

NATURAL COMMUNITIES of Florida's Inland Sand Ridges

by Linda Conway Duever

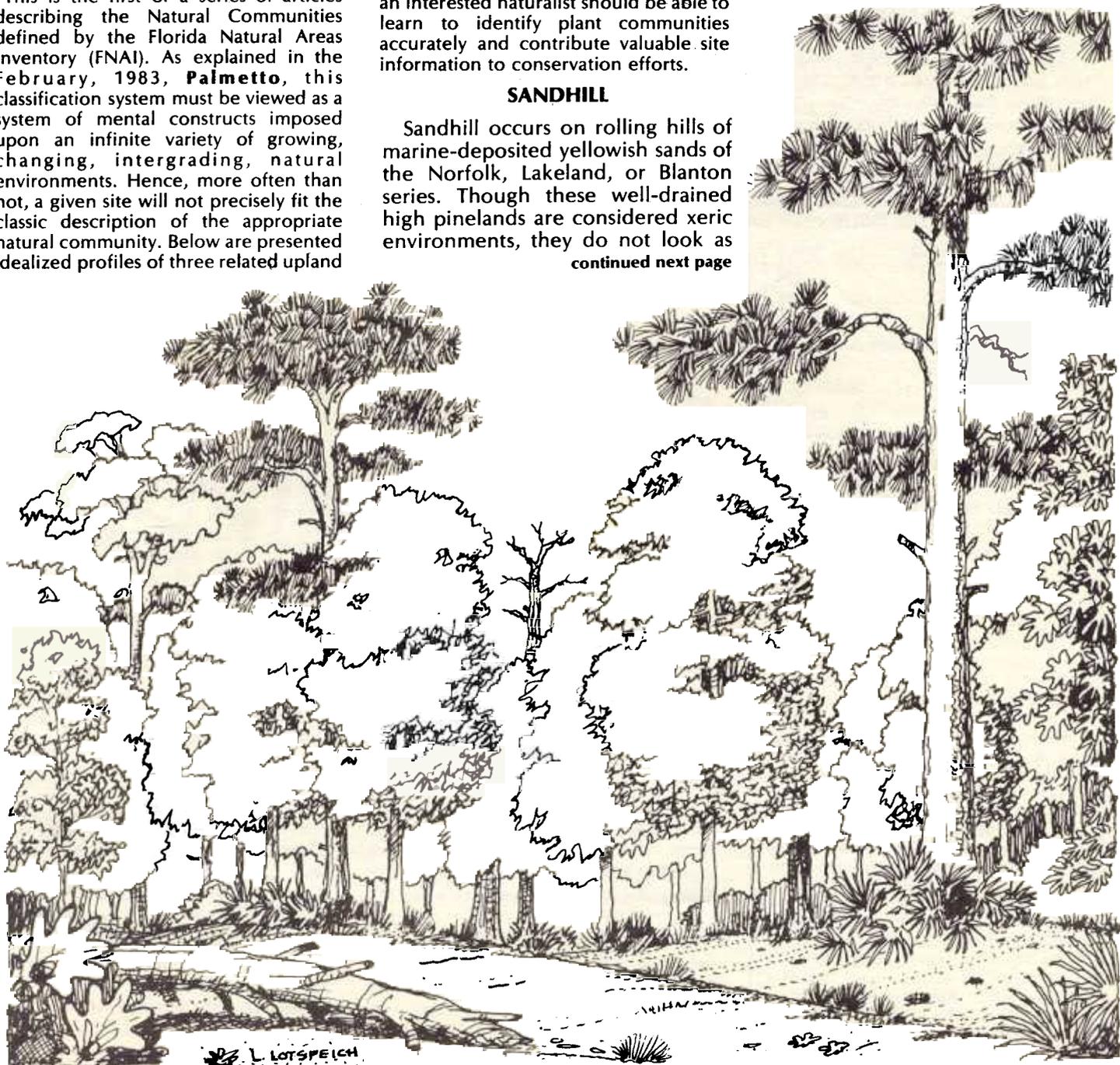
This is the first of a series of articles describing the Natural Communities defined by the Florida Natural Areas Inventory (FNAI). As explained in the February, 1983, **Palmetto**, this classification system must be viewed as a system of mental constructs imposed upon an infinite variety of growing, changing, intergrading, natural environments. Hence, more often than not, a given site will not precisely fit the classic description of the appropriate natural community. Below are presented idealized profiles of three related upland

communities. By practicing comparing these to vegetation observed in the field, an interested naturalist should be able to learn to identify plant communities accurately and contribute valuable site information to conservation efforts.

SANDHILL

Sandhill occurs on rolling hills of marine-deposited yellowish sands of the Norfolk, Lakeland, or Blanton series. Though these well-drained high pinelands are considered xeric environments, they do not look as

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desert-like as the Scrub.

FNAI has defined nine Sandhill plant communities:

- Longleaf Pine/Turkey Oak Woods
- Open Longleaf Forest
- Slash Pine/Turkey Oak Hills
- Bluejack Sandhill
- Coastal Longleaf Sandhill
- Coastal Slash Pine Sandhill, and
- Turkey Oak Sandhill.

They all have a thin pine (*Pinus palustris* or *P. elliottii*) canopy, a variable oak, *Quercus laevis*, *Q. incana*, and/or others), and an understory dominated by wiregrass (*Aristida stricta*).

- Longleaf/Sand Pine Forest and
- Scrubby Longleaf Pine Forest have a sparse, shrubby understory.

Classic open Sandhills carpeted with wiregrass are maintained by frequent burning of the dense ground cover. About every 2-5 years, a fire sweeps through and burns back encroaching oaks and shrubs. Longleaf pines are extremely fire

resistant and are scarcely damaged by these ground fires. Oaks become more prominent on sites that have not been burned regularly (or have been logged) and the scrubby sandhill types develop only where fire is a relatively rare occurrence.

Sandhill covers extensive areas of the southeastern coastal plain. In Florida it is most abundant in the Panhandle and extends down the central ridge of the peninsula into Highlands County. Although Sandhill is still widespread, undisturbed examples are quite rare. Almost all tracts have been logged and most have been plowed, grazed, or overly protected from fire. Some logged sites will eventually recover if seed trees are left, but many develop into dense stands of oaks. Wiregrass rarely reseeds and may be impossible to restore on sites where it has been shaded out or chopped up. (Recent research indicating that wiregrass produces viable seed after summer fires suggests that summer burning might be useful in restoration of damaged sites, but reestablishing a full complement of herbaceous species would still be challenging.) Distribution of the scrubby sandhill types is poorly documented and

some of them may prove to be very limited. Coastal sites are disappearing especially rapidly.

Typical Sandhill species include those mentioned above plus: sand post oak (*Quercus margaretta*), sparkleberry (*Vaccinium arboreum*), persimmon (*Diospyros virginiana*), shining sumac (*Rhus copallina*), pinewoods dropseed (*Sporobolus junceus*), sandhill sorghum (*Sorghastrum nutans*), dog tongue (*Eriogonum tomentosum*), Queen's delight (*Stillingia sylvatica sylvatica*), gopher apple (*Licania michauxii*), sandhill croton (*Croton argyranthemus*), bracken (*Pteridium aquilinum*), runner oak (*Quercus pumila*), and creeping live oak (*Q. minima*). Legumes, especially *Tephrosia*, *Clitoria*, *Dalea*, *Rhynchosia*, and *Baptisia* species, are often numerous. Other families prominent in the herbaceous flora are Compositae, Asclepiaceae, Euphorbiaceae, Rosaceae, and Labiatae.

Rare species generally restricted to Sandhill habitat include scrub buckwheat (*Eriogonum floridanum*), Apalachicola rosemary (*Conradina glabra*), bent goldenaster (*Heterotheca flexuosa*), *Carex baltzellii*, and *Calamintha dentata*.

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SCRUB

Scrub is found on high sand dunes and ridges along former shorelines. The glaring white surface of St. Lucie or Lakewood fine sand creates a blazingly hot daytime environment and moderates the evening chill. Since the loose sand drains rapidly, this creates a very xeric environment for plants unable to extend their roots deeply enough to tap subsurface moisture in the underlying clayey yellow soils.

FNAI has defined eight Scrub plant communities. Sand Pine Scrub, Sand Pine/Turkey Oak Scrub, Turkey Oak Scrub, and Slash Pine Scrub are generally shrubby habitats with a variable canopy of the named tree species (*Pinus clausa*, *Quercus laevis*, *P. elliottii*). The other Scrub types have many of the same shrubs, but no trees. Oak Scrub is a shrub thicket dominated by sand live oak (*Quercus geminata*) and/or Chapman's oak (*Q. chapmanii*) and/or myrtle oak (*Q. myrtifolia*) and/or scrub oak (*Q. inopina*). In Rosemary Scrub, the oaks are interspersed with rosemary bushes (*Ceratiola ericoides*) and there is a great deal of open space. Palmetto Scrub is dominated by saw

palmetto (*Serenoa repens*). Tropical Scrub develops where tropical hammock species, such as wild coffee (*Psychotria* spp.), have begun to invade an unburned site.

Scrub is a fire-maintained community, adapted to regenerate rapidly after infrequent catastrophic fires. A 30 to 40 year interval between fires would be considered "normal" for many Scrub sites. Fire history, soil variations, and allelopathy are all thought to be significant factors in Scrub succession, but the inter-relationships among community types are still poorly understood.

Classic Scrub with sand pine is found only in Florida, but there are scrub-like oak/rosemary communities scattered across the sandy regions of the southeast. Most of the Florida Scrub is along the coast, on the Lake Wales Ridge down the center of the peninsula, or in the Ocala National Forest region. Since it occupies high, dry sites ideal for construction or agriculture, scrub is disappearing rapidly. Tropical Scrub is found only around Marco Island, where the last known remnant is slated for residential development.

Rosemary Scrub, a scarce type which is the habitat for many endemic plants, has its richest diversity of rare species in Highlands county, where the last remnants risk conversion to citrus groves. Oak Scrub and Sand Pine Scrub are still quite common, but much of the sand pine type is in commercial forests.

Typical Scrub species include those mentioned above plus shiny blueberry (*Vaccinium myrsinites*), fetterbush (*Lyonia ferruginea*), *Polygonella polygama*, gopher apple (*Licania michauxii*), hogplum (*Ximenia americana*), silkbay (*Persea humilis*), scrub briar (*Smilax auriculata*), scrub selaginella (*Selaginella arenicola*), nodding pinweed (*Lechea cernua*), *L. deckertii*, scrub prickly pear (*Opuntia compressa*), scrub rush (*Rhynchospora megalocarpa*), wiregrass (*Aristida stricta*), reindeer moss (*Cladonia subtenuis*), grey puffs (*C. evansii*), and British soldiers (*C. leporina*).

Plants endemic to Scrub include

silkbay (*Persea humilis*) and woody wireweed (*Polygonella myriophylla*). Florida bonamia (*Bonamia grandiflora*), Florida gayfeather (*Liatris ohlingerae*), nolina (*Nolina brittoniana*), scrub balm (*Dicerandra frutescens*), scrub titi (*Cyrtilla arida*), white warea (*Warea carteri*), Highlands scrub hypericum (*Hypericum cumulicola*), scrub plum (*Prunus geniculata*), Ashe's mint (*Calamintha ashei*), pygmy fringetree (*Chionanthus pygmaea*), scrub holly (*Ilex opaca* var. *arenicola*), pink lupine (*Lupinus aridorum*), short-leaved rosemary (*Conradina brevifolia*), *Paronychia chartacea*, and *Polygonella ciliata* var. *basiramia* are found only in central Florida Scrub. Large-flowered rosemary (*Conradina grandiflora*), four-petal pawpaw (*Asimina tetramera*), and Lakela's mint (*Dicerandra immaculata*) are restricted to southeast Florida coastal Scrub. Florida goldenaster (*Chrysopsis floridana*) is a Tampa Bay area scrub endemic.

XERIC HAMMOCK

Xeric Hammock occurs on high, dry sandy inland sites that have not burned for many years. Such places are usually found on ridges adjacent to wetlands which function as firebreaks.

FNAI has defined three Xeric Hammock plant communities. Mature Scrub Hammock develops from Scrub after an extensive period without fire. Sand live oak (*Quercus geminata*) and fetterbush (*Lyonia ferruginea*) form a canopy of low

trees that shades out most other species except saw palmetto (*Serenoa repens*). Scrubby Sandhill Hammock results when a Sandhill with a shrubby understory goes unburned. This forms an open woodland of small oaks, typically turkey oak (*Quercus laevis*), sand post oak (*Q. margaretta*), live oak (*Q. virginiana*), blackjack oak (*Q. marilandica*), and/or southern red oak (*Q. falcata*). Sparkleberry

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(*Vaccinium arboreum*), saw palmetto, and a variety of shrubs and herbs are common in the understory. Sandhill succession eventually leads to Advanced Xeric Forest. This is a tall, impressive forest of mixed species. Live oak, laurel oak (*Quercus hemisphaerica*), and magnolia (*Magnolia grandiflora*) are usually prominent in the canopy and red bay (*Persea borbonia*), American holly (*Ilex opaca*) and pignut hickory (*Carya glabra*) are typical subcanopy trees. The understory is sparse, but diverse.

Xeric Hammocks are scattered throughout the Scrub and Sandhill regions of the southeastern coastal plain. But, since dry sites that have escaped fire are scarce, this is a relatively rare community found only in small isolated patches. The best Florida examples of the Advanced Xeric Forest type are in the Suwannee region, though most of these have been logged. Scrub-derived hammocks are dotted through Central Florida, often interspersed almost indistinguishably with other Scrub types.

Additional typical Xeric Hammock species include wild olive (*Osmanthus americanus*), black cherry (*Prunus serotina*), muscadine (*Vitis rotundifolia*), and beautyberry (*Callicarpa americana*). Relict populations of species more characteristic of Scrub or Sandhill remain in most Xeric Hammocks.

Next issue: Coastal Dune, Coastal Strand, and Maritime Hammock.

GLOSSARY

xeric — dry; applied to environments continually subject to droughty or desertlike conditions. (This term is not used for sites that are only dry seasonally.)

allelopathy — process by which certain plants chemically inhibit the growth of others nearby.

herbaceous — non-woody; applied to grasses, “wildflowers,” and other small plants.

relict — a remnant stand of a community or species that was once widely distributed.

taxonomy — the science of classifying, naming and identifying organisms.

synonymy — a list of the scientific names for a particular species with discriminations and explanations.