

VEGETATION LOSS on the Southern Lake Wales Ridge

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Sand pine scrub, Lake Wales Ridge.

Since William Bartram's trip down the St. John's River in the eighteenth century, Florida's sandridges have attracted the interest of scientists and humanists alike. In the 1920s, John Kunkel Small and Roland Harper described the mosaic of vegetation found on these ancient shorelines where scrubs and sandhills occupy the high ground: flatwoods, swale and bayhead vegetation cover the lower, wetter areas; and scrubby flatwoods grow on sites intermediate in elevation and moisture. During the next decade, Marjorie Kinnan Rawlings noted the stark beauty of this unique assemblage of sand and plants in her novel *South Moon Under* (Scribner's, 1933), remarking that "there was perhaps no similar region anywhere."

The southern Lake Wales Ridge, located in Highlands County, is unique within the Florida sandridge system. Its distinctiveness results from the numerous plants and animals endemic to this portion of the ridge, as well as the composition and structure of the area's more arid plant communities (scrubs, scrubby flatwoods, and sandhills). Major development activities (e.g., citrus cultivation, cattle grazing, and real estate development) began in this region during the 1920s and continue

to grow. Due to these pressures and a lack of public concern over such habitats, less than 3% of the total land area of the southern Lake Wales Ridge currently is protected from agricultural, residential, or other forms of commercial development. Although public appreciation for and protection of Florida's wetland habitats has increased greatly during the past two decades, the state's more arid sandridge habitats such as scrubs and scrubby flatwoods have attracted less interest. Linda Duever noted in her 1981 *ENFO* article, "Ironically, scrub remnants are often jeopardized by the conservationists who unknowingly trade off precious uplands in an effort to preserve more glamorous wetlands."

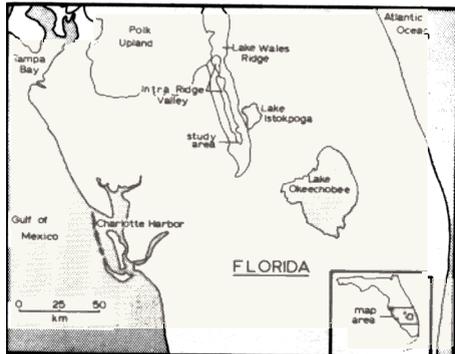
Most people consider these sandridge communities ugly patches of worthless shrubs and cactus suitable only for cattle or as housing sites, without realizing that such areas often represent the only territories suitable for many plant and animal species. Because of the uniqueness of the southern Lake Wales Ridge and the rapid rate at which its communities are disappearing, organizations such as The Nature Conservancy and Archbold Biological Station are particularly

interested in cataloging and preserving additional tracts of land in this region.

As part of a larger study which traced the vegetation history of the southern Lake Wales Ridge, we assessed both the pre-settlement extent of native vegetation groups in this region and the current area covered by each of these groups. Adequately detailed vegetation maps showing pre-settlement (i.e., before 1920) conditions do not exist, but soil maps compiled from 1940 and 1944 aerial photographs are available. Since major vegetation groups and soils on the southern Lake Wales Ridge correlate relatively well, these maps serve as reliable indicators of past vegetation. This map series is sufficiently detailed to allow differentiation of three major vegetation groups: 1) bayheads; 2) flatwoods and swales [swales, as we define them, are low areas which often have standing water and are covered primarily with cutthroat grass and ericaceous shrubs], and 3) a xeric group including sandhills, scrubs, and scrubby flatwoods. Current USDA Soil Conservation Service aerial photographs clearly document areas lost to cultivation, improved pasture, and real estate

development.

The results of our assessment show that of the 71,000 hectares [a hectare (ha) is 2.471 acres] of land making up the southern Lake Wales Ridge, 38,727 ha (or almost 55%) has been drastically altered by human activities. The xeric group (sandhills, scrubs, and scrubby flatwoods), originally accounting for 36,121 ha, shows the greatest depletion with a



Map of south-central Florida showing location of the southern Lake Wales Ridge.

64% loss, primarily to citrus cultivation (16,093 ha or 45%), but also to real estate development (14%) and improved pasture (5%).

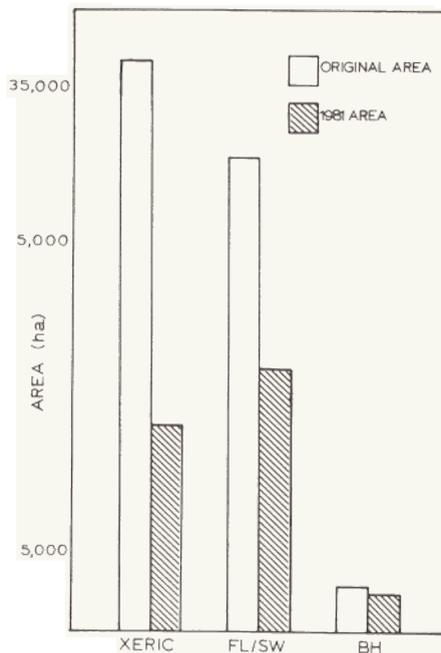
In addition to the soil maps and aerial photographs, we also examined other records, such as timber cruises conducted by A.E. Little in 1921 and 1922, and original land survey notes and plats dating from 1859-1920. These records indicate that, prior to settlement, sandhills were extensive, particularly along the eastern edge of the study area's northern half. Our field work in this area indicates that currently only a handful of small sandhills tracts remain. Although the presence of sandhills vegetation is easily determined from timber cruise reports and land survey notes, the term "scrub" appears to have been applied to both true scrubs (ones dominated by either sand pine or Florida rosemary) and scrubby flatwoods, making it impossible to determine the original abundance of one association relative to the other.

The flatwoods and swale vegetation associations have also sustained heavy losses with 46% of the original 31,070 ha radically altered, mostly for improved pasture (9,440 ha or 30%). Bayheads accounted for only 2,917 ha of the original ridge vegetation, and at present approximately 20% of this group has been converted to improved pasture, housing, or cultivated land. Our study indicates,

however, that these losses may be partially offset by the invasion of bayhead vegetation into adjacent flatwoods. This phenomenon apparently is the result of the lower wildfire frequencies caused by human settlement which allow the fire-sensitive bay trees to establish themselves in previously unsuitable areas.

These losses are especially disturbing since Highlands County's *Local Comprehensive Plan* (1979) contains no provisions for excluding any portions of undisturbed ridge vegetation from agriculture and development. In addition, another 12% (8,668 ha) of total ridge land area is currently subdivided into housing lots, suggesting that total losses may reach 67% within this decade. This situation clearly indicates that any efforts to acquire and protect land on the southern Lake Wales Ridge must be taken soon, with xeric associations such as scrubs as priorities.

The next step towards this goal should be to systematically describe the tracts of undisturbed land on the ridge identified by our study (maps showing these locations are on file at Archbold Biological Station). Independent of this project, representatives of The Nature Conservancy have already partially accomplished such work for sand pine scrub vegetation and, on the basis of their investigation, have



Original and 1981 area of vegetation groups on Lake Wales Ridge. Xeric = scrubby flatwoods; FL swales; BH = bayhead:

recommended the purchase of Saddle Blankets Scrub, located just north of our study area, in Polk County. More field studies of this type should provide detailed information for subsequent decisions which would recommend additional parcels of land on the southern Lake Wales Ridge for preservation.

REFERENCES

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