

Lessons Learned: Pinelands Prescribed Fire Planning and Implementation

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Background

Pine Rocklands are a threatened ecosystem that are unique to southern Florida and the Bahamas. In Florida they are found on limestone substrates on the Miami Rock Ridge, in the Florida Keys, and in the Big Cypress Swamp. Pine rocklands are dominated by a single canopy tree, South Florida slash pine (*Pinus elliottii* var. *densa*), a diverse hardwood and palm subcanopy, and a very rich herbaceous layer. The flora of pine rocklands is composed of a diverse assemblage of tropical and temperate taxa. Many endemic plant taxa are also found in this



Pinelands burn May 2003, West Pines unit, Everglades NP.

community. It is a fire maintained community, requiring periodic fires to eliminate invading hardwoods, assist in nutrient cycling, and to reduce duff layers. Pine rocklands also provide critical foraging and nesting habitat for a diverse array of wildlife, including five federally listed threatened and endangered animal species. While significant areas of pine rocklands are now

protected within preserves such as Everglades NP, Big Cypress National Preserve, and the National Key Deer Refuge, pine rockland fragments are still threatened on the Miami Rock Ridge and in the Florida Keys. Pine rocklands have been heavily impacted by urbanization, conversion to agriculture, fire suppression, exotic plant and animal invasions, and alterations to hydrology. Significant work has now been initiated to control exotic plant taxa in pine rocklands.



Prescribed burn in April 2003, Pines Block D, Everglades NP.

The 22,000 acres of pinelands located within Everglades National Park have a long history of prescribed fire. In the 1950s, Dr. Bill Robertson recognized the role fire played in the slash pine ecosystem and was concerned with the changes within the pinelands as a result of fire exclusion. In 1958, the first prescribed fire in National Park Service history was ignited in the pinelands. Since that fire, over 200 prescribed burns have been initiated within this habitat. The reason for that initial prescribed fire treatment was to begin restoration of the pinelands. These fire treatments are a continuation of Dr. Robertson's work and are aimed at maintaining this unique ecosystem.

The Fire Planning Process at Everglades National Park

During the 2003 prescribed fire season (April through July), 15 burns were implemented within the pinelands for a total of 14,982 acres treated with fire. Park-wide, almost 25,000 acres were accomplished during this period. A number of these burns took place immediately adjacent to habitat occupied by the Cape Sable Seaside Sparrow (CSSS), a Federally protected endangered species. In order to undertake prescribed fire operations adjacent to CSSS habitat, over 35 miles of fire-line were constructed.



Typical fire behavior in Fuel Model 7 with a 3 year rough.

Efforts required to implement these and other planned burns on an annual basis would not be possible without support of park and regional management and a supportive science staff. The planning effort begins with meetings with resource specialists and researchers. An integral example of this process is the annual CSSS working group symposium where fire staff, resource specialists and university researchers meet to evaluate ongoing fire management activities and recommend future fire management strategies.

Everglades NP prescribed fire staff have undertaken a landscape level approach to fire planning where project areas and primary and secondary fire treatment units are identified. Primary treatment units are those units with the highest priority for fire treatment, secondary units

are those which will be accomplished should conditions be favorable, objectives can be realized, and resources are available to safely conduct the burn and provide coverage for suppression activities. One prescribed fire burn plan is written to cover the entire pinelands ecosystem. Obviously, the objectives of one treatment unit are and will be different from another. The plan is written with wide prescription parameters to allow maximum flexibility in achieving a variety of resource objectives. Because the prescription is wide, fire staff need to know what the objectives are for a given treatment unit, and the environmental conditions that would best meet those objectives. These criteria are discussed during meetings between prescribed fire staff and assigned burn bosses. Once a plan has been written, it is submitted to a number of resource and technical specialists for review as well as submitted to the USFWS for consultation and a biological opinion. Landscape level planning has reduced the amount of effort required to write plans and processing those plans through the approval process. Logistically, had individual burn plans been required for each burn unit, the planning process would have bogged down and only 3 to 5 treatments could be accomplished in a given year. Because landscape level plans are by necessity more general than site specific plans, incident action plans are a critical component of the burn implementation process.

Daily operations throughout fire season are conducted utilizing the Incident Command System with Incident Action Plans (IAP's) and daily briefings. Assigned burn bosses ensure all unit preparations are completed, environmental conditions are within prescription to meet objectives, and resources are available. On burn days, a division/group is created within the IAP for burn operations. While this process has been done manually in the past, beginning in 2004 all fire management activities during fire season will be conducted utilizing I-Suite to further enhance daily operations.

The use of landscape level burn plans allowed for the accomplishment of 25 treatment units totaling well over 24,000 acres between April and July 2003. The use of landscape level burn plans and IAP's as an integral part of the prescribed fire planning and implementation process has allowed Everglades National Park to achieve management objectives and meet NFPORS commitments while ensuring safe conditions for both park staff and visitors.