

THE RIVER OF FIRE

Fire Management in the Modern Everglades

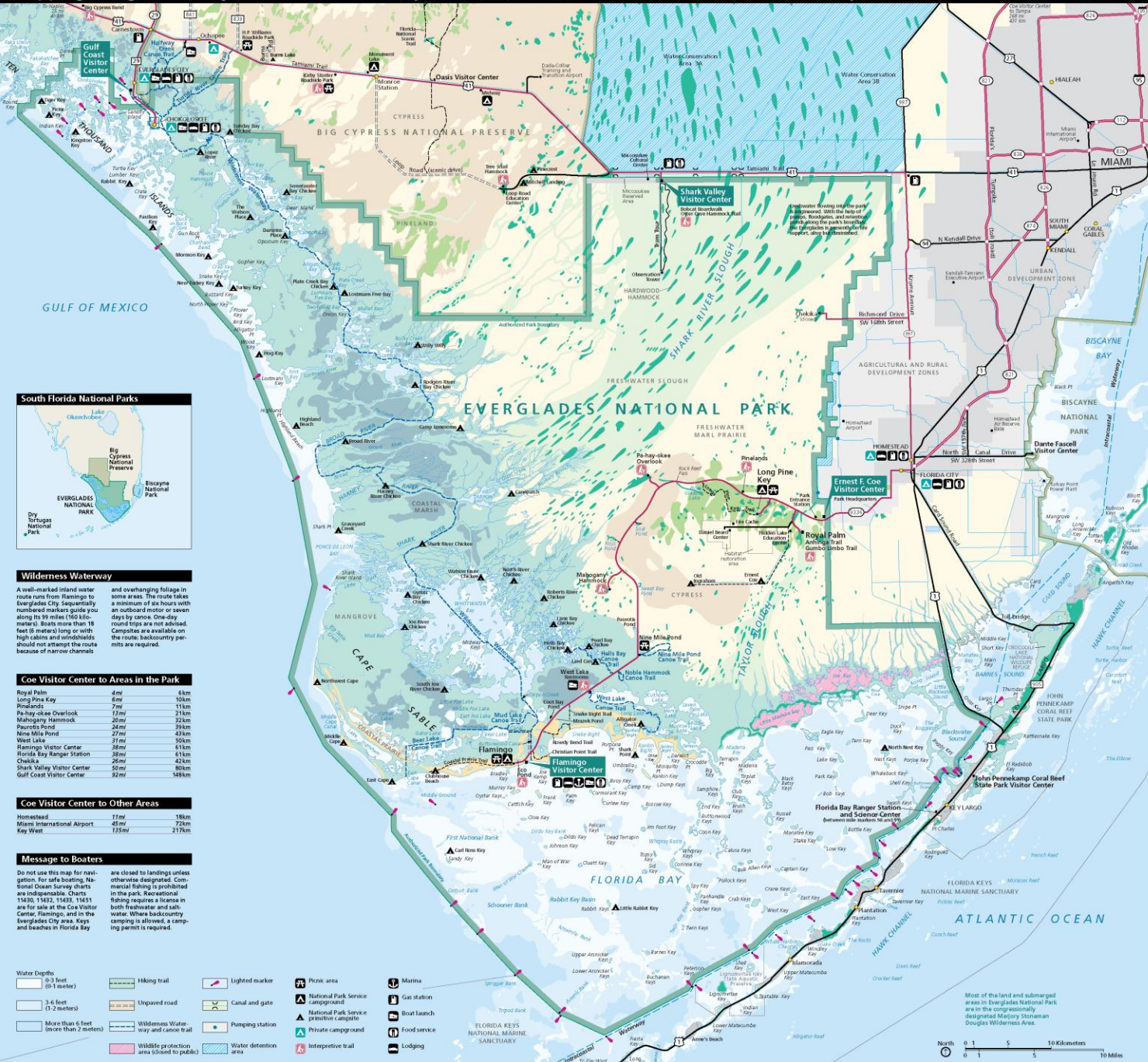


Rick Anderson
Fire Management Officer
Everglades National Park

Mapping Everglades Ecosystems

color key

- Marine and Estuarine (seagrass, hardbottom, corals)
- Coastal Marsh
- Mangrove
- Cypress
- Coastal Prairie
- Freshwater Slough
- Pineland
- Freshwater Marl Prairie
- Hardwood Hammock



Wilderness Waterway

A well-marked inland water route runs from Flamingo to Everglades City. Sequentially numbered markers guide you along its 99 miles (160 kilometers). Boats more than 18 feet (6 meters) long or with high cabins and windshields should not attempt the route because of narrow channels and overhanging foliage in some areas. The route takes a minimum of six hours with an outboard motor or seven days by canoe. One-day round trips are not advised. Campsites are available on the route; backcountry permits are required.

Coe Visitor Center to Areas in the Park

Royal Palm	4mi	6km
Long Pine Key	10mi	16km
Pinalands	7mi	11km
Pa-hay-okee Overlook	17mi	27km
Mahogany Hammock	20mi	32km
Pauzets Pond	24mi	39km
Newa Mia Pond	27mi	43km
Flamingo Visitor Center	31mi	50km
Florida Bay Ranger Station	38mi	61km
Chickla	41mi	66km
Shark Valley Visitor Center	50mi	80km
Gulf Coast Visitor Center	52mi	84km

Coe Visitor Center to Other Areas

Homestead	13mi	18km
Miami International Airport	67mi	108km
Key West	135mi	217km

Message to Boaters

Do not use this map for navigation. For safe boating, National Ocean Survey charts are indispensable. Charts 11430, 11432, 11433, 11431 are for sale at the Coe Visitor Center, Flamingo, and in the Everglades City area. Keys and beaches in Florida Bay are closed to landings unless otherwise designated. Commercial fishing is prohibited in the park. Recreational fishing requires a license in both freshwater and salt water. Where backcountry camping is allowed, a camping permit is required.

Water Depth

- 0-3 feet (0-1 meter)
- 3-6 feet (1-2 meters)
- More than 6 feet (more than 2 meters)

Other Symbols:

- Hiking trail
- Unpaved road
- Wilderness Waterway and canoe trail
- Wildlife protection area (closed to public)
- Lighted marker
- Canal and gate
- Pumping station
- Water detention area

Other Symbols:

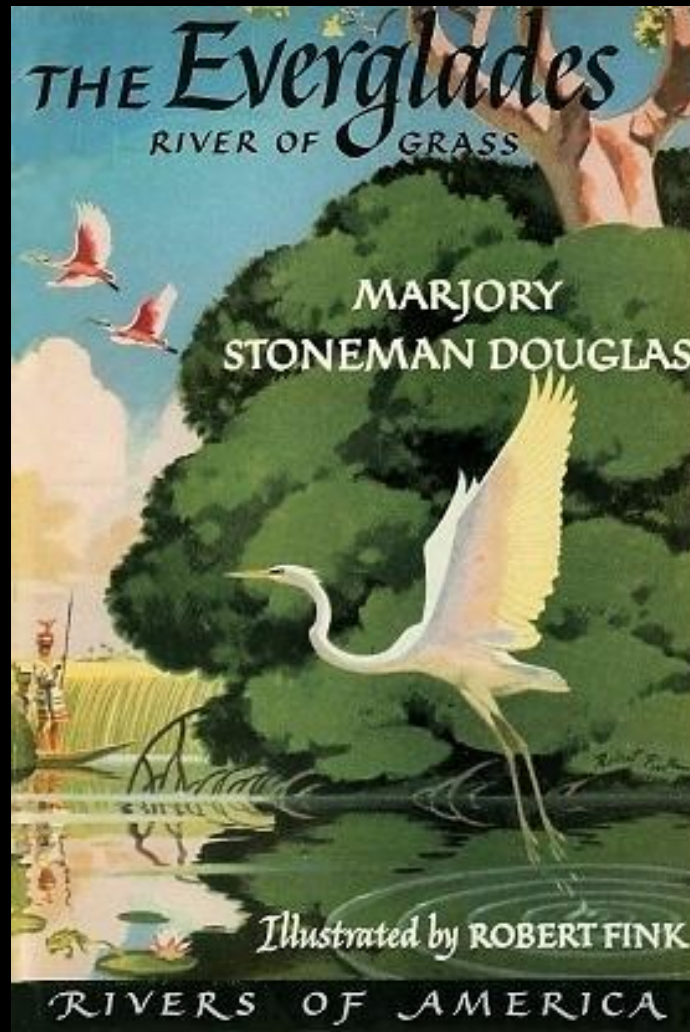
- Pink area
- National Park Service campground
- National Park Service primitive campsite
- Private campground
- Interpretive trail
- Marina
- Gas station
- Boat launch
- Food service
- Lodging

Most of the land and submerged area in Everglades National Park are in the congressionally designated Majority Stormwater Douglas Wilderness Area.

North

0 1 5 10 Kilometers

0 1 5 10 Miles



“Cattlemen’s grass fires roared uncontrolled...fires spread crackling and hissing in vast waves and pillars and billowing mountains of cream colored smoke...and the fires exploded in the hearts of the drying hammocks and raced on before every wind leaving only blackness”.

Marjorie Stoneman Douglas “The Eleventh Hour” The Everglades River of Grass



“Restoring pre-drainage hydro-periods is expected to prevent peat fires, reverse the impacts of compartmentalization, and create more slough habitat.”
Sklar, et. al in *Front Ecol. Environ.* 2005;3(3); 161-169



PUSHING THROUGH THE EVERGLADES.—Drawn by HARRY FENN FROM SKETCHES BY WOLF HERRMANN.—[SEE PAGE 180.]

**There was
a time
when fire
upon the
landscape was
ordinary
and
accepted.**



“In the fall of 1827 I went with a party of Indians to the head of the North prong of the New River-we travelled on horse back-the season was very dry-the Indians had set fire to the everglades-I cannot tell how far the fire extended but we rode in a northwest direction 30 miles across the burnt tract without seeing the end of it-along our trail I observed large quantities of decaying vegetation but did not observe any signs or any place where the fire had taken hold of the soil.” William Cooley Everglades pioneer in a letter to Florida Governor Thomas Brown 1851

Everglades Fire Management History

- Perhaps the first “scientific based” fire program- based on research started in 1953
- First Prescribed Burn on NPS Lands-1958
- “In House Rule” as early as 1956 that many lightning caused fires would not be suppressed
- “Fire Management Plan” vs. “Fire Control Plan” implemented in 1973

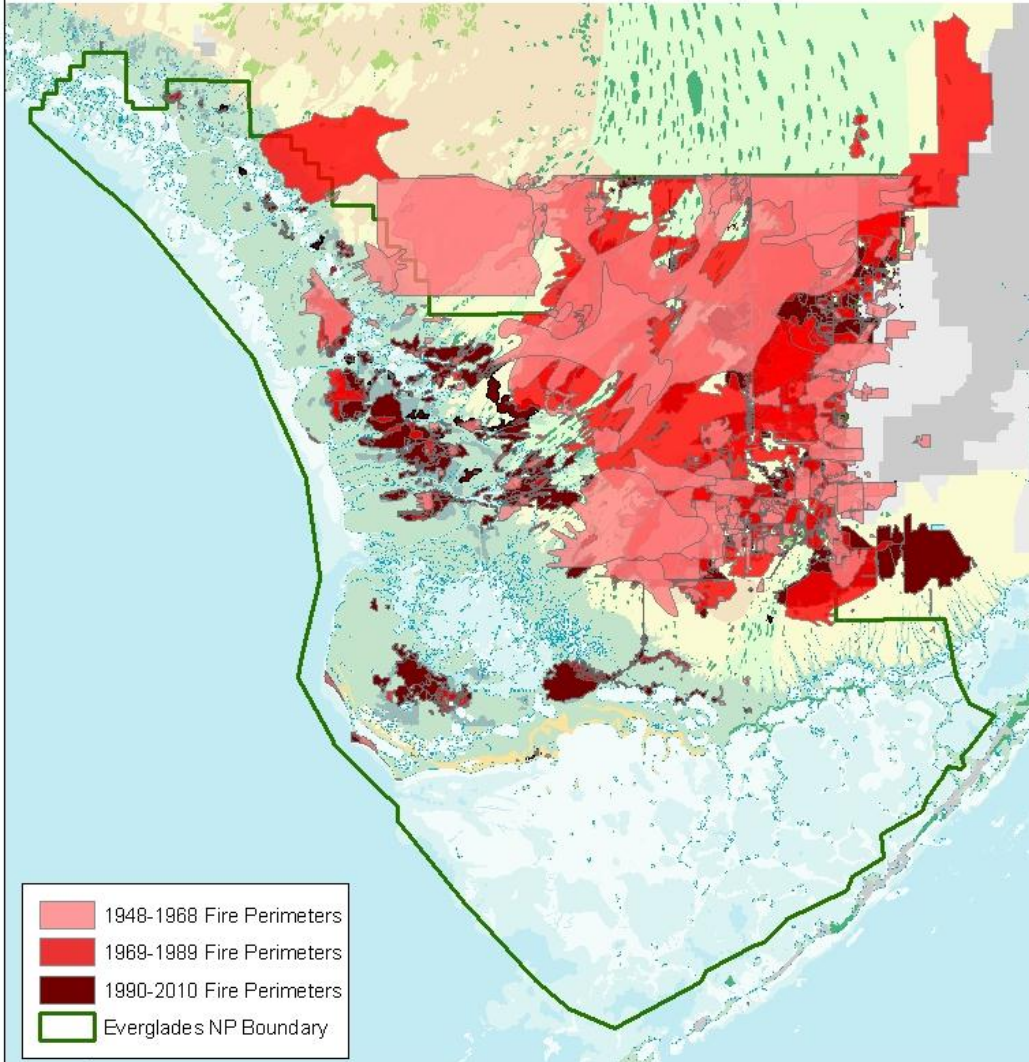








Wildland Fire History of Everglades NP 1948-2010

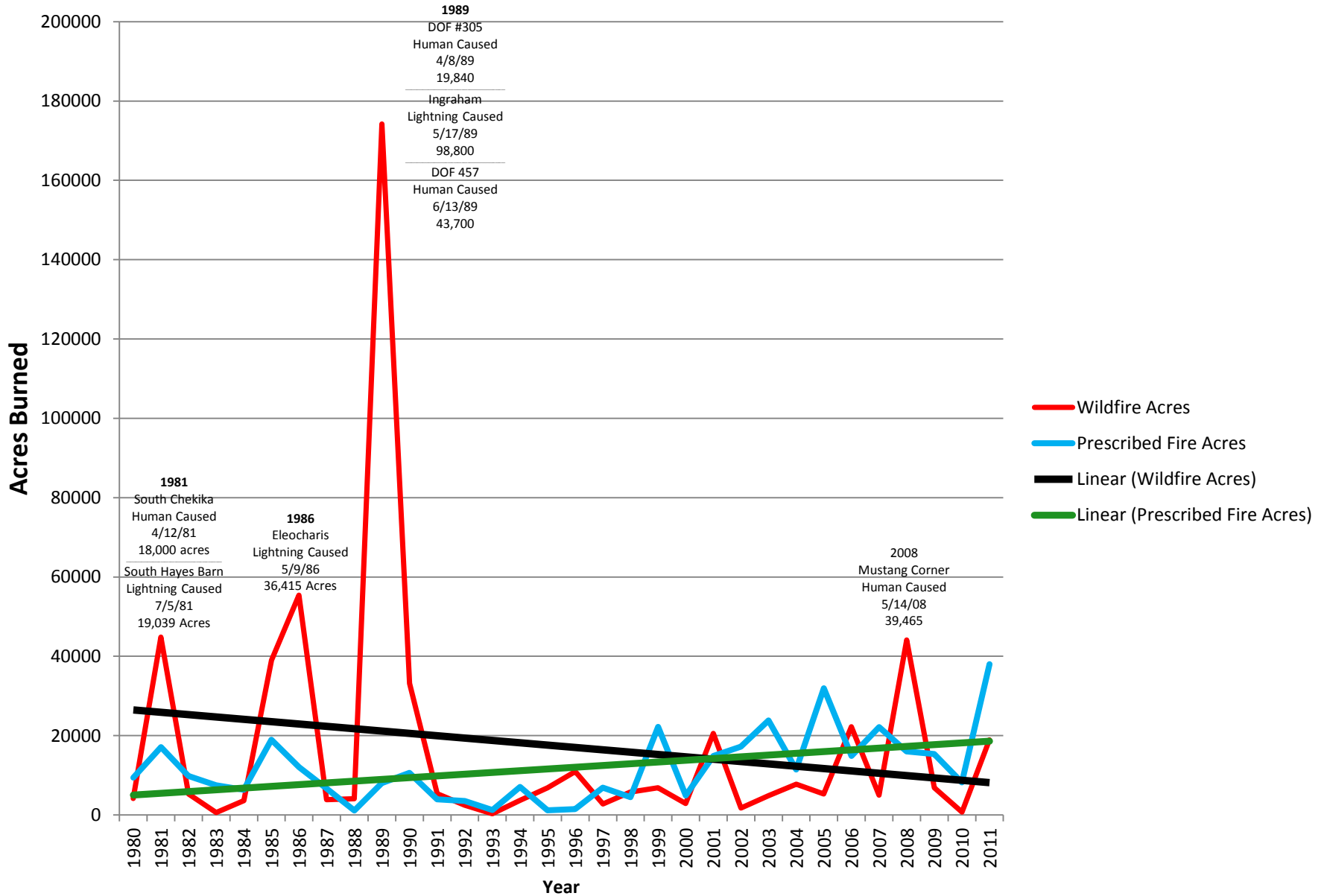


ENP Fire and Aviation Management
2010

0 5 10 20
Miles



1980 - 2011 Prescribed and Wildland Fire Acres by Year





No Easy Answer

Fire and Resource Management in the National Parks

Changing Perspectives

1885

"The most important duty of the Superintendent is to protect the forest from fire."
House Committee on National Parks

1933

"The most important duty of the Superintendent is to protect the forest from fire."

Confederate Group - Mariposa Grove, Yosemite National Park



1890

Pile burning and chipping



Grinding and mowing



Because of the diversity of conditions across ecosystems, today's managers use many techniques, including specific fuels treatments and Wildland Fire Use in managing park resources.

Grazing

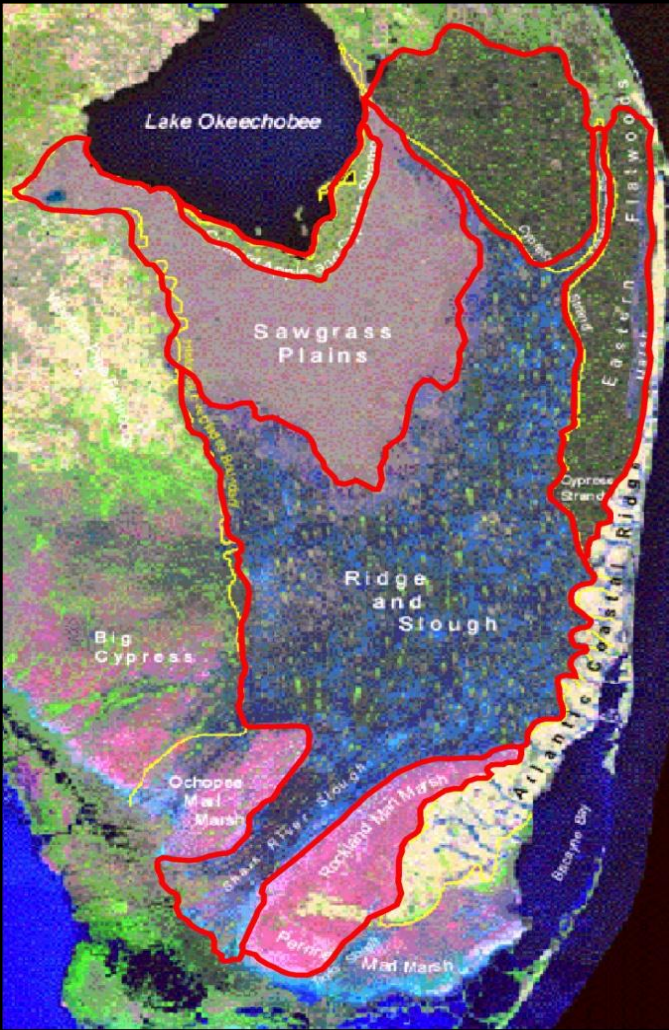


MANAGEMENT BY FIRE

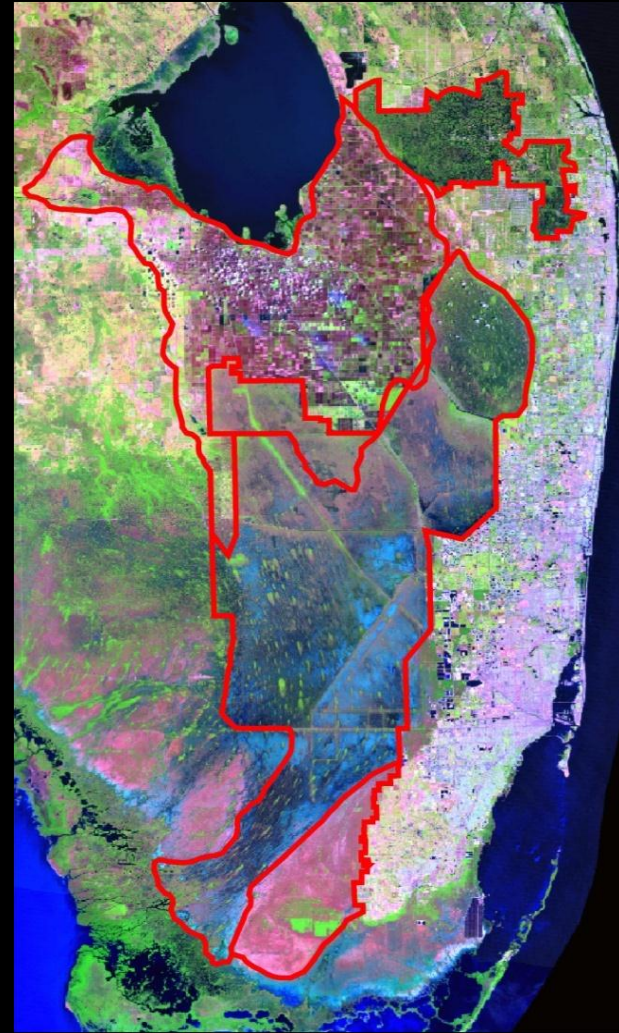
Many resource managers worldwide utilize prescribed (controlled) burning. This fire management practice simulates a fire started by lightning. Trained professionals start fires in specific areas and maintain control to ensure that the prescribed fire does not become a wildfire. In this way, the natural communities that require fire are protected, and so is the public and their structures.

In areas where people have long suppressed fire, the accumulated debris on the forest floor makes what would otherwise have been a beneficial fire become a disastrous one. With each passing year, the debris accumulation increases the destructive potential of an accidental or natural fire and makes prescribed burning difficult or impossible.

Changes in Everglades Fireshed



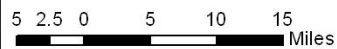
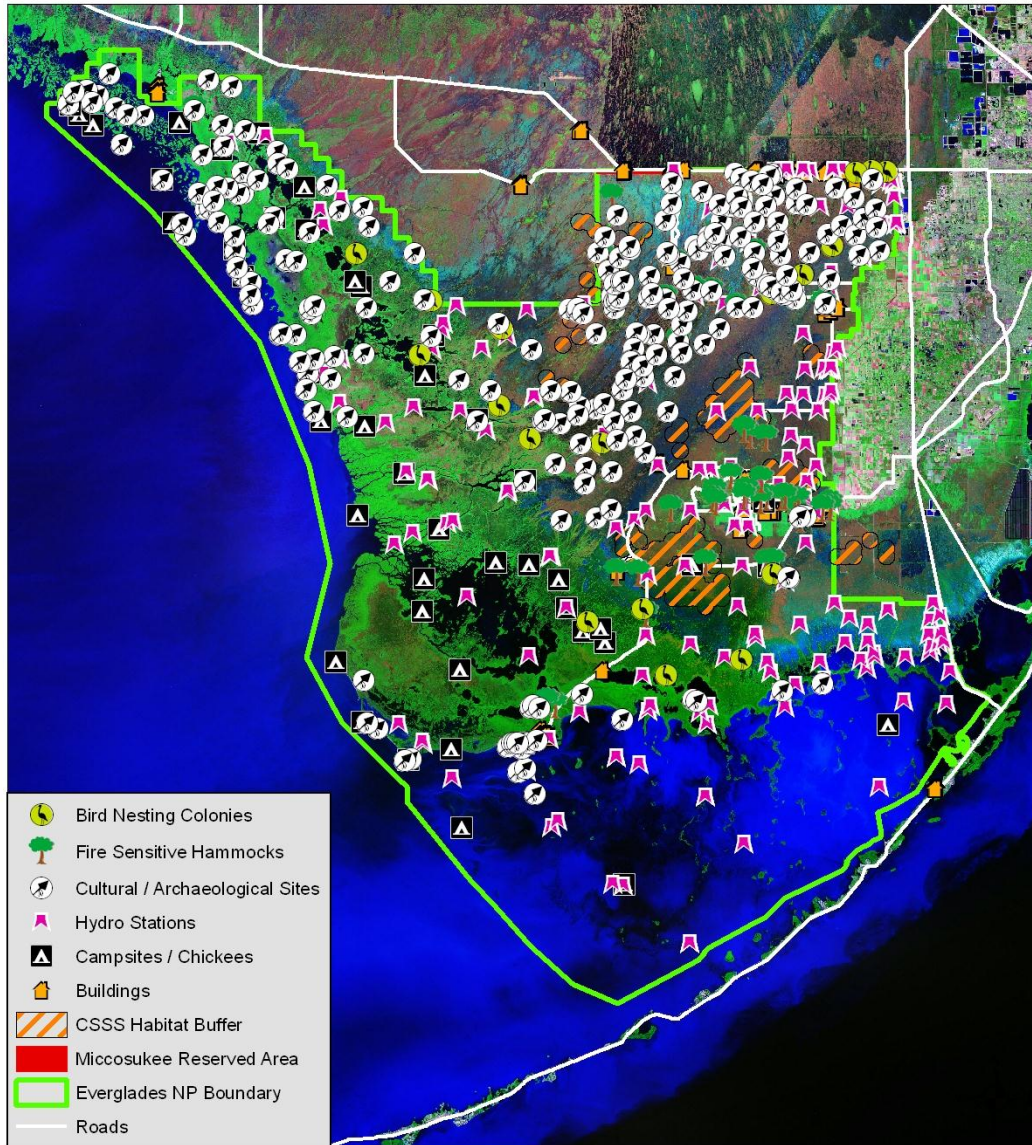
Pre-Drainage System (1850's)



Current System



Everglades National Park Values at Risk



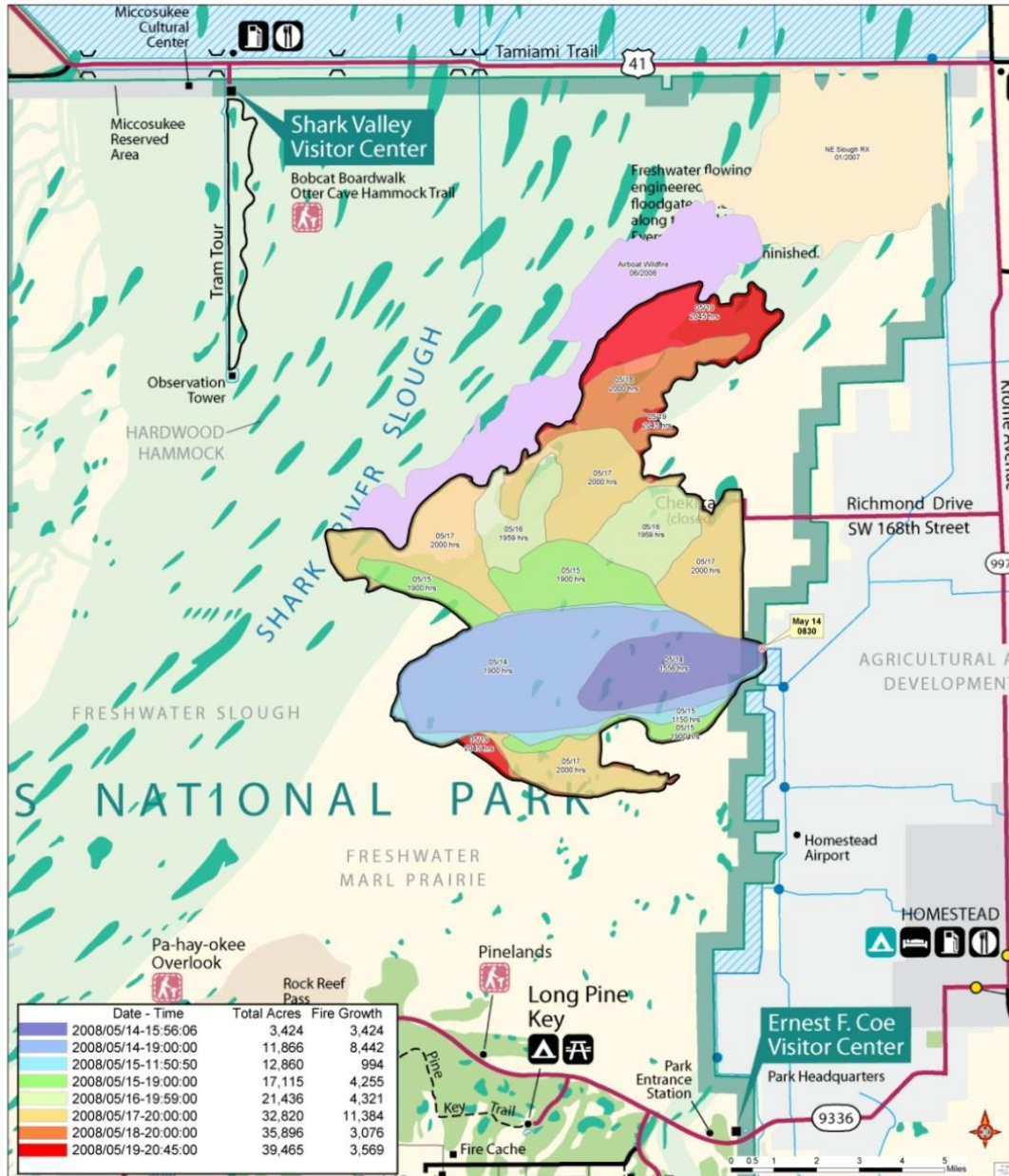
Everglades Fire and Aviation Management
May 2012



PROGRESSION

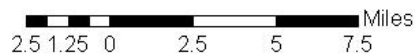
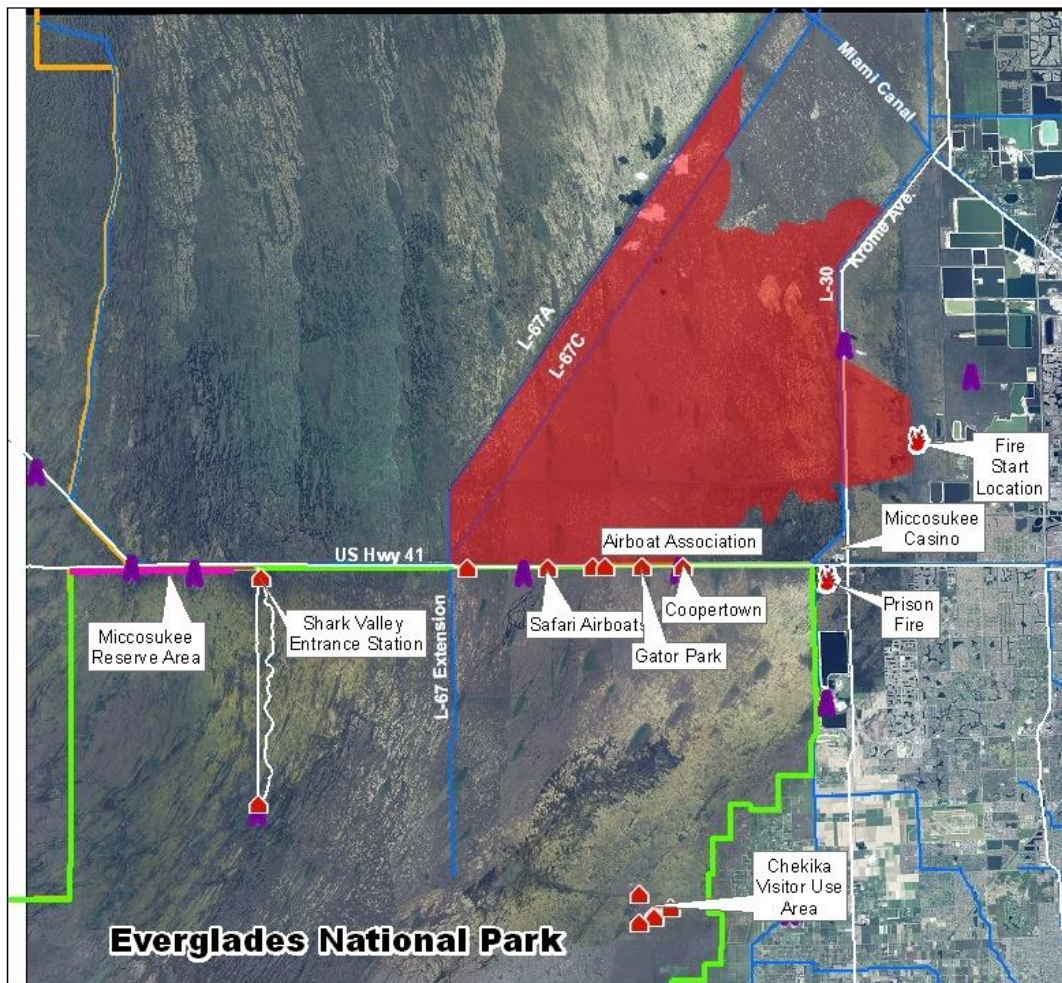
Mustang Corner Fire FL-EVP-008025

39,465 acres





Prairie Fire Vicinity Map = 67,977 acres

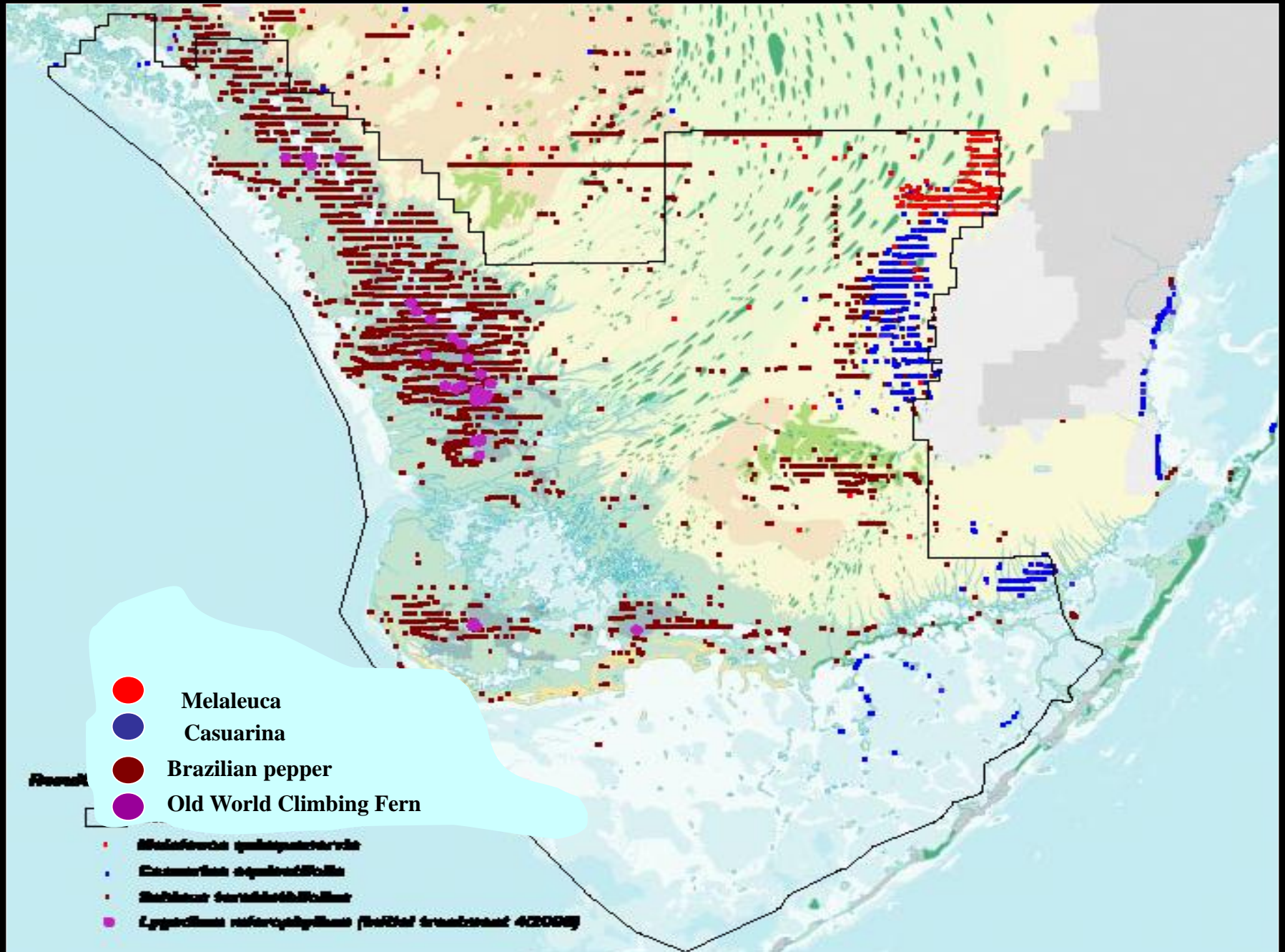




EVERGLADES
SAFARI PARK
AIRBOAT RIDES
BREAKFAST - LUNCH



Distribution of Invasive Exotics Plant Species





The free flow of water has been constrained in the Everglades and restoration efforts seek to expand its flow.

The free flow of fire in this landscape has also been constrained-no expansion foreseen.



We are required to describe in site specific details the impacts of our actions upon the affected environment.

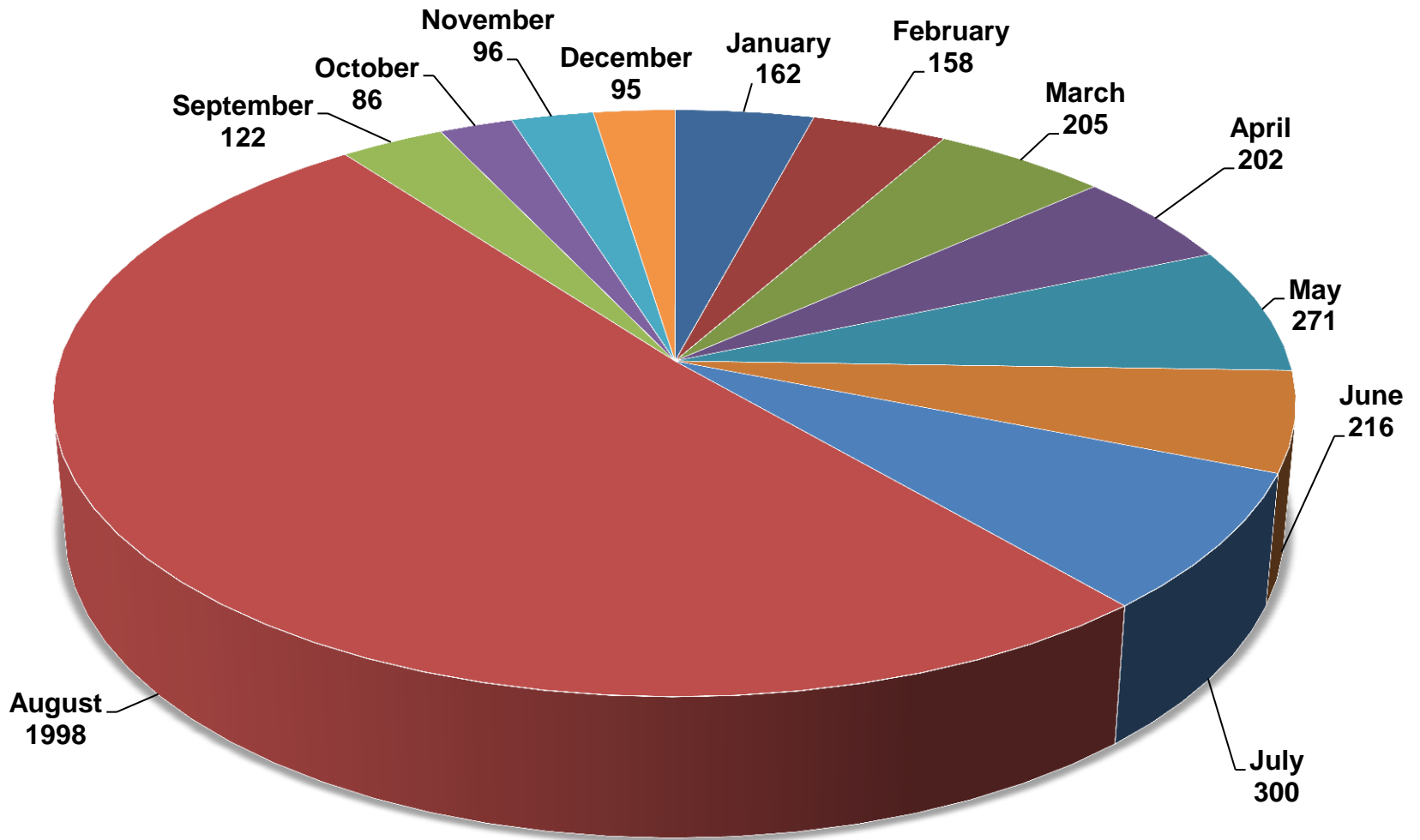


Florida Leafwing

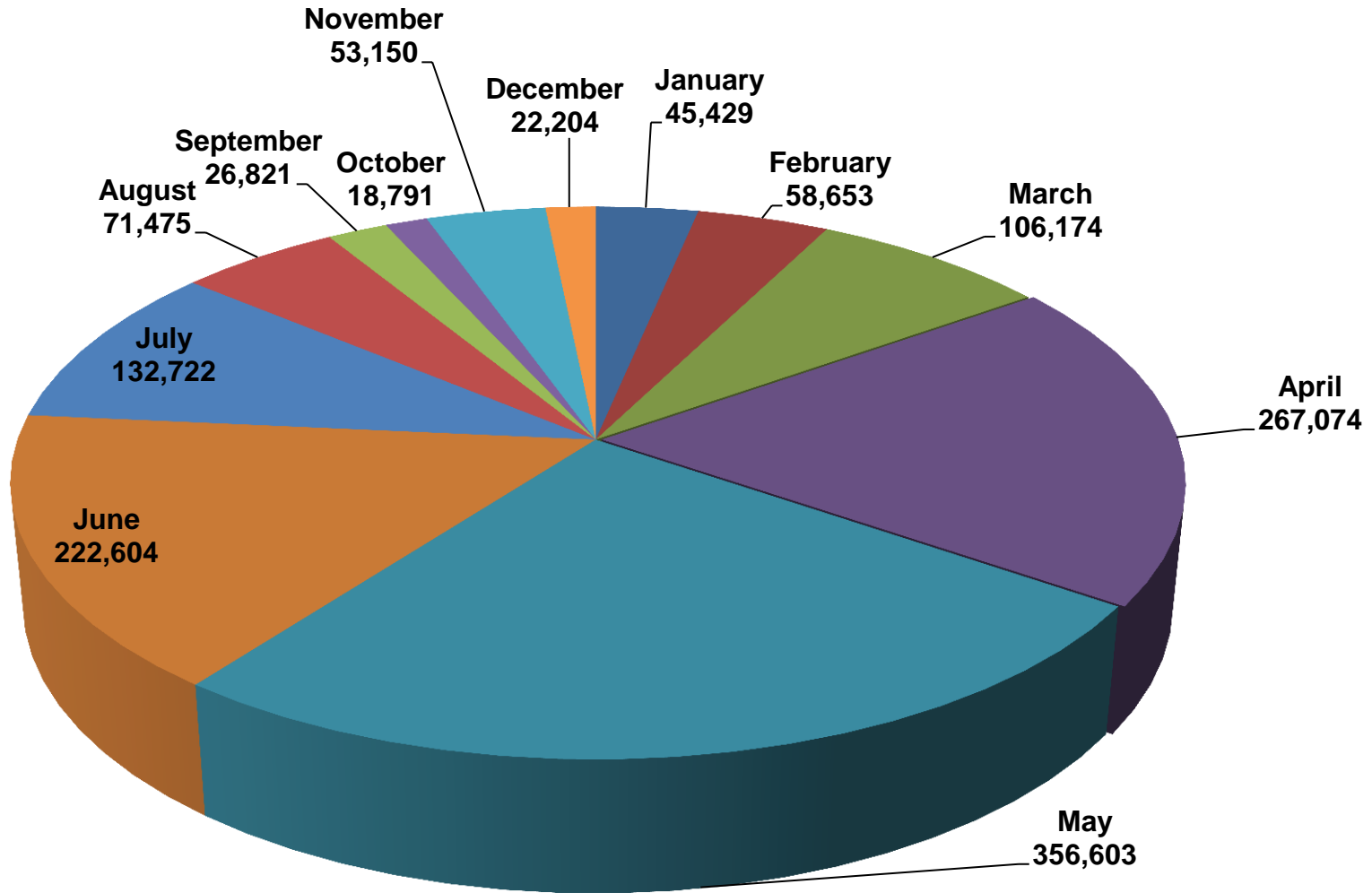
Bartram's Hairstreak

That goes for candidate species too...

Number of Wildland Fires by Month January 1975-May 2012



Acres Burned by Month January 1975-May 2012



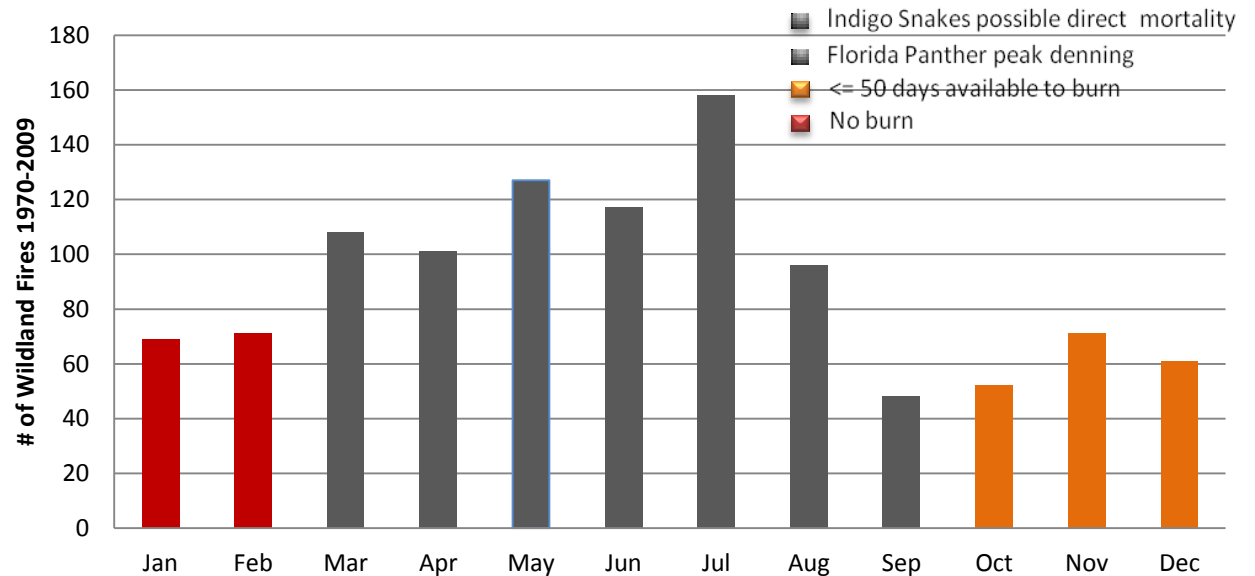
Prescribed burns – T&E restrictions

Grey – possible negative effects on Indigo Snakes and/or Florida Panther

Orange – possible months available to burn

Red – months more than likely cannot burn due to unfavorable conditions

T & E Seasonal Restrictions









FMU 2 River of Grass

Project Units

Wildland Urban Interface (WUI) Units and
Hazardous Fuel Reduction Units

WUI Units

3 year Planning Fire Return Interval (FRI)

Units Selected Based On

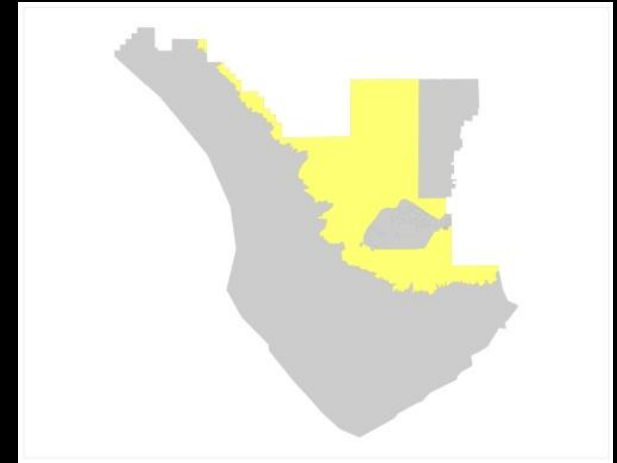
- Wildland Urban Interface (WUI) priority
- Fire return interval departure (FRID)

Hazardous Fuel Reduction Units

8 year Planning Fire Return Interval (FRI)

Units Selected Based On

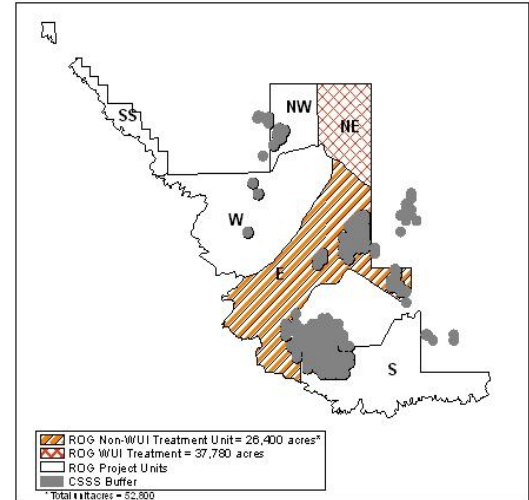
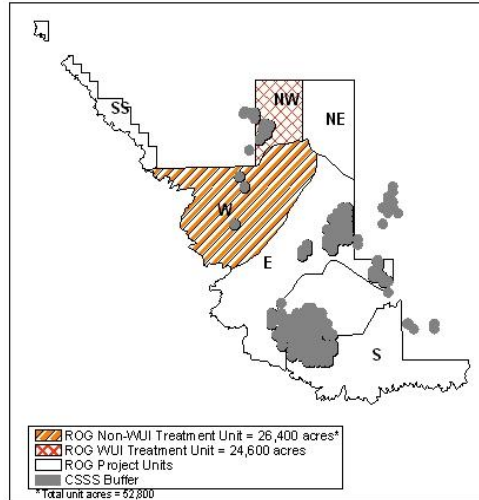
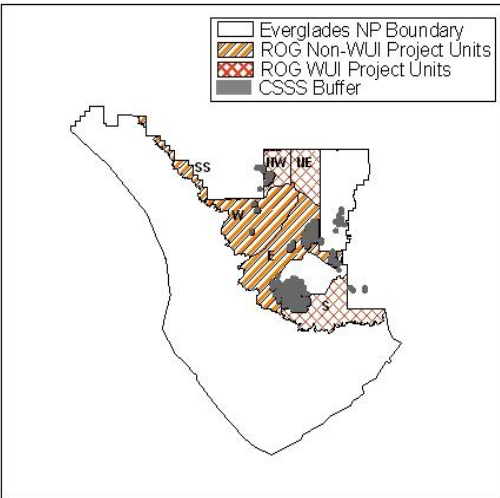
CSSS priority – units containing largest
subpopulations receiving highest treatment
priority



River of Grass (ROG) Project Units

Year 1

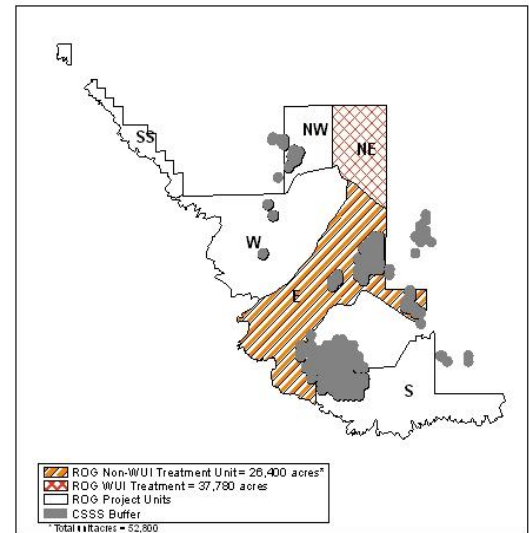
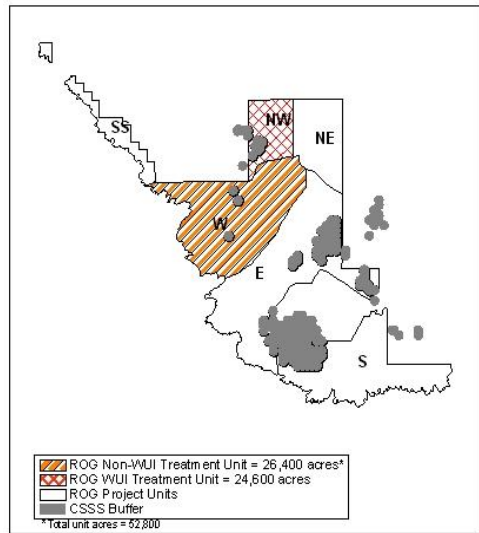
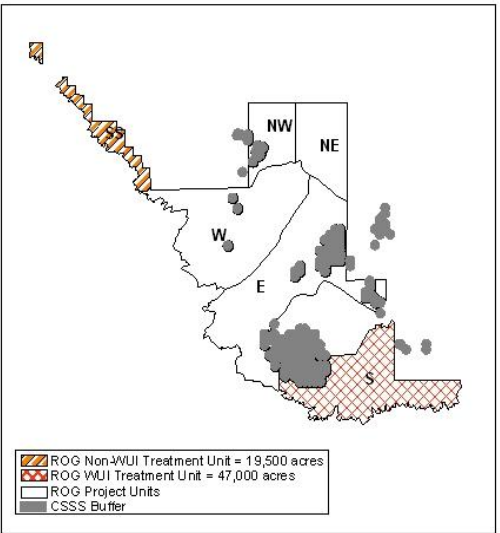
Year 2



Year 3

Year 4

Year 5



CSSS Buffer Burning



2 weeks after fire



Getting the Fire Right...and wrong

Census Site
mahog-011 (B-11-03)
in Pop-B (thank you, Jay Sah)

Pop-D
18 months after fire



15 months after fire





When soil moistures are above 82%, tree islands and hammocks rarely ignite. This creates opportunities to initiate burning which can protect these areas from severe fires.



“Rehydration might hold the biotic pieces of the everglades mosaic together, like a watery grout. But it would be fire that kindled them to life.”
Stephen Pyne “Everburns” 2011