SOUTH FLORIDA RESEARCH CENTER

# Report T-595

# Summary of Fires in Everglades National Park and Big Cypress National Preserve, 1979


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and

# Big Cypress National Preserve, 1979

Report T-595

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# INTRODUCTION

Fire statistics for Everglades National Park and for Big Cypress National Preserve are presented for the 1979 calendar year. This annual fire summary is to supplement fire records presented by Taylor (1979) and Taylor (1980) for Everglades National Park, and to establish a systematic fire records system for the Big Cypress National Preserve. The 1979 fire season was the first year of National Park Service fire responsibility for portions of Big Cypress National Preserve compared to the 32nd year for Everglades National Park.

# FIRES IN EVERGLADES NATIONAL PARK

## The fire year.

Poor prescribed burning conditions were noted by all fire control agencies during early 1979. At the February Interagency Wildfire Council meeting, the Florida Division of Forestry Fort Myers District had burned only 600 acres of 15,000 acres scheduled and the Fort Lauderdale District had burned 3,000 to 4,000 acres of 70,000 acres scheduled for burning. Wet weather hampered the Recreation and Parks Division burning program as well as the Everglades National Park program. Prescribed burning conditions were good throughout the fall, however, and almost all planned prescribed burns were completed by November 1 in Everglades National Park.

Number of fires, fire statistics and location of fires are shown on Table 1 and Figure 1. Total number of fires, number of prescribed natural fires (lightning), prescribed management fires, and prescribed research fires, were above average for the year (Table 2). Notable was the low number of man-caused wildfires.

Fifteen prescribed fires and four prescribed research fires were set during the year compared to an average of 11.2 fires for the period of record (Table 2). As in past years (Taylor 1979) the small part of Everglades National Park near and including Management Unit 3 (Fig. 1) has approximately one-half the fires. Eighteen fires (51%) occurred within or near this small zone. Of these, 11 fires (31%) were pineland prescribed burns set to control hardwood succession, 3 (9%) were set for the prairies research project, 2 (6%) were lightning caused and 1 (3%) was a wildfire set in the campground. Two boundary burns (6%) (Nos. 7904 and 7906) were also set near Unit 3 (Fig. 1).

## Muhlenbergia research fires.

A long-term study of fire effects on Muhlenbergia prairies was begun in December 1978 (Fire No. 7816 for 1978). Fire No. 7905 on March 8, and fire No. 7915 on July 20, 1979, completed the initial phase of burning. In future years, designated areas will be burned on annual, three-year and five-year intervals. Location of study areas is shown on Figure 2.

## Wet season fires.

It has been shown that prescribed management fires have been set in winter, fall and spring months, whereas, lightning fires occur during the summer wet season (Taylor 1980). During 1979, four fires were observed closely to determine the feasibility of setting prescribed fires during the summer wet season.

The Atoll Hammock fire (No. 7911) on July 1, was caused by lightning. The fire was burning with 5-10' flames at 8 p.m. when relative humidity was 80% and wind speed 2-5 mph. Rainfall during the storm totaled 3.7 inches at the Research Center a few miles from the fire. Relative humidity of 80% at the fire is considered as much too high for prescribed fire, and winds under 5 mph are usually too low to carry a prescribed fire.

Research fire #3 (No. 7915) was a prescribed fire set with one spot on July 18. The fire was set in late afternoon to take advantage of evening humidity increase, thereby normally holding size of fire to the desired acreage. Winds from a late evening thunderstorm caused the fire to spread rapidly for a few minutes, then it spread at a slower rate until it finally died-out over night due to high humidity. The ultimate result was a 1116 acre burn. By comparison, a December 7-8, 1978, dry season prescribed fire on the east boundary, in identical habitat, did not burn well. Relative humidity, wind speed, and air temperatures were nearly identical during the two burns. Rainfall amount for five days prior to the prescribed burns was comparable (.57 in. during July and .32 in. during December). The major difference between the two burns was water level (July was .48 feet msl below average compared to .11 feet msl above average for December). However, water level during the July fire was .42 ft. msl above water level at the time of the December burn (July 3.01; December 2.59 ft. msl at Taylor Slough Bridge).

The Gumbo Limbo prescribed sawgrass burn (No. 7917) was completed August 10. August is normally the third wettest month of the year (Rose, et al., 1979). During the five days prior to the fire, 3.3 inches of rain fell near Gumbo Limbo hammock. Water levels were near normal.

The fourth fire was an August 14 lightning started fire (No. 7918) in Spartina saltmarsh near Little Fox Lake. The fire burned 1392 acres during two days and two nights. Nighttime dewfall often inhibits burning or extinguishes a fire. Dew point did occur at Pine Island (several miles north and east), but it is unknown if dew point occurred at the fire location. A small amount of rain may have accompanied the storm as .12 in. fell at Pine Island, but no rain fell on August 14 at Flamingo a few miles east and south of the burn. The fire killed red mangroves (Rhizophora mangle) that were encroaching into the Spartina marsh.

These data suggest prescribed fires can be set during the late July and early August part of the summer wet season when, theoretically, natural fires occur. Wet season fires would more nearly approximate what are now considered to be "natural" conditions. Wet season fires would help reduce the potential threat of invasion into burned areas by the exotic Shinus terebinthifolius (Fig. 3). Most prescribed burns now occur when a majority of Schinus fruits are ripe and when the greatest number of fruits are present. These fires may clear an area and allow Schinus plants to become established, especially in pinelands. Fewer Schinus fruits are ripe and fewer fruits are present on the tree during the time when lightning fires occur. (Fig. 3).

Sawgrass condition.

During the early 1970's concern was expressed about extensive areas of dead or dying sawgrass. To better understand sawgrass communities in Shark Slough, a resources management research program was begun to study effects of fire on sawgrass strands (Werner, 1975). Data were collected from 13 different strands during 1973-74. Eleven strands were burned by prescribed fire, one by incendiary

fire, and two by lightning strikes. The study did not resolve the contribution of fire to the sawgrass condition and it is being continued with two strands to be selected each year, one to be burned and one to remain as an unburned control.

Sawgrass strand #13 (Werner, 1975), the tail of Gumbo Limbo Hammock, was selected for study and burned August 10, 1979. Biomass recorded before fire in 1979 was more than two times the amount present in the 1974 decadent sawgrass. Open water within the strand declined from 80% in 1974 to 15% before fire in 1979, reflecting increased sawgrass growth. Post-fire sawgrass recovery is being monitored.

## FIRES IN BIG CYPRESS NATIONAL PRESERVE

The Big Cypress National Preserve is an area of 570,000 acres being acquired by the National Park Service. Fire control responsibilities for 353,000 acres of the preserve have been under National Park Service direction only since November 1978. Responsibility for the final 216,500 acres was transferred to the National Park Service during December 1979. Big Cypress fire management will require new National Park Service strategies because of unusual special use activities permitted within the area. Special uses include grazing and burning for improved cattle pasture, hunting, trapping, off-road vehicle use, hunting camps, exploration for, and extraction of gas and oil, and traditional Indian use. To prepare for fire activities within the preserve the National Park Service has completed a fire management plan and an environmental assessment (Fire Management Plan, Big Cypress National Preserve, 168 pp., 1980; Environmental Assessment Fire Management Plan Big Cypress National Preserve, 1980). A long-term research plan has been completed (Taylor 1980).

Many users have a propensity to start fires as shown by 89% of the fires, 89% of acreages and 99% of fire cost due to man-caused fires (Table 4). Only 4% of all fires discovered, and less than 1% of acreage burned and 1% of assessed cost was due to lightning fires. Lightning fires were recorded only during May (Tables 3 and 4). Burning grazing land by permit was a third cause of fires within Big Cypress but these fires occurred only during January (Tables 3 and 4). Fires were concentrated along U.S. 41 (Tamiami Trail), around Ochopee and vicinity, and within the Bear Island (north) part of the preserve (Fig. 4). The large section where fires numbered 69-71, 73, 74, 76, and 80 occurred are parts of the preserve which was under Florida Division of Forestry control until December 1979. Fire reports were not filed until the National Park Service assumed control, consequently, the 7 fires represent a minimum number to have occurred in the region during the past year (Fig. 4).

Eighty-one fires burned 24,140 acres and were assigned $28,376 control cost (Tables 3 and 4). Twenty-four (30%) fires were larger than 100 acres, one burning 3,200 acres (No. 45) and one 4,077 acres (No. 35) (Table 3). Sixty-two fires (77%) were larger than 10 acres. The "fire season" is October through May which coincides with the dry season (Fig. 5). Seventy-eight (96%) fires occurred during these eight months while only three fires (4%) were recorded from June through September. The five-to-seven month dry season usually terminates by May, therefore, end-of-season fires are normally much larger than fires that occur early in season. For example, 25% of all fires and 38% of all acreage burned was burned during March. Average fire size was 967 acres in April and 462 acres in March, compared to 9 acres in October and 119 acres in November. March, April, May, and sometimes June, are months when fires burn large acreages (as much as 77,000

acres; 10,000 acre fires are not uncommon) in Everglades National Park (Taylor 1980).

Months when greatest number of fire starts occur are January when the deer, turkey, and hog season close, March when the turkey season occurs, and November when the deer, turkey and wild hog seasons open. All three October fire starts were during the special black powder deer season. Few fires occurred during February when fire potential was high due to low precipitation, but because no hunting seasons were open few people were present to set fires. Most fires are set on Sunday (33 starts, 41% of all fires; Table 5) with the belief that deer will be attracted to the area for shooting the following weekend.

McPherson (1973) has mapped biotic communities in Big Cypress (Table 6). Of the types he lists, we have identified pineland, cypress prairie, and prairie as where nearly 100% of 1979 fires occurred (Fig. 6). High acreages of pineland were burned during January and March. Almost all cypress prairie that burned was burned during March, while highest acreage of prairie was burned during March, April, December, January, and November, respectively.

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Table 1. Individual fires for Everglades National Park, 1979.

| Fire Number | Location (R-T-S) | Cause | Fire Mgmt Unit | Acres | Cost ($) | Date | Remarks |
|---|---|---|---|---|---|---|---|
| | | | January | | | | |
| 7901 | 37-58-12 | Prescribed | 3 | 9 | $ 179 | 1-4 | Hardwood Control |
| 7902 | 30-52-22 | Man | 2 | 15 | 10 | 1-8 | Incendiary |
| 7903 | 36-58-7 | Prescribed | 3 | 580 | 1,061 | 1-16 | Pines NW of Block D |
| Total, 3 fires | | | | 604 | $ 1,250 | | |
| | | | February | | | | |
| 7904 | 35-54-22 | Prescribed | 2 | 216 | $ 4,532 | 2-27 | Miccosukee Boundary |
| Total, 1 fire | | | | 216 | $ 4,532 | | |
| | | | March | | | | |
| 7905 | 37-58-3 | Research | 2 | 127 | $ 549 | 3-8 | Prairies Study |
| 7906 | 36½-54-1 | Prescribed | 2 | 403 | 1,258 | 3-15 | North Boundary Burn |
| Total, 2 fires | | | | 530 | $ 1,807 | | |
| | | | April | | | | |
| 7907 | 37-58-7 | Man | 3 | 1 | $ 224 | 4-9 | Campground |
| 7908 | 37-58-19 | Prescribed | 2 | 40 | 192 | 4-18 | Donut-8 |
| Total, 2 fires | | | | 41 | $ 415 | | |
| | | | May | | | | |
| 7909 | 31-54-14 | Man | 2 | 3 | $ 20 | 5-4 | Incendiary |
| Total, 1 fire | | | | 3 | $ 20 | | |

| Fire Number | Location (R-T-S) | Cause | Fire Mgmt Unit | Acres | Cost ($) | Date | Remarks |
|---|---|---|---|---|---|---|---|
| | | | | June | | | |
| 7910 | 36-54-34 | Lightning | 2 | 1 | $ 30 | 6-22 | |
| Total, 1 fire | | | | 1 | $ 30 | | |
| | | | | July | | | |
| 7911 | 36-59-17 | Lightning | 2 | 218 | $ 75 | 7-1 | Atoll Hammock |
| 7912 | 36-56-29 | Lightning | 2 | 1 | 20 | 7-12 | Panther Mound |
| 7913 | 32-57-6 | Lightning | 1 | 288 | 50 | 7-16 | 75% Coastal Marsh |
| 7914 | 32-56-7 | Lightning | 1 | 162 | 50 | 7-17 | 75% Coastal Marsh |
| 7915 | 37-57-31 | Research #3 | 2 | 1,116 | 428 | 7-20 | Prairies Study |
| Total, 5 fires | | | | 1,785 | $ 623 | | |
| | | | | August | | | |
| 7916 | 37-59-13 | Lightning | 2 | 12 | $ 21 | 8-16 | |
| 7917 | 36-54-32 | Research | 2 | 289 | 650 | 8-10 | Gumbo Limbo Hammock Strand |
| 7918 | 33-60-16 | Lightning | 1 | 1,392 | 693 | 8-14 | Little Fox Lake, Coastal Marsh Prairie |
| 7919 | 37-59-10 | Lightning | | 47 | 0 | 8-19 | |
| 7920 | 35-58-24 | Lightning | 2 | 5 | 110 | 8-20 | |
| 7921 | 36-58-30 | Lightning | 2 | 44 | 153 | 8-20 | |
| 7922 | 36-55-19 | Lightning | 2 | 5 | 15 | 8-23 | |
| 7923 | 35-57-10 | Lightning | 2 | 60 | 0 | 8-29 | |
| 7924 | 35-55-36 | Lightning | 2 | 1 | 15 | 8-10 | |
| Total, 9 fires | | | | 1,864 | $ 1,657 | | |

| Fire Number | Location (R-T-S) | Cause | Fire Mgmt Unit | Acres | Cost ($) | Date | Remarks |
|---|---|---|---|---|---|---|---|
| | | | September | | | | |
| No fires | | | | 0 | 0 | | |
| | | | October | | | | |
| 7925 | 37-58-14 | Prescribed | 3 | 6 | $ 180 | 10-21 | Block P |
| 7926 | 37-58-13 | Prescribed | 3 | 11 | 324 | 10-27 | Block S |
| 7927 | 37-58-13 | Prescribed | 3 | 32 | 588 | 10-28 | Block S-T |
| 7928 | 37-58-7 | Prescribed | 3 | 391 | 1,607 | 10-29 | Block I |
| 7929 | 36-58-3 | Prescribed | 3 | 446 | 1,696 | 10-30 | (west ½) No. Block D |
| 7930 | 37-58-13 | Prescribed | 3 | 492 | 1,208 | 10-31 | Block J |
| Total, 6 fires | | | | 1,378 | $ 5,624 | | |
| | | | November | | | | |
| 7931 | 37-58-18 | Prescribed | 3 | 171 | $ 598 | 11-1 | Camp Everglades |
| 7932 | 37-58-12 | Prescribed | 3 | 18 | 191 | 11-5 | Block Y |
| 7933 | 36-58-24 | Prescribed | 3 | 823 | 2,238 | 11-29 | Block F |
| Total, 3 fires | | | | 1,012 | $ 3,027 | | |
| | | | December | | | | |
| 7934 | 37-58-10 | Research | 2 | 10 | $ 173 | 12-18 | Prairies Study |
| 7935 | 36-58-15 | Prescribed | 3 | 795 | $ 2,647 | 12-18 | Block C |
| Total, 2 fires | | | | 805 | $ 2,820 | | |
| TOTAL, 35 fires | | | | 8,229 (Acres) | $21,892 | | |

Table 2. 1979 Fire Statistics for Everglades National Park compared to 32 year average.

| | CAUSE | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Man | | | Prescribed Natural (Lightning) | | | Prescribed | | | Prescribed Management Research | | | Total | | |
| | No. | Acres | Cost | No. | Acres | Cost | No. | Acres | Cost | No. | Acres | Cost | No. | Acres | Cost |
| JAN | 1 | 15 | $ 10 | - | - | $ - | 2 | 589 | $ 1,241 | - | - | $ - | 3 | 604 | $ 1,251 |
| FEB | - | - | - | - | - | - | 1 | 216 | 4,523 | - | - | - | 1 | 216 | 4,523 |
| MAR | - | - | - | - | - | - | 1 | 403 | 1,258 | 1 | 127 | 549 | 2 | 530 | 1,807 |
| APR | 1 | 1 | 223 | - | - | - | 1 | 40 | 192 | 0 | 0 | 0 | 2 | 41 | 415 |
| MAY | 1 | 3 | 20 | - | - | - | - | - | - | - | - | - | 1 | 3 | 20 |
| JUN | - | - | - | 1 | 1 | 30 | - | - | - | - | - | - | 1 | 1 | 30 |
| JUL | - | - | - | 4 | 668 | 195 | - | - | - | 1 | 1,116 | 428 | 5 | 1,784 | 623 |
| AUG | - | - | - | 8 | 1,566 | 1,048 | - | - | - | 1 | 289 | 705 | 9 | 1,855 | 1,753 |
| SEP | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| OCT | - | - | - | - | - | - | 6 | 1,378 | 5,624 | - | - | - | 6 | 1,378 | 5,624 |
| NOV | - | - | - | - | - | - | 3 | 1,012 | 3,027 | - | - | - | 3 | 1,012 | 3,027 |
| DEC | - | - | - | - | - | - | 1 | 795 | 2,646 | 1 | 10 | 173 | 2 | 805 | 2,819 |
| Totals: | 3 | 19 | 253 | 13 | 2,235 | 1,273 | 15 | 4,413 | 18,511 | 4 | 1,542 | 1,855 | 35 | 8,229 | 21,892 |
| 1979 Average: | | 6.3 | 13.31 | | 171.9 | 0.56 | | 294.2 | 4.19 | | 385.5 | 1.20 | | 235.1 | 2.66 |
| 1948-1979 Average[a] | 14 | 20,016 | - | 7 | 2,859 | - | 11[b] | 4,590 | - | 0.2 | 57 | - | 28[c] | 29,104 | - |

a = Taylor, 1980

b = Prescribed fires have occurred since 1958

c = A number of fires were fought outside the park and they are included in the totals.

Table 3. Individual fires for Big Cypress National Preserve, 1980

| Fire Number | Cause | Acres | Cost ($) | Date | Day of Week | Location T-R-S |
|---|---|---|---|---|---|---|
| | | | JANUARY | | | |
| W0001 | Man | 20 | 0 | 1-7 | Sun | 50S-31E-16 |
| 2 | Man | 10 | 0 | 1-7 | Sun | 50S-30E-16 |
| 3 | Man | 250 | 0 | 1-7 | Sun | 51S-30E-15,16, 21,22,27,28 |
| 4 | Pasture burn | 2,500 | 0 | 1-7 | Sun | 49S-31E-3,4,10, 14,15,16,21, 22,23,24,25, 26,27 |
| 5 | Pasture burn | 25 | 0 | 1-7 | Sun | 49S-30E-22 23,26 |
| 6 | Pasture burn | 35 | 0 | 1-7 | Sun | 49S-30E-23,24,25 |
| 7 | Pasture burn | 20 | 0 | 1-7 | Sun | 49S-31E-19 |
| 8 | Man | 800 | 0 | 1-7 | Sun | 54S-34E-33,34,35 54S-33E-2 |
| 9 | Man | 20 | 0 | 1-10 | Wed | 54S-35E-18 |
| 10 | Man | 300 | 0 | 1-10 | Wed | 52S-30E-17,20 |
| 11 | Pasture burn | 12 | 0 | 1-7 | Sun | 49S-30E-15 |
| 12 | Pasture burn | 50 | 0 | 1-14 | Sun | 49S-31E-29 |
| 13 | Man | 25 | 0 | 1-26 | Fri | 53S-31E-3,4 |
| 14 | Man-trash fire | 100 | 0 | 1-28 | Sun | 52S-30E-9 |
| 15 | Man | 60 | 0 | 1-28 | Sun | 52S-31E-25,30 31,36 |
| Total, 15 fires | | 4,227 | $ 0 (no cost assigned) | | | |
| | | | FEBRUARY | | | |
| W0016 | Man | 35 | $ 90 | 2-1 | Thur | 53S-30E-1 |
| 17 | Man | 375 | 480 | 2-4 | Sun | 52S-32E-15,22 |
| 18 | Man-building removal | 5 | 151 | 2-6 | Tue | 52S-30E-22 |
| 19 | Man | 320 | 507 | 2-7 | Wed | 53S-33E-8,17 |
| 20 | Man | 1 | 0 | 2-7 | Wed | 53S-30E-1 |
| Total, 5 fires | | 736 | $ 1,228 | | | |

| Fire Number | Cause | Acres | Cost ($) | Date | Day of Week | Location T-R-S |
|---|---|---|---|---|---|---|
| | | | MARCH | | | |
| W0021 | Man | 40 | $ 30 | 3-8 | Thur | 53S-33E-18 |
| 22 | Man | 25 | 303 | 3-9 | Fri | 55S-33E-23 |
| 23 | Man | 1,430 | 6,000 | 3-10 | Sat | 52S-30E-23,24, 25,26 |
| 24 | Man | 10 | 291 | 3-11 | Sun | 53S-35E-18 |
| 25 | Man | 6 | 35 | 3-11 | Sun | 53S-32E-6 |
| 26 | Man | 2,120 | 6,264 | 3-13 | Tue | 52S-30E-12,13, 14,15,22,23 |
| 27 | Man | 280 | 95 | 3-14 | Wed | 50S-31E-18,19 |
| 28 | Man | 60 | 57 | 3-16 | Fri | 53S-33E-7 |
| 29 | Man | 3 | 124 | 3-20 | Tue | 50S-31E-2 |
| 30 | Man | 50 | 29 | 3-21 | Wed | 55S-33E-27 |
| 31 | Man | 40 | 19 | 3-21 | Wed | 55S-33E-15 |
| 32 | Man | 60 | 48 | 3-23 | Fri | 54S-33E-32 |
| 33 | Man | 20 | 209 | 3-23 | Fri | 53S-33E-17 |
| 34 | Man | 50 | 100 | 3-25 | Sun | 53S-33E-17,18 |
| 35 | Man | 4,077 | 361 | 3-25 | Sun | 50S-30E-10,11,12 13,14,15,16 17,20-26,34, 35 |
| 36 | Man | 340 | 200 | 3-25 | Sun | 53S-33E-16,17 |
| 37 | Man | 50 | 446 | 3-29 | Thur | 53S-31E-12 |
| 38 | Man | 250 | 1,110 | 3-29 | Thur | 52S-30E-8,9 |
| 39 | Man | 125 | 158 | 3-30 | Fri | 53S-32E-7,8 |
| 40 | Man | 200 | 315 | 3-31 | Sat | 54S-34E-29,30 |
| Total, 20 fires | | 9,236 | $16,194 | | | |
| | | | APRIL | | | |
| W0041 | Man | 250 | $ 450 | 4-2 | Mon | 54S-34E-20,21 |
| 42 | Man | 6 | 157 | 4-14 | Sat | 52S-30E-3 |
| 43 | Man | 70 | 109 | 4-16 | Mon | 49S-30E-23 |
| 44 | Man | 2,240 | 2,459 | 4-17 | Tue | 51,52S-30E-1,2 3,10,11,34, 35,36 |

| Fire Number | Cause | Acres | Cost ($) | Date | Day of Week | Location T-R-S |
|---|---|---|---|---|---|---|
| | | | APRIL (con't) | | | |
| W0045 | Man | 3,200 | $ 1,250 | 5-22 | Sun | 54,55S-32E-25 26,27,34,35, 36,11,12,1, 2,3,10 |
| 46 | Man | 35 | 150 | 4-27 | Fri | 53S-31E-9 |
| Total, 6 fires | | 5,801 | $ 4,575 | | | |
| | | | MAY | | | |
| W0047 | Lightning | 8 | 33 | 5-15 | Tue | 52S-30E-10 |
| 48 | Lightning | 10 | 111 | 5-17 | Thur | 51S-31E-7 |
| 49 | Man | 10 | 83 | 5-23 | Wed | 52S-31E-19 |
| 50 | Man | 60 | 32 | 5-24 | Thur | 52S-31E-18 |
| 51 | Man | 90 | 62 | 5-25 | Fri | 52S-31E-18 |
| 52 | Lightning | 5 | 18 | 5-30 | Wed | 53S-31E-4 |
| Total, 6 fires | | 177 | $ 339 | | | |
| | | | JUNE | | | |
| W0053 | Man | 4 | 29 | 6-23 | Sat | 53S-32E-12 |
| Total, 1 fire | | 4 | $ 29 | | | |
| | | | JULY | | | |
| W0054 | Man | 70 | 131 | 7-1 | Sun | 52S-30E-9 |
| 55 | Man | 60 | 101 | 7-15 | Sun | 51S-31E-19 |
| Total, 2 fires | | 130 | $ 232 | | | |

AUGUST

No fires recorded

SEPTEMBER

No fires recorded

| Fire Number | Cause | Acres | Cost ($) | Date | Day of Week | Location T-R-S |
|---|---|---|---|---|---|---|
| | | | OCTOBER | | | |
| W0056 | Man | 15 | $ 0 | 10-9 | Tue | 53S-34E-29 |
| 57 | Man | 5 | 0 | 10-9 | Tue | 53S-34E-21 |
| 58 | Man | 8 | 0 | 10-9 | Tue | 53S-34E-19 |
| Total, 3 fires | | 28 | $ 0 | | | |
| | | | NOVEMBER | | | |
| W0059 | Man | 200 | 200 | 11-10 | Sat | 53S-34E-30 |
| 60 | Man | 5 | 59 | 11-11 | Sun | 51S-31E-23 |
| 61 | Man | 51 | 100 | 11-11 | Sun | 53S-34E-29 |
| 62 | Man | 1 | 48 | 11-11 | Sun | 52S-31E-35 |
| 63 | Man | 50 | 200 | 11-12 | Mon | 53S-32E-31 |
| 64 | Man | 300 | 589 | 11-12 | Mon | 52S-30E-28 |
| 65 | Man | 375 | 800 | 11-18 | Sun | 52S-31E-20,21 |
| 66 | Man | 5 | 247 | 11-30 | Fri | 53S-31E-7 |
| 69 | Man | 80 | 25 | 11-30 | Fri | 52S-34E-3,4 |
| Total, 9 fires | | 1,067 | $ 2,268 | | | |
| | | | DECEMBER | | | |
| W0067 | Man | 670 | 1,144 | 12-2 | Sun | 53S-31E-14,15, 22,23,27 |
| 68 | Man | 790 | 344 | 12-2 | Sun | 53S-34E-20,21 28,29,32,33 |
| 70 | Man | 60 | 25 | 12-11 | Tue | 51S-34E-28 |
| 71 | Man | 35 | 25 | 12-11 | Tue | 51S-34E-16 |
| 72 | Man | 13 | 92 | 12-12 | Wed | 53S-31E-4,9 |
| 73 | Man | 35 | 76 | 12-16 | Sun | 51S-32E-12,13,14 |
| 74 | Man | 10 | 67 | 12-16 | Sun | 51S-32E-2 |
| 75 | Man | 5 | 11 | 12-16 | Sun | 53S-32E-8 |
| 76 | Man | 35 | 160 | 12-23 | Sun | 51S-33E-6,7 |
| 77 | Man | 320 | 648 | 12-24 | Mon | 50S-30E-4,5 |
| 78 | Man | 465 | 416 | 12-29 | Sat | 53S-31E-16,17, 8,9 |

| Fire Number | Cause | Acres | Cost ($) | Date | Day of Week | Location T-R-S |
|---|---|---|---|---|---|---|
| | | | DECEMBER (con't) | | | |
| W0079 | Man | 210 | $ 349 | 12-31 | Mon | 53S-34E-8 |
| 80 | Man | 50 | 101 | 12-30 | Sun | 51S-33E-14,15 |
| 81 | Man | 30 | 53 | 12-30 | Sun | 52S-34E-32,33 |
| Total, 14 fires | | 2,728 | $ 3,511 | | | |
| Annual Total, 72 fires | | 24,140 (acres) | $28,376 | | | |

Table 4. 1979 Fire statistics for Big Cypress National Preserve

| | Man-Caused | | | | | | Pasture-Burning Permit | | | | | | Lightning | | | | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No | % | Acres | % | Cost | % | No | % | Acres | % | Cost | % | No | % | Acres | % | Cost | % | No | Acres | Cost |
| January | 9 | 60 | 1,585 | 37 | 0[a] | - | 6 | 40 | 2,642 | 63 | 0[a] | - | 0 | - | 0 | - | 0[a] | - | 15 | 4,227 | 0[a] |
| February | 5 | 100 | 736 | 100 | 1,228 | 100 | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 5 | 736 | 1,228 |
| March | 20 | 100 | 9,236 | 100 | 16,194 | 100 | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 20 | 9,236 | 16,194 |
| April | 6 | 100 | 5,801 | 100 | 4,575 | 100 | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 6 | 5,801 | 4,575 |
| May | 3 | 50 | 160 | 87 | 177 | 52 | 0 | - | 0 | - | 0 | - | 3 | 50 | 23 | 13 | 162 | 48 | 6 | 183 | 339 |
| June | 1 | 100 | 4 | 100 | 29 | 100 | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 1 | 4 | 29 |
| July | 2 | 100 | 130 | 100 | 232 | 100 | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 2 | 130 | 232 |
| August | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | 0 | 0 |
| September | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | 0 | 0 |
| October | 3 | 100 | 28 | 100 | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 3 | 28 | 0 |
| November | 9 | 100 | 1,067 | 100 | 2,268 | 100 | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 9 | 1,067 | 2,268 |
| December | 14 | 100 | 2,728 | 100 | 3,511 | 100 | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 14 | 2,728 | 3,511 |
| TOTALS | 72 | 89 | 21,475 | 89 | 28,214 | 99 | 6 | 7 | 2,642 | 11 | 0 | - | 3 | 4 | 23 | 4 | 162 | 4 | 81 | 24,140 | 28,376 |
| Averages | | | 298 | | $392 | | | | 440 | | $0 | | | | 8 | | $54 | | | 298 | $350 |

[a] = no cost assigned for January

Table 5. Fire starts by day of week and by month in Big Cypress National Preserve

| Month | Day of Week | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sunday | | Monday | | Tuesday | | Wednesday | | Thursday | | Friday | | Saturday | | Total | |
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| January | 12 | 80 | - | - | - | - | 2 | 13 | - | - | 1 | 7 | - | - | 15 | 100 |
| February | 1 | 20 | - | - | 1 | 20 | 2 | 40 | 1 | 20 | - | - | - | - | 5 | 100 |
| March | 5 | 25 | - | - | 2 | 10 | 3 | 15 | 3 | 15 | 5 | 25 | 2 | 10 | 20 | 100 |
| April | 1 | 17 | 2 | 33 | 1 | 17 | - | - | - | - | 1 | 17 | 1 | 17 | 6 | 101 |
| May | - | - | - | - | 1 | 17 | 2 | 33 | 2 | 33 | 1 | 17 | - | - | 6 | 100 |
| June | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 100 | 1 | 100 |
| July | 2 | 100 | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 100 |
| August | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | |
| September | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | |
| October | - | - | - | - | 3 | 100 | - | - | - | - | - | - | - | - | 3 | 100 |
| November | 4 | 44 | 2 | 22 | - | - | - | - | - | - | 2 | 22 | 1 | 11 | 9 | 99 |
| December | 8 | 57 | 2 | 14 | 2 | 14 | 1 | 7 | - | - | - | - | 1 | 7 | 14 | 99 |
| | 33 | 41 | 6 | 7 | 10 | 12 | 10 | 12 | 6 | 7 | 10 | 12 | 6 | 7 | 81 | 98 |

Table 6. Vegetation types within the Big Cypress National Preserve (McPherson, 1973). The cypress forest has been subdivided into three units and apparent fire requirements/effects on each community have been added by this author.

| Vegetation Type | | Acres | Fire Requirements/Effects |
|---|---|---|---|
| 1. | Cypress forest | 249,000 | |
| | a. cypress strands | | Destroyed by fire during drought |
| | b. cypress domes | | Destroyed by fire during drought |
| | c. cypress prairie | | Burned frequently by man, (almost annually). Affected adversely by fire during dry seasons. |
| 2. | Prairies | 137,600 | Burned almost annually |
| 3. | Pine forest | 102,400 | Burned almost annually, probably adversely affected by fire during the dry season. |
| 4. | Mixed swamp forest | 37,120 | Potentially destroyed by fire. |
| 5. | Inland marsh | 23,680 | Potentially destroyed by fire, especially during drought conditions. |
| 6. | Hammock forest | 9,600 | Potentially destroyed by fire. |
| 7. | Coastal forest | 7,680 | Unknown, fires are rare. |
| 8. | Coastal marsh | 5,120 | Fire occurs naturally, but frost is a more important influence. |
| 9. | Agricultural/disturbed | 3,200 | Fire may be required to control exotic plants/may carry fire annually. |

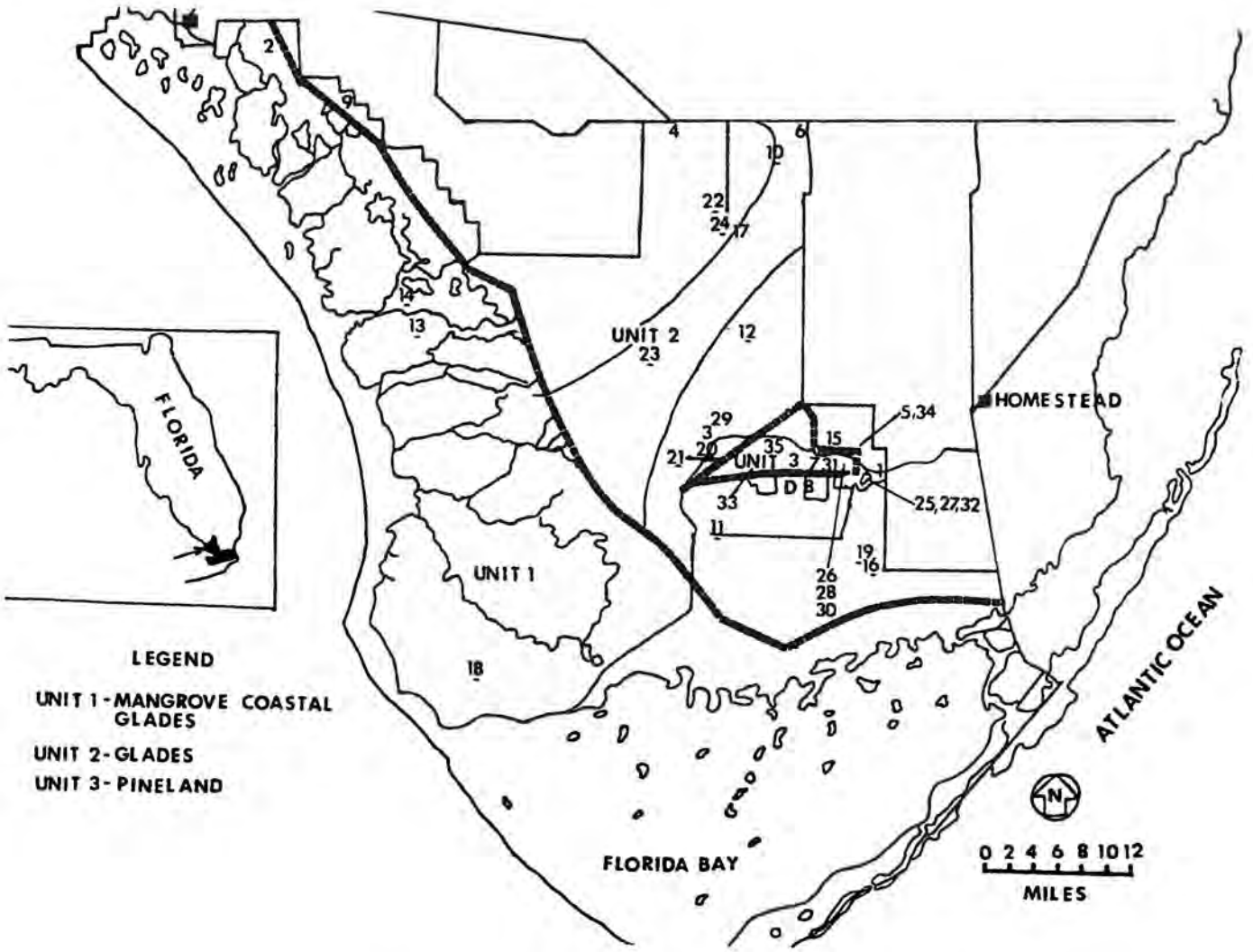


Figure 1. Approximate location of 1979 fires within Everglades National Park.

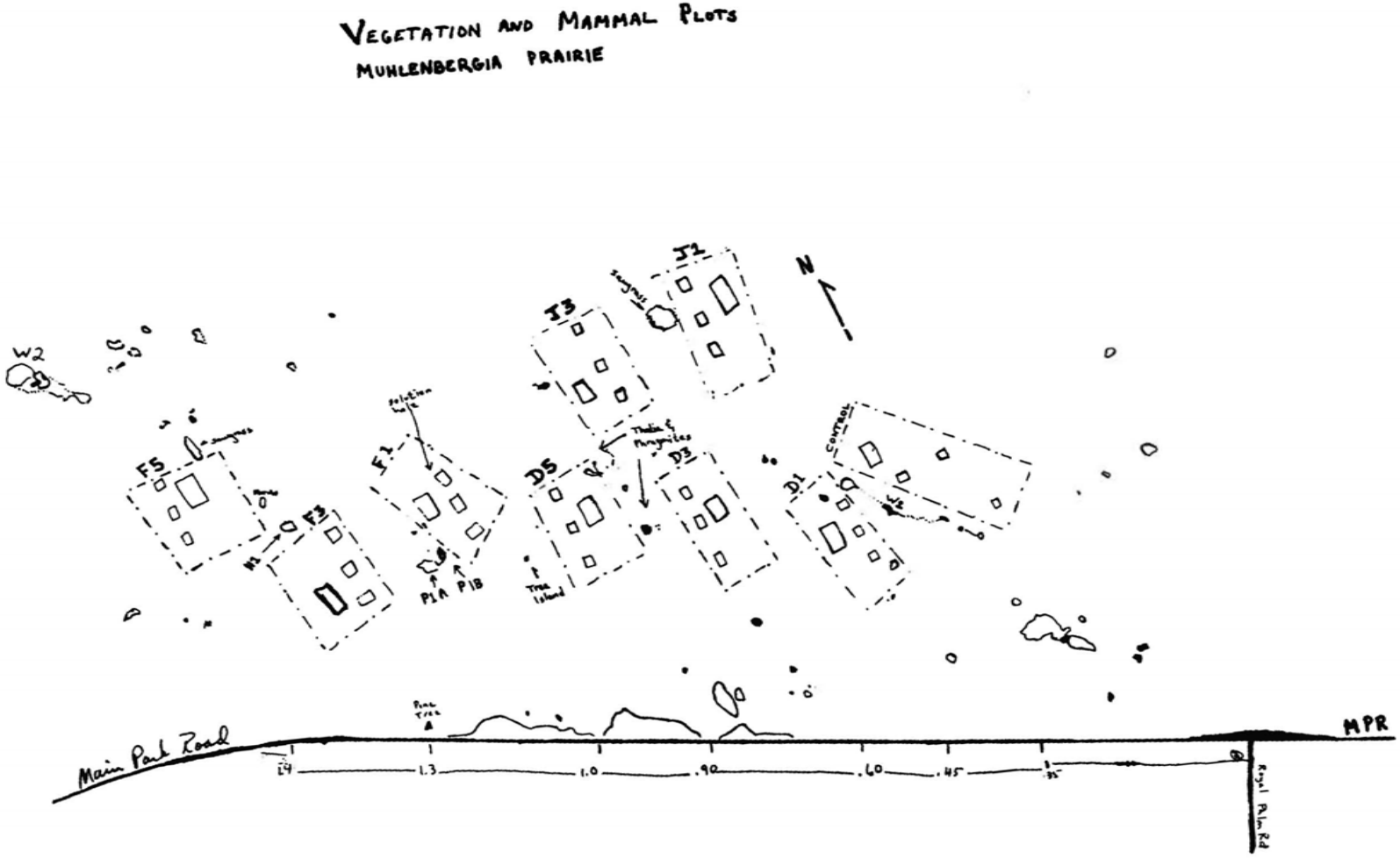


Figure 2. Location of study plots in Muhlenbergia prairie.

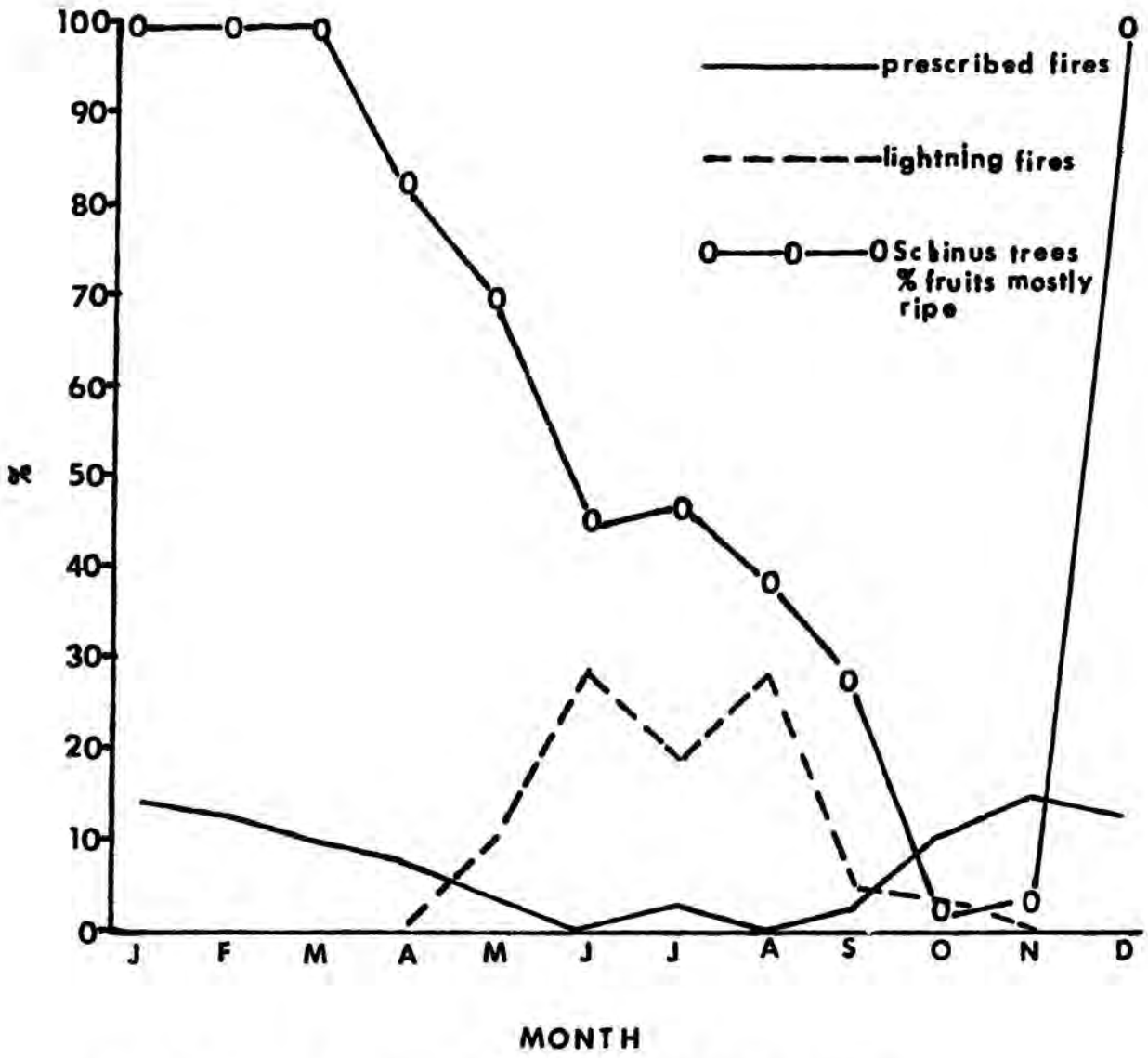


Figure 3. Time of prescribed fire and lightning fire occurrence relative to Schinus fruit phenology in Everglades National Park (from Ewel 1980 and Taylor 1980).

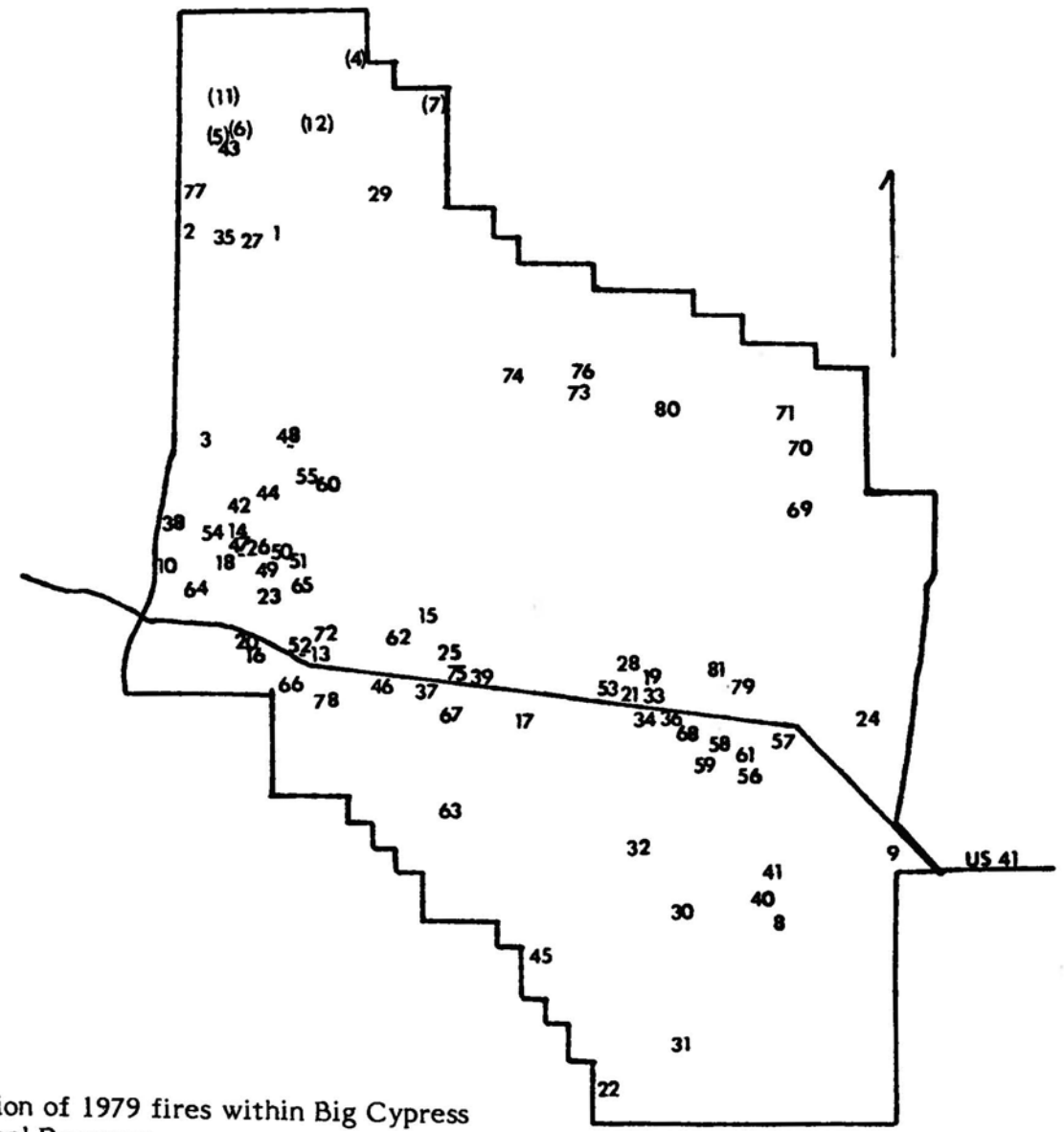


Figure 4. Location of 1979 fires within Big Cypress National Preserve

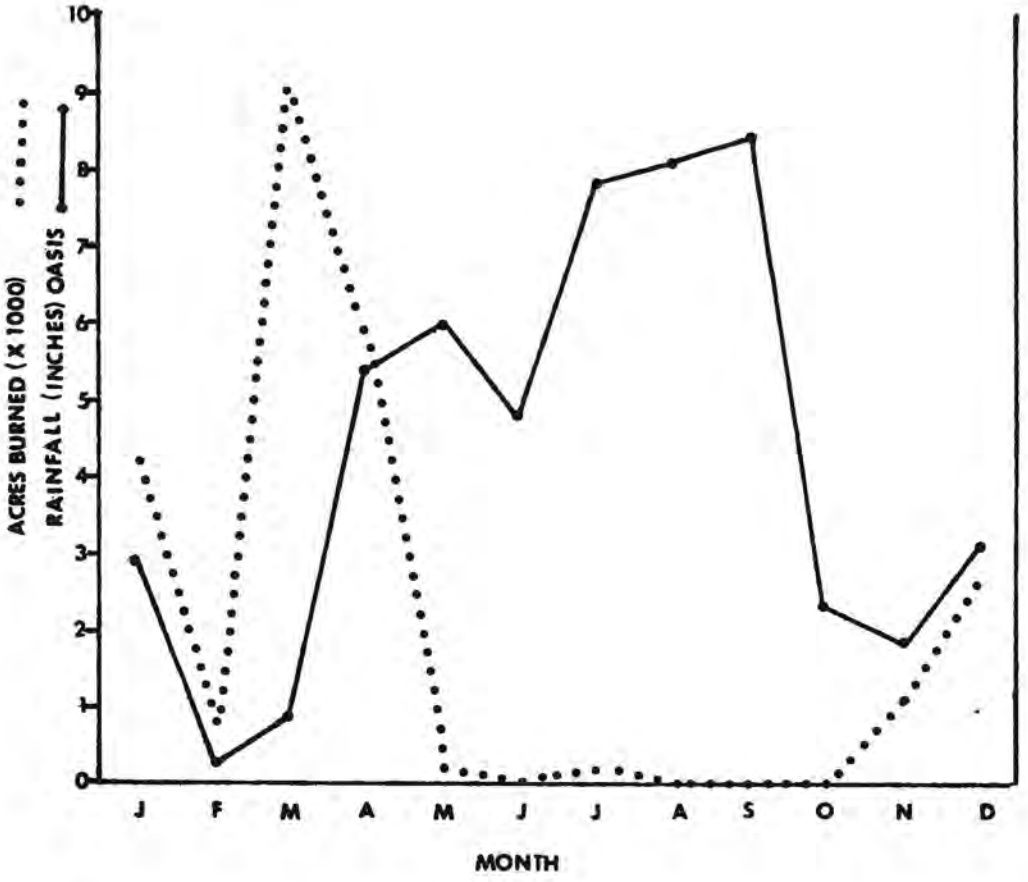


Figure 5. Rainfall and acres burned by month due to all causes in Big Cypress National Preserve.

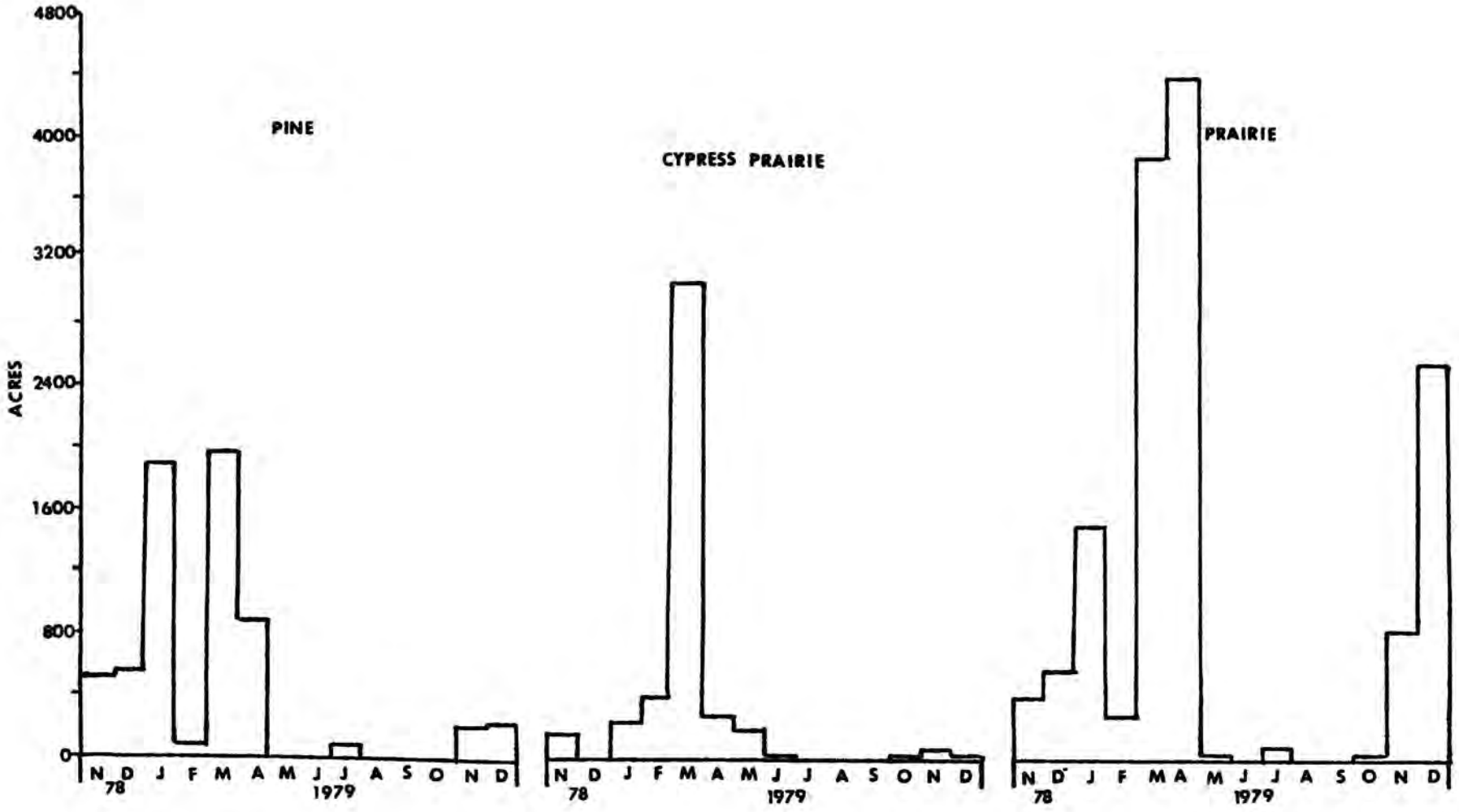


Figure 6. Number of acres burned by month in three vegetation types within Big Cypress National Preserve.