

**Proceedings
of the**

Florida Dry Prairie Conference



LAND OF FIRE AND WATER: The Florida Dry Prairie Ecosystem

PROCEEDINGS OF THE FLORIDA DRY PRAIRIE CONFERENCE

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Introduction to the Florida “Dry” Prairie

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This volume represents the most comprehensive collection of information available, to date, on one of the biologically richest grasslands in the world: the Florida dry prairie. Curiously, despite its extraordinarily high biodiversity and its inauspicious location—in south-central Florida, wedged amongst some of the densest urban population centers in the country—the Florida dry prairie is remarkably remote and untarnished (Fig. 1); hence, until quite recently it was little studied. Still today, most Floridians and virtually everyone outside of Florida have never heard of the Florida dry prairie. This volume serves as one small step to help correct this lack of public awareness.

As anyone who has strolled through the dry prairie during the summer will readily attest, this prairie is hardly “dry” over much of its extent. There are often several inches of standing water. The prairie is “dry” only in contrast with the herbaceous wetlands that are often referred to as prairies across much of Florida (and in which the water level is often well over your boot-tops). Moreover, the dry prairie is not a single plant community, but rather a heterogeneous ecosystem—a “landscape”—composed of several community types dominated by herbaceous plants and low shrubs. Some of these communities are drier than others, but most are seasonally wet in an average year. Scattered among these grassland communities in the region are prairie hammocks (hardwood forests), a variety of true wetlands (including forested wetland strands) and streams, pine islands, scrubby rises, and other communities. Nevertheless, within the area mapped in Figure 1, the various types of dry prairie together form the landscape matrix—the most abundant vegetation class, prior to European settlement, in which other types were embedded.

What is most striking about the Florida dry prairie landscape is the scarcity of trees as far as the eye can see. The openness is strongly reminiscent of the vast prairies of the Great Plains. An odd assortment of birds—Crested Caracara, White-tailed Kite, Burrowing Owl, Florida Grasshopper Sparrow, Bachman’s Sparrow—and other wildlife such as the gopher tortoise and eastern diamond-back rattlesnake, vividly remind one that this is not the Great Plains, but rather a landscape and biological assemblage unique to south-central Florida. The frequency of fire—annual or biennial over much of the landscape under natural conditions—is among the highest recorded worldwide. The central role of fire in the evolutionary history of the dry prairie’s biota is exemplified in the Florida Grasshopper Sparrow, an unassuming federally endangered subspecies endemic to the Florida dry prairie, which serves as the *de facto* “flagship species” for the ecosystem. This pyromaniac bird achieves its highest density and reproductive success in the first breeding season following fire, with significantly reduced density or reproductive success within just three years after fire. Most of

the other animals and plants of the dry prairie have adaptations to withstand or even promote frequent fire.

Fire and the openness of the landscape are mutually reinforcing, in that the paucity of topographic and hydrologic fire breaks partially explains the frequency of fire, i.e., once a fire starts somewhere, there is not much to stop it. In turn, regular fires maintain the open character of the landscape. Water, though, is also crucial in explaining why prairie rather than savannas with fire-adapted pines (longleaf pine or South Florida slash pine) dominate the landscape. As the first paper, by Bill Platt and co-authors, in this volume suggests, the rapid transition from spring lightning fires under dry conditions to summer flooding puts trees at a distinct regenerative disadvantage relative to grasses and other herbaceous plants.

The papers in this volume were presented at the first Florida Dry Prairie Conference, held October 5-7, 2004, in Sebring, Florida. The papers published represent only some of the papers presented at the conference, simply because some of the presenters did not develop their presentations into manuscripts. Critical topics that were addressed at the conference—hydrology, human history, most fauna other than birds and butterflies, conservation status and protection priorities, and range management—are missing from this volume. We hope to address some of these topics in a book on Florida dry prairie. Nevertheless, the papers included here contain a wealth of information on the Florida dry prairie, most of it previously unpublished. I thank the contributing authors for the years of work that went into developing this information.

I have arranged the papers in a general progression from vegetation and environmental regimes, to flora, to fauna, and finally to restoration and management. The shorter papers, essentially notes, are grouped toward the end of this volume.

Many people and organizations made the Florida Dry Prairie Conference and this proceedings volume possible. Funding for the conference and proceedings came from the U.S. Air Force (Department of Defense), U.S. Fish and Wildlife Service, The Nature Conservancy, Earth Balance, Phoenix Ecosystems, Inc., Southeastern ChemTreat, Inc., SUPERTRAK, INC., Truax Company, Inc., and Turnbull Environmental, Inc. The conference program committee included Edwin Bridges, Tylan Dean, Doreen DiCarlo, Robert Dye, Paul Gray, Jean Huffman, Jo Ann Jolley, Steve Orzell (program chair), Parks Small, and James Tucker. To three people I owe the biggest debt of gratitude: 1) Steve Orzell, Avon Park Air Force Range, who conceived the idea for the conference and the proceedings and invited me to edit it; 2) Doreen DiCarlo, Florida Center for Environmental Studies at Florida Atlantic University, who served as conference organizer and saw the production of this proceedings volume through from beginning to end; and 3) Sumita

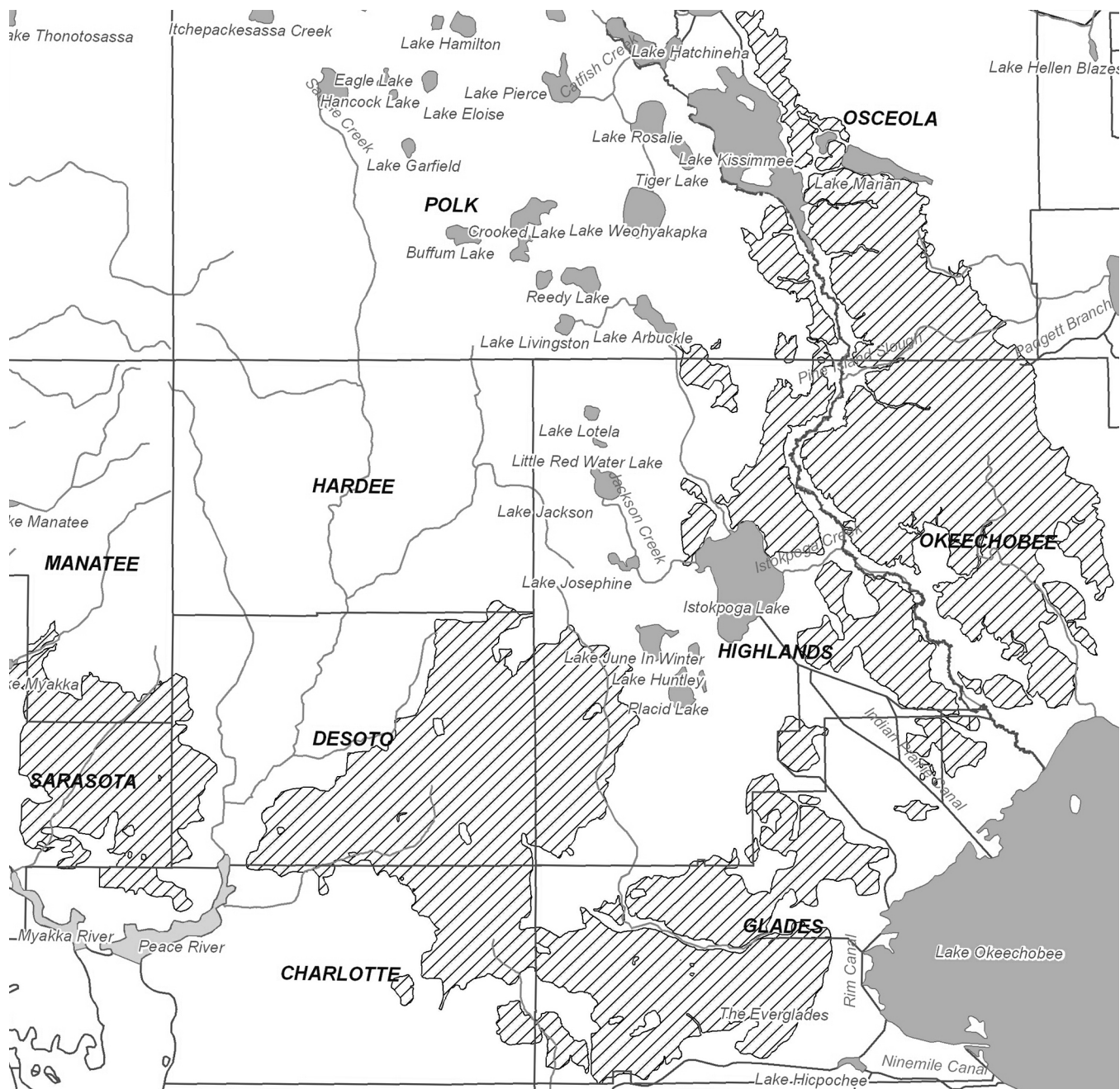


Figure 1. The Florida dry prairie regional landscape (cross-hatched area), as defined by S. Orzell and E. Bridges.

Singh, the assistant director of my lab at the University of Central Florida, who quickly learned editorial skills (with training from master editor, Ellen Main) and served as

my editorial assistant. May the Florida dry prairie be better understood, better protected, and better managed as a result of this effort!