

Summary Report

William B. Robertson, Jr., Memorial Pineland Fire Ecology and Management Workshop

February 2-5, 2004

In memoriam of “Dr. Bill” Robertson, Jr., a pioneer of ecological fire management in the Florida Everglades, the majority of the land managers and scientific researchers working in the pinelands of south Florida and the Bahamas met to exchange current information about these remarkable natural communities. The “Pineland Fire Ecology and Management Workshop” emphasized the pine rocklands, a globally imperiled natural community with high species richness and endemism and a clear dependence on fire. Workshop goals were twofold; first, to review and discuss current fire management activities and research, and second, to lay the groundwork of a working group focused on fostering new research and informed management practices.

This report contains an overview of the presentations, field trips and a set of action items for the new working group to pursue. A contact database of workshop participants is incorporated herein by reference and should be used to facilitate further communications.



Raccoon Point Field Trip, Big Cypress National Preserve Feb.2, 2004

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Presentations:

Bob Panko, Fire and Aviation Management Officer for Everglades National Park, provided the keynote address, "A tribute to Dr. Bill Robertson."

Management presentations given on February 3, 2004

Moderated by Chris Bergh, The Nature Conservancy (TNC)

Bob Panko, Everglades National Park,

"Pine Rockland Fire Management in Everglades National Park"

Bill Miller, Florida Keys National Wildlife Refuges,

"Fire Management in the National Key Deer Refuge"

Joe Maguire, Miami-Dade County Natural Areas Management,

"Managing Relic Pine Forest on the Miami Rock Ridge"

Randolph "Casper" Burrows, Bahamas National Trust

"The Bahamian Pine Forest Ecosystem and National Parks"

Bob Rehr and Robert Trincado, Florida Division of Forestry

"Wildfire Suppression and Prevention in South Florida"

Chris Bergh, The Nature Conservancy

"Prescribed Fire and Mechanical Pre-fire Fuel Treatment on Terrestris Preserve"

Research presentations given on February 4, 2004

Moderated by Jim Snyder, U.S. Geological Survey (USGS)

Suzanne Koptur, Florida International University,

"Key deer herbivory on understory plants of Lower Keys pine rockland after fire"

John Geiger, Florida International University,

"Fire response of the pine rockland herb *Ruellia succulenta* Small (Acanthaceae)"

Yuria Cardel, Florida International University,

"Breeding system and reproductive implications of herbivory on *Centrosema virginianum* in southern Florida pine rocklands"

Gary Slater, Ecostudies Institute, and Skip Snow, Everglades National Park,

"Avian restoration in the pine rocklands"

Hillary Cooley, Florida International University,

"Palm fuel dynamics in fire-sustained pine forests in the Florida Keys"

Jay Sah, Florida International University,

"Fuel loads and implications for fire management in Florida Keys pine forests"

Pablo Ruiz, Florida International University,

"The effects of fire on *Pinus elliottii* var. *densa* seedlings"

Joy Klein, Miami-Dade County Department of Environmental Resource Management,

"An analysis of two pine rockland reforestation methods: direct seeding vs. planting tubelings"

Joe O'Brien, U.S. Forest Service,

"Fire in Abaco pineyards: how much is enough?"

Brian Beckage, University of Vermont,

"Overstory dynamics of pine savannas in response to climate and large-scale disturbance"

Field Trips:

February 2, 2004: Full day field trip to the old-growth pineland of Raccoon Point, Big Cypress National Preserve (BCNP). Jim Snyder of the USGS led a site visit to view his long-term study of fire season and frequency. The visit included presentations by BCNP Fire, Wildlife, and Minerals Management program staff people, plus Gary Slater from Ecostudies Institute who described avian restoration efforts in the preserve. Several stops during the day, including a swamp buggy ride to a freshly burned area, gave participants insight into BCNP's frequent, primarily dormant-season prescribed fire regime.

February 3, 2004: Late afternoon field trip to the second-growth pineland of Long Pine Key in Everglades National Park (ENP). Bob Panko led a site visit that included presentations by ENP Fire, Biological Monitoring and "Hole-in-the-Donut" Restoration Project staff people, plus Gary Slater's description of Eastern bluebird and brown-headed nuthatch restoration efforts in the park. Participants were able to see burn units in various stages of reaching, or having reached, the "maintenance stage" of ENP's frequent, primarily early growing-season fire regime.

February 4, 2004: Late afternoon field trip to three pine rockland sites in western Miami-Dade County. Joe Maguire and Joy Klein from Miami-Dade County led a site visit that included one stop at the poster child for pineland management headaches, a small pineland with mixed public and private ownership, long-unburned, in an advanced state of hardwood succession, with substantial invasive species infestation and with homes on several sides. The second stop was the site of pine reforestation trials involving direct seeding vs. planting tubelings in an area that lost most of its canopy to Hurricane Andrew but still supports numerous rare and endemic herbaceous species. The third stop, was at "Navy Wells," the pineland that serves as the groundwater recharge area for the Florida Keys' water supply pump station. All recent burns on these sites have been wildfires.

February 5, 2004: Full day field trip to the lower Florida Keys pinelands. Bill Miller from the National Key Deer Refuge led visits to two sites burned in June 2003 and a manual fuel management project. One 120-acre site on Big Pine Key that had previously had a 17-year rough was the largest refuge burn in recent years. The other site, despite only a 12-year rough, had taller hardwood understory due to the higher site index on No Name Key. This fire resulted in a favorably patchy mosaic of burned and unburned area due to rain late on the burn day.

Chris Bergh of TNC led a visit to Terrestriis Preserve, the site of 10 years of relatively frequent, growing-season prescribed fire, a mechanical pre-fire fuel treatment experiment and ongoing monitoring to quantify the effects of these efforts on community structure and select rare plants.

Jim Snyder of USGS described the fire effects research conducted on Big Pine Key over the previous five years. Hong Liu described her related FIU doctoral research, "Population viability analysis of a Keys pine rockland endemic, *Chamaecrista keyensis*," and this plant's relationship with fire.

Proposed Next Steps in the Development of the Pine Rockland Working Group:

Meet during the summer of 2004 to finalize a mission statement, measurable goals and action items and organize committees around the specific action items listed below and any new action items that emerge. Committees will meet as needed and the full group will meet annually or as needed.

Action Items

- Enhance public outreach concerning biological diversity of pine rocklands, importance of fire and support for active fire management including wildfire prevention and preparedness. (Outreach Committee)
 - Inventory existing outreach materials and programs and create a resource directory
 - Identify gaps in outreach efforts, plan, fund and create new ones if necessary, (including classroom materials, Spanish and Creole versions)

- Plan and implement another “Pineland Fire Ecology and Management Workshop” or its equivalent for 2006. (Outreach Committee)

- Inventory Research Publications and create an annotated bibliography to be made available on-line. (Science Committee)

- Coordinate fire effects/biological monitoring efforts across sites and agencies. (Science Committee)
 - Identify current practices and opportunities for standardization including GIS crosswalk capacity.
 - Build support and funding for standard procedures.

- Foster specific research (Science Committee)
 - Fire effects on T+E species
 - Fire effects on braken fern
 - Fire effects on invasive alien species
 - Linkages between fire frequency/seasonality/biomass recovery/fire effects
 - Effects of hydrological alterations on pinelands (e.g. well field withdrawals).

- Enhance cooperative resource sharing among agencies and organizations. (Organizational Committee)
 - Identify existing memoranda of understanding, cooperative agreements and related documentation of cooperative efforts.
 - Formalize other partnerships as necessary.
 - Identify treatment costs across agencies and sites.