stricta* strongly dominant. Other frequent species in Palmquist et al. (in prep), though with low cover, include *Schizachyrium scoparium*, *Andropogon elliotii*, *Andropogon gyrans*, *Carphephorus bellidifolius*, *Cnidoscolus stimulosus*, *Euphorbia ipecacuanhae*, *Pityopsis adenolepis*, *Galactia volubilis*, *Solidago odora*, *Cirsium repandum*, *Stylisma patens*, and *Stipulicida setacea*. Other species frequently noted include *Tephrosia virginiana*, *Baptisia cinerea*, *Sericocarpus linearifolius*, and *Euphorbia curtissii*. *Cladonia* spp. lichens are sometimes present but are not usually extensive. .

Range and Abundance: Ranked G3? The Typic Subtype is one of the most extensive longleaf pine communities remaining in North Carolina. It is abundant in natural areas in the Sandhills Region, where it makes up a large portion of the landscape mosaic. Xeric Sandhill Scrub is less extensive but is common in sandy areas of the middle and outer Coastal Plain, except in the narrow coastal fringe. This community ranges into northern South Carolina, where it is similarly abundant in natural landscapes.

Associations and Patterns: Xeric Sandhill Scrub typically occurs as part of a landscape mosaic with Pine/Scrub Oak Sandhill and Streamhead Pocosin in the Sandhills Region. In other Coastal Plain regions, it occurs in a mosaic with Wet Pine Flatwoods, Pond Pine Woodland, and less frequently Pine/Scrub Oak Sandhill (Mixed Oak Subtype), Sandy Pine Savanna, Sand Barren, or various Coastal Plain Depressional Wetlands.

Variation: There are floristic difference between examples in the Sandhills region and those in the rest of the Coastal Plain. These can be recognized as variants:

1. Sandhills Variant: In the Sandhills Region, usually more diverse, with more legumes, and with *Pityopsis adenolepis* frequent.
2. Coastal Plain Variant: In the inner to outer Coastal Plain, usually less diverse, often with no legumes, without *Pityopsis adenolepis*, and often with half as many herbaceous species.

Dynamics: Dynamics are typical for longleaf pine/scrub oak communities. In the long absence of fire, scrub oaks become dense enough to inhibit regeneration of longleaf pine and to suppress the herb layer. Once established, *Quercus laevis* persistently resprouts after fire.

Comments:

Rare species:

References:

Palmquist, et al. (in prep).