National Park Service Wildland Fire Report 1989

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Table of Contents

Wildland Fire Activity Summary

Chronology of the year's events: The year started quietly, with no major wildfires reported in January or February. High to extreme fire danger in Texas and Florida was a precursor to problems to follow later in the year. Big Cypress National Preserve in Florida conducted prescribed burns totalling over 12,000 acres in the two months.

In March, there were a series of large fires at Big Bend and Guadalupe Mountains National Parks in Texas, Carlsbad Caverns National Park in New Mexico, and Big Cypress National Preserve. Two squads of firefighters were assembled from seasonal NPS hotshot crew personnel, and sent to south Florida to assist in fire suppression there due to the extreme fire danger.

Numerous human and arson-caused fires were reported in the southeast and southwest during April, with wildfires at Big Cypress, Everglades, Big South Fork and Great Smoky Mountains (Tennessee), Blue Ridge Parkway (North Carolina), Cumberland Island (Georgia), Big Bend, and Buffalo River (Arkansas). A large fire on state land adjacent to Everglades was fought by Everglades and Big Cypress personnel in a successful effort to keep the fire from entering the Everglades. Unusually low early-season fuel moisture readings in Rocky Mountain and Western Region parks, and a sparse Sierra Nevada snowpack heightened concerns about the coming western fire season.

Large fires continued in May, with major suppression efforts again at Everglades, Big Cypress, and Big Bend. Four fires at Everglades burned over 100,000 acres, and the arson-caused Tamiami Fire threatened facilities at Shark Valley before being controlled. The largest fire was the lightning-caused Ingraham Fire at the Everglades, which burned 98,800 acres within the park before being controlled. Agressive control tactics, prior prescribed burns, and the use of single-engine air tankers were helpful in controlling the Florida fires. A series of lightning storms in Big Bend burned over 3,000 acres in and adjacent to the park.

Continuing in June, NPS suppression efforts were focused on south Florida and the southwest. A large, arson-ignited fire began on state land in East Everglades, and swept into the Shark Valley section of the park, burning 15,600 acres of park land. Due to the extreme drought conditions and low water levels in the park, areas that had burned a year earlier reburned. Lightning storms, coupled with extremely dry conditions in the Southwest, caused major fires at Carlsbad Caverns and El Malpais in New Mexico. Prescribed burns were successfully conducted in the giant sequoia groves in Yosemite and Sequoia-Kings Canyon National Parks in California.

In July, there were large fires at Grand Canyon and Saguaro National Parks in Arizona, at Mesa Verde National Park, Colorado, and again at Big Bend and El Malpais. Very high and extreme fire dangers were reported in large areas of the Rocky Mountain, Southwest, and Western regions. NPS commitment to the first of the year's two large interagency suppression efforts peaked in mid-July with 590 firefighters and 153 overhead personnel committed to fires.

Lightning storms started hundreds of fires, primarily on national forest lands in Idaho, Oregon, and Montana, in early August. The National Park Service mobilized a large number of people in support of the second interagency mobilization for widespread suppression operations. Peak of the NPS mobilization occurred on August 8, when there were reported to be 783 NPS firefighters and 194 NPS overhead committed to out-of-park fire operations, for a total of 977 people representing all 10 regions. Widespread rain aided suppression efforts, and all personnel were back in their home units by the month's end.

There were no major wildfires in September. Prescribed burns were conducted at Bandelier (New Mexico), Grand Canyon, Big Thicket (Texas), Everglades, Lava Beds and Yosemite (California). By month's end, more NPS acreage had been treated using prescribed burning than in any previous year.

The southern fall fire season, in conjunction with hunting season, led to numerous human-caused fires in October. All were controlled with minimal acreage burned. The most unusual blaze occurred at Mammoth Cave, Kentucky, where a farmer attempting to cremate a dead cow ignited a half acre blaze. Parks in four regions conducted prescribed burns during the month.

The year ended with an assortment of arson and hunter-caused fires in the Southeast and Mid-atlantic regions. South Florida calculated that 1989 was the driest year since 1961, with some areas in 80 to 100 year drought cycles, and water levels in coastal aquifiers as much as 1.5 feet below normal. At Hawaii Volcanoes, numerous small fires were ignited, monitored, and overtaken by lava as a major volcanic eruption continued. The park was pleased to report an increase in park size of approximately 650,000 cubic meters per day, as lava surfaced. Parks in three regions conducted prescribed burns in November and December.

Branch of Fire Management

Accomplishments: It was a year of positive change and growth for the Branch of Fire Management. Ninety two new positions for fire-dedicated staffs at the park, regional, and national office were authorized, to be filled during fiscal years 1989 and 1990. These positions include full time fire management officers, prescribed fire managers, wildfire and prescribed fire specialists, dispatchers, fire technicians, and clerical support.

The position of Branch Chief was moved from the Boise Interagency Fire Center (BIFC), where it had been since the position's inception in 1979, to Washington, D.C. The purpose of the move was to develop and maintain better communications with the agency directorate, and with the other federal fire management agencies, whose chiefs also work out of Washington D.C. Dave Butts, Chief of the Branch, retired in November, after 11 years as Branch Chief.

Several new positions were created within the Branch. The position of NPS Fire Director at BIFC, which alligns the National Park Service with the same management structure as the other agencies' organizations at BIFC, was developed and staffed by Doug Erskine. A fire management specialist position for qualifications and prevention was established and filled by Bill Clark. Positions for a fire management specialist position for structural fire, and a computer system manager were established but not filled.

The fiscal structure for fire accounts was changed, with an increase from three to seven primary work elements for managing FIREPRO accounts. Normal fire year operations are now funded through the Department of the Interior Firefighting Account, with "no-year" funds, which means that funding can be carried over from year to year for on-going projects. ONPS funds are still used to support programs in place before the advent of FIREPRO, and to provide enhanced fire management capabilities in many parks. During severe wildfire years, if suppression funds within the NPS portion of the Interior Firefighting Account are insufficient to cover expenditures, the NPS will transfer funds from other programs and then seek to restore funds to affected programs through a supplemental appropriation.

The agency's prescribed natural fire policy was rewritten. The Branch facilitated the re-establishment of park prescribed natural fire programs, by completing the review and critique of the prescribed fire portions of 29 park fire management plans. Two parks' prescribed natural fire programs were re-approved by year's end, and more programs are expected to be back on-line in time for the 1990 fire season. Also in the prescribed fire arena, the Prescribed Burn Boss course (RX90) was revised, prescribed fire job qualifications were revised, and prescribed fire task books were revised.

In the realm of training, two new courses were developed by staff members in 1989. Aviation Management Training was conducted for NPS fire managers, using primarily Office of Aircraft Services instructors. A Fire Management for Managers course was developed, and will be presented in the Spring of 1990. Two Branch staff members were actively involved in the interagency suppression curriculum revision.

An international wildfire symposium, "Meeting Global Wildfire Challenges", was held in Boston, Mass. in July. The Branch participated in the design and operation of a Department of the Interior video and display that were developed for the conference. Personnel from the North Atlantic Region staffed the Interior booth.

Over 150 parks now access and use the NPS Wildland Fire Mangement Computer System. The information processing demands placed on fire management's original computer system, which was shared with the Office of Aircraft Services, outstripped the system's capacity. A new computer system dedicated to NPS fire management was purchased, a Digital VAX 3800, and the NPS share of the original computer hardware and peripherals was sold to the Office of Aircraft Services. A new computer services contract, covering computer operations, software maintenance and development, was implemented and staffed by a private firm.

National Park Service operations in Alaska in response to the Exxon Valdez oil-spill in Prince William Sound were conducted using the Incident Command System organizational structure. The fire qualification and certification system was used to identify personnel, Servicewide, that were qualified to perform in each position on the management team.

Administrative Payment Teams have been successfully used to process payments accrued during large fires since 1984. The program was expanded in 1989 from two regional teams to five national teams, available for dispatch on a rotating basis.

As always, Branch staff participated in numerous working teams, advisory groups, interagency meetings, and BIFC Multi-agency Coordinating Group (MAC) strategy sessions. By park and regional requests, staff members critiqued fire programs at 10 park areas. Staff members participated in 8 reviews of major fires. Three staff members performed on interagency suppression operations, filling positions as Fire Behavior Analyst, MAC Resource Unit Leader, and MAC Agency Representative.

Table 1. National Fire Activity 1989

FIRE TYPE	# FIRES	NPS ACRES
Suppressed on NPS lands by NPS full control strategy	667	48,765
Suppressed on NPS lands by NPS modified control strategy	88	120,438
Suppressed on NPS lands by other federal agency	6	4
Suppressed on NPS lands by non-federal agency	61	79
TOTAL WILDFIRES	822	169,286
Prescribed natural fires	0	0
Prescribed burns	147	56,889
TOTAL PRESCRIBED FIRES	147	56,889
Self-extinguished on NPS lands	122	1,751
Mutual aid by NPS on other lands	233	-
Support actions (non-local)	781	-
False alarms	92	-

Table 2. Wildfires and Acres by Size Class 1989

SIZE CLASS IN ACRES	AGENCY LANDS FIRES	AGENCY LANDS ACRES	OTHER LANDS FIRES	OTHER LANDS ACRES	ALL LANDS FIRES	ALL LANDS ACRES
A (0 - .2)	457	50	81	9	538	59
B (.3 - 9)	247	450	80	182	327	632
C (10 - 99)	60	1,766	40	1,453	100	3,219
D (100 - 299)	24	3,851	10	2,111	34	5,962
E (300 - 999)	16	8,582	14	8,559	30	17,140
F (1,000 - 4,999)	14	21,496	6	17,344	20	38,840
G (5,000 +)	4	133,091	2	69,250	6	202,341
TOTAL	822	169,286	233	98,908	1,055	268,193

There were 822 wildfires reported on NPS land in 1989, which is 88% of the normal fire year calculation (Table 12). Approximately 86% of the wildfires were controlled at under 10 acres in total size. The only size class of fire that exceeded the agency norm was the 1,000 to 4,999 acre range.

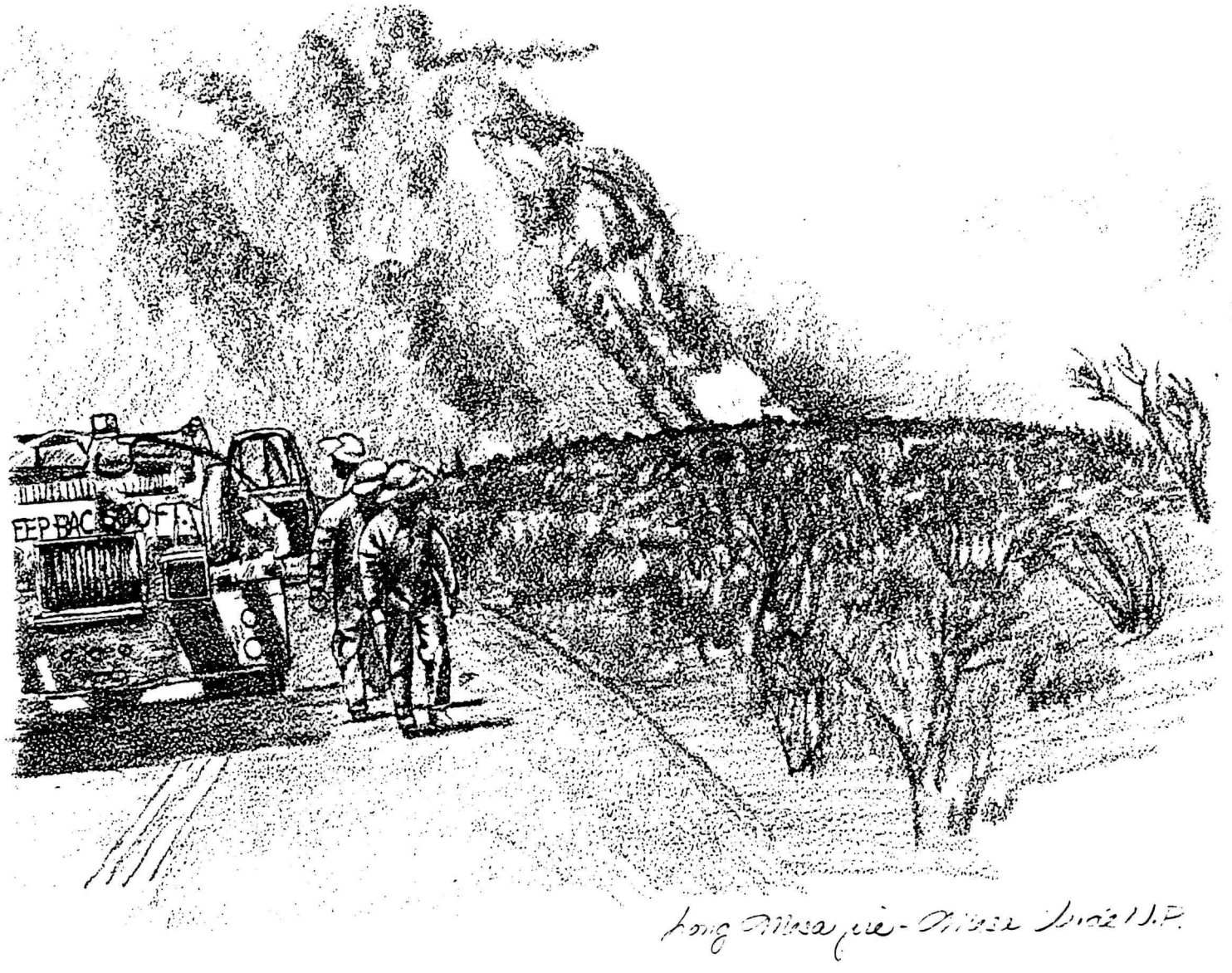
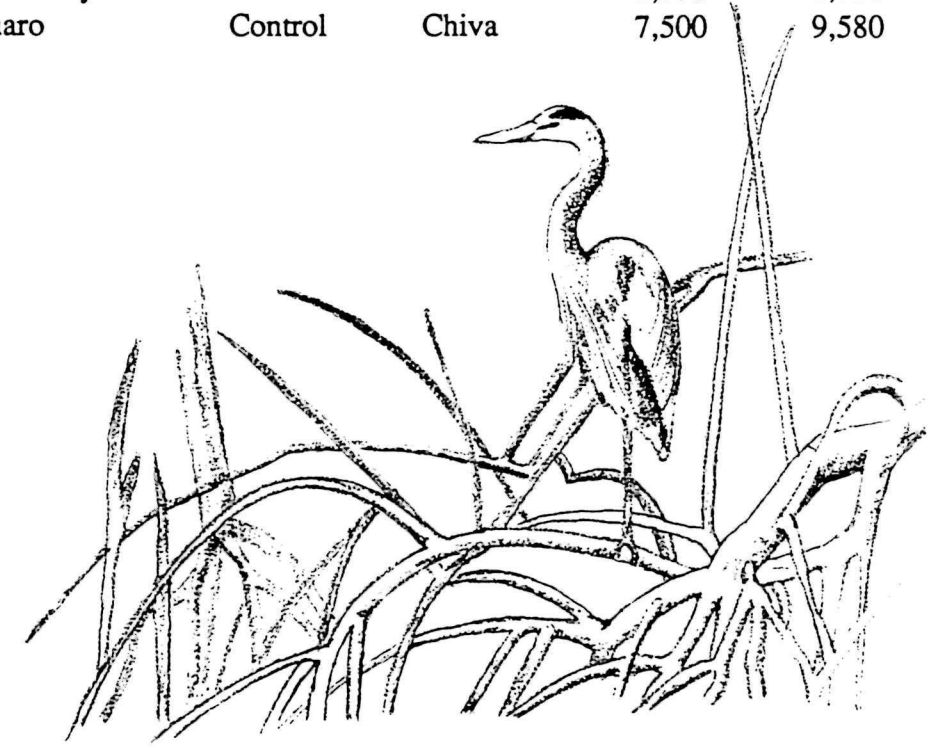


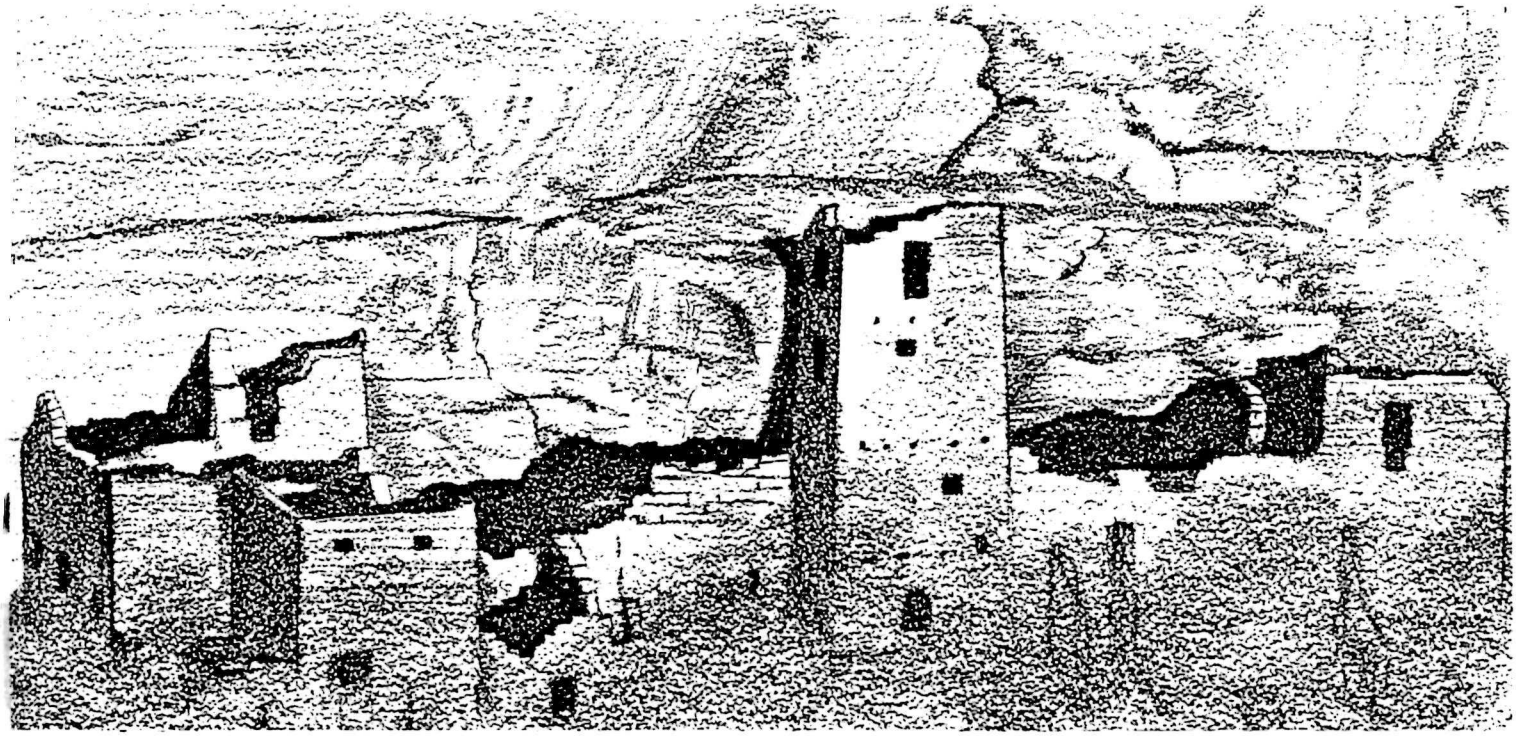
Table 3. Wildfires by Cause 1989

CAUSE	AGENCY LANDS # FIRES	# ACRES	AGENCY LANDS %FIRES	%ACRES
Lightning	368	132,307	44.8	78.2
Campfire	116	585	14.1	0.3
Smoking	44	58	5.4	0
Debris Burning	32	138	3.9	0.1
Incendiary	74	3,343	9	2
Equipment Use	26	11,263	3.2	6.7
Railroads	12	139	1.4	0.1
Children	12	12	1.4	0
Misc/Unknown	138	21,441	16.8	12.6
TOTAL	822	169,286	100	100

Table 4. Large Wildfires 1989

REGION	PARK	SUPPRESSION STRATEGY	FIRE NAME	NPS ACRES	TOTAL ACRES	FUEL TYPE
RMR	Mesa Verde	Control	Long Mesa	2,600	2,600	grass/p.j.
SER	Big Cypress	Confine	Half Mile	1,102	1,102	sawgrass
	Big Cypress	Control	Walk-In	11,191	12,421	sawgrass
	Everglades	Confine	Mclaughlin	1,802	1,802	sawgrass
	Everglades	Confine	Ingraham	98,800	98,800	sawgrass
	Everglades	Contain	DOF #457	15,600	43,700	sawgrass
	Everglades	Contain	West Lake	1,016	1,016	sawgrass
	Everglades	Control	Missle	1,045	1,045	sawgrass
SWR	Big Bend	Control	Strawhouse	1,200	1,200	grass/p.j.
	Big Bend	Control	North Muerto	1,153	1,153	grass/p.j.
	El Malpais	Control	Malpais	1,588	1,600	grass/pine
	El Malpais	Control	Hoya	1,965	2,000	grass/pine
	El Malpais	Control	Collapse	1,583	2,900	grass/pine
	GuadalupeMtns	Control	Big Canyon	830	3,215	sage/grass
	Guadalupe Mtns	Control	Camp	100	1,580	sage/grass
	Padre Island	Control	Speaks	3,762	3,762	perenn grass
WRO	Grand Canyon	Control	Muav	1,750	1,750	chaparral/pine
	Saguaro	Control	Chiva	7,500	9,580	oak woodland





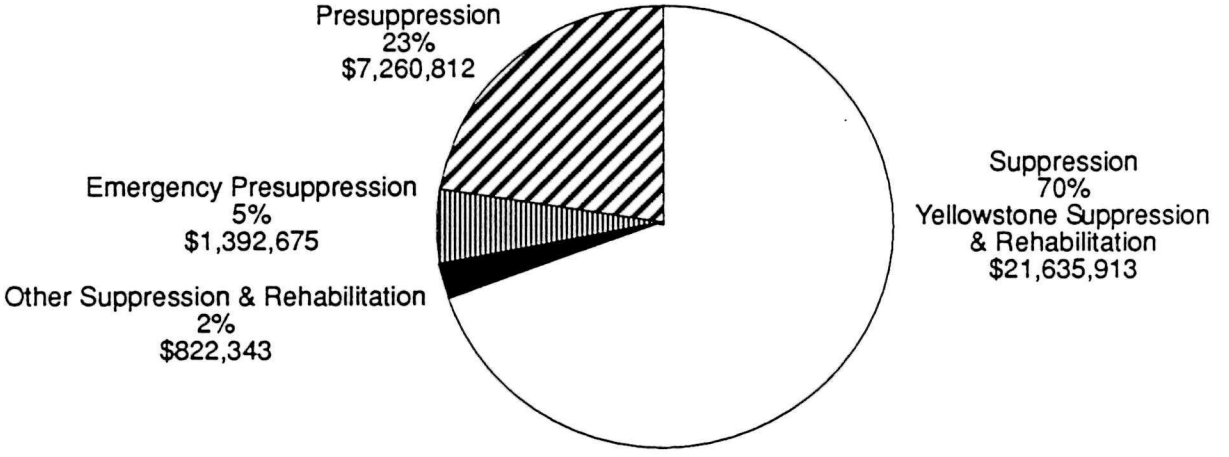
Cliff Palace - Mesa Verde N.P.

Table 5. Large Prescribed Burns 1989

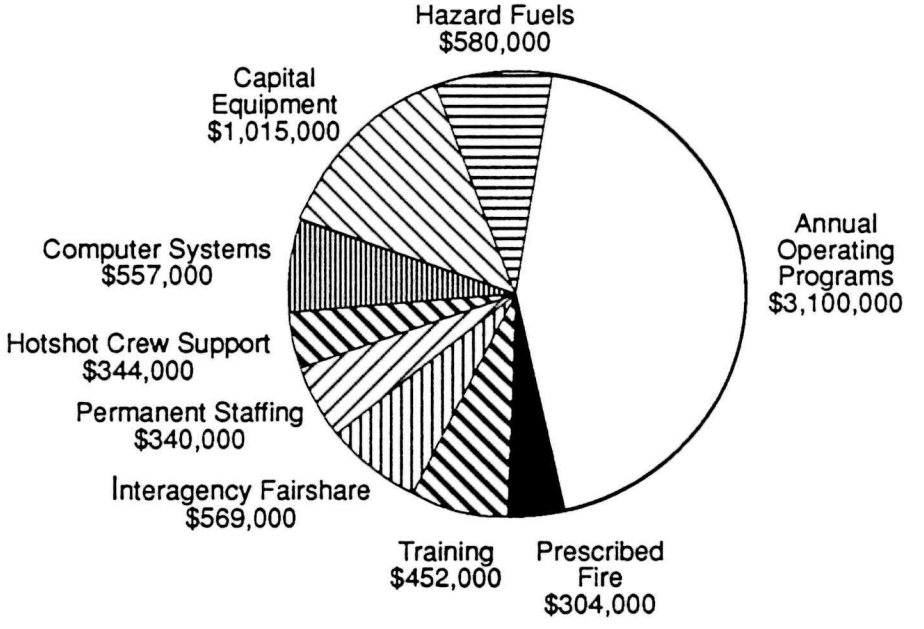
REGION	PARK	FIRE NAME	ACRES	FUEL TYPE	COST/ACRE
Rocky Mtn	Wind Cave	Red Valley	1,716	grass/open pine	$ 3.23
Southeast	Big Cypress	Copeland 89	4,000	perenn grass	$ 1.07
	Big Cypress	Deep Lake	6,046	perenn grass	$ 1.00
	Big Cypress	Skillet	6,967	perenn grass	$ 0.54
	Big Cypress	Scissors	3,571	perenn grass	$ 0.40
	Big Cypress	Brown	3,192	perenn grass	$ 0.43
	Big Cypress	Bishop	2,996	perenn grass	$ 0.73
	Big Cypress	Colding	1,188	perenn grass	$ 0.64
	Big Cypress	Big Monument	1,241	perenn grass	$ 1.28
	Big Cypress	Birdon NW	2,655	perenn grass	$ 1.25
	Big Cypress	Pinecrest	6,517	perenn grass	$ 1.23
	Big Cypress	Lostmans 89	1,190	palmetto	$ 1.81
	Everglades	Block D	1,400	palmetto	$ 1.50
	Everglades	East Everglades	3,000	sawgrass	$ 1.37
	Everglades	North Boundary	3,000	sawgrass	$ 1.39
	Western	Yosemite PW3-87	1,120	mixed fir	$ 5.00

There were 147 prescribed burns completed during 1989, for a total of 56,889 acres treated. The largest burn program was conducted at Big Cypress National Preserve in Florida, where over 40,000 acres was burned.

Table 6. Fire Management Expenditures Fiscal Year 1989



Presuppression Expenditures

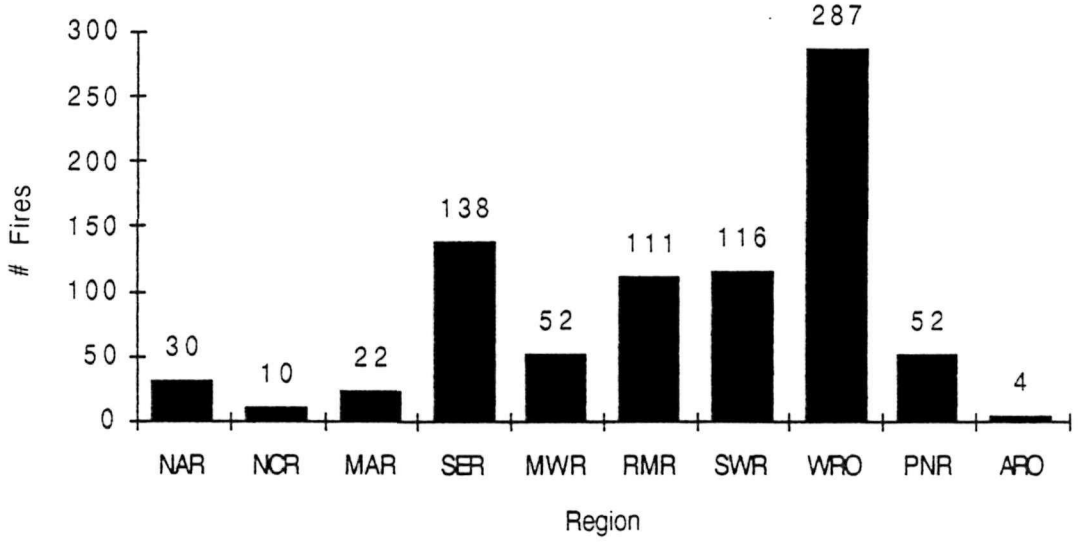


During fiscal year 1989 a total of $31,111,743.00 was spent in the three fire management fiscal accounts. Presuppression funding (PWE 342) is comprised of annual operating programs for parks, regional offices, and national oversight. It also includes some permanent staffing, hazard fuels, prescribed fire management, training, interagency fair share, capital equipment purchases, interagency hotshot crew support, computer systems, and telecommunications. Emergency presuppression funding (PWE 343) includes funding for step-up plans implemented during periods of very high and extreme fire danger. Suppression funding (PWE 344) includes costs for wildfire suppression actions and emergency rehabilitation. Because the large Yellowstone National Park fires of 1988 lingered over into fiscal year 1989, much of the Yellowstone suppression costs were paid in 1989.

Table 7. Interagency Hotshot Crew Wildfire Assignments 1989

CREW	FIRE NAME	LOCATION	DATES
Arrowhead	Ingraham	Everglades NP	5/22-5/29
Alpine	Willow	Moab BLM	5/25-5/27
Arrowhead	Blue Shanty	Florida State	5/25
Alpine	Spaulding	Apache Sitgreaves NF	5/28-5/30
Arrowhead	DOF 390	Florida State	5/29
Arrowhead	Coward Lake	Okefenokee NWR	5/30-6/4
Alpine	Bruno	Apache Sitgreaves NF	6/5-6/7
Arrowhead	ABC Misc	Canaveral NS	6/5-6/10
Alpine	Cleveland	Apache Sitgreaves NF	6/8
Alpine	Long	Gila NF	6/10-6/12
Alpine	Spring	Lincoln NF	6/12-6/14
Alpine	Horseshoe	Gila NF	6/18
Alpine	Meason	Gila NF	6/18-6/21
Arrowhead	Botti	Sequoia NP	6/21
Alpine	Shelley	Gila NF	6/22-6/28
Arrowhead	Chamise	Bakersfield BLM	6/30-7/2
Alpine	Divide	Gila NF	7/2-7/12
Arrowhead	Chiva	Saguaro NM	7/6-7/12
Alpine	Sandy Peak	Dixie NF	7/15-7/21
Alpine	ABC Misc	Payette NF	7/22-7/23
Arrowhead	Burroughs	Sierra NF	7/23-7/27
Alpine	Elkhorn	Payette NF	7/24-7/25
Alpine	Red Mountain	Boise NF	7/25-8/2
Arrowhead	Powerhouse	Sierra NF	7/28-7/31
Arrowhead	Balch	Sierra NF	8/1-8/7
Alpine	Riordan	Boise NF	8/3-8/17
Arrowhead	Verplank	Sequoia NF	8/8-8/9
Arrowhead	Dollar	Payette NF	8/16-8/26
Arrowhead	Caulkins	Sequoia NF	9/3-9/5
Arrowhead	Layman	Plumas NF	9/6-9/14
Alpine	Clarks	Utah State	9/8
Arrowhead	Mateo	Cleveland NF	10/18-10/24

Table 8. Wildfires by Region 1989



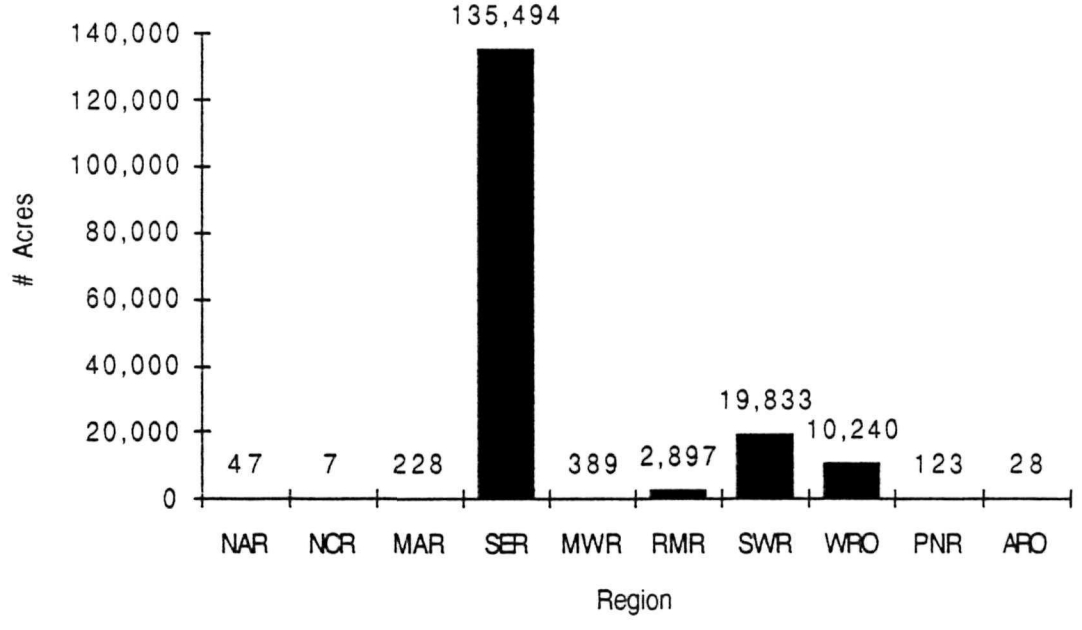
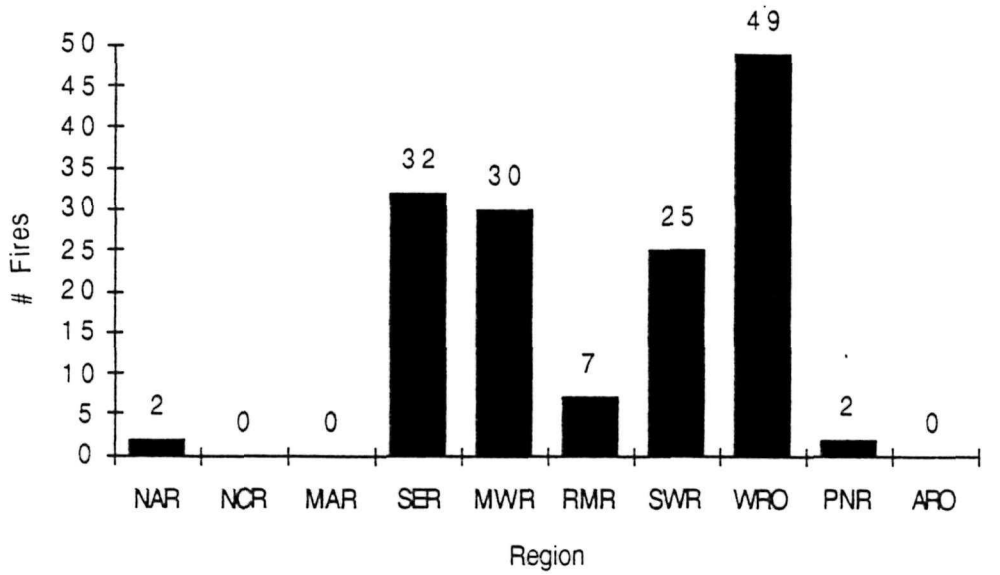
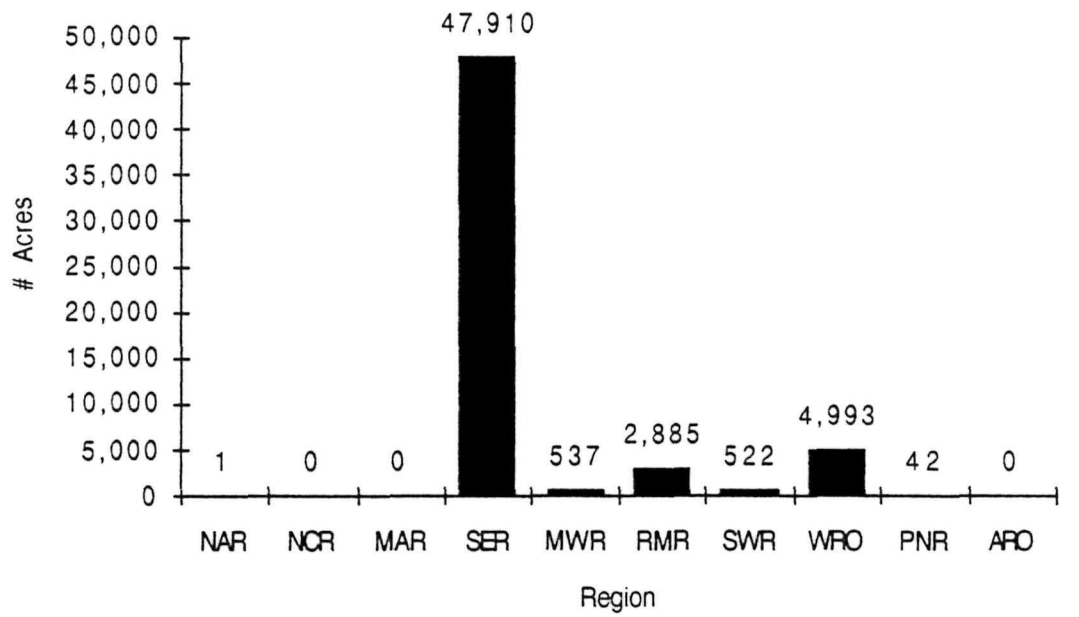


Table 9. Prescribed Burns by Region 1989





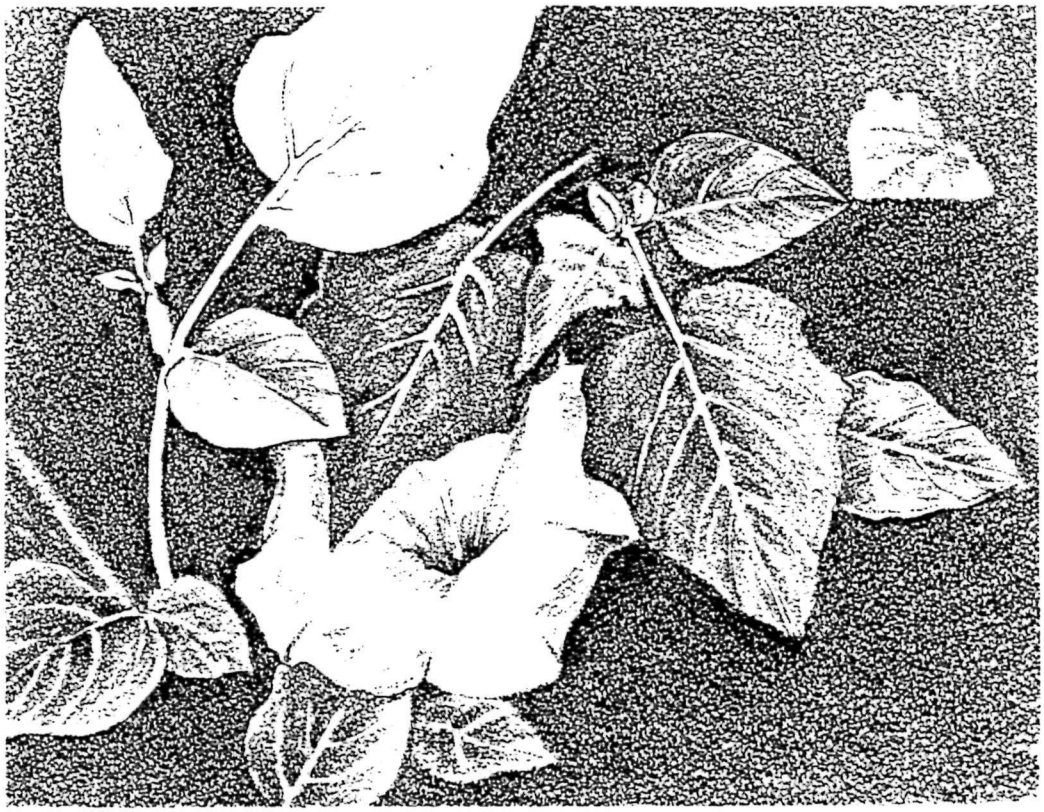
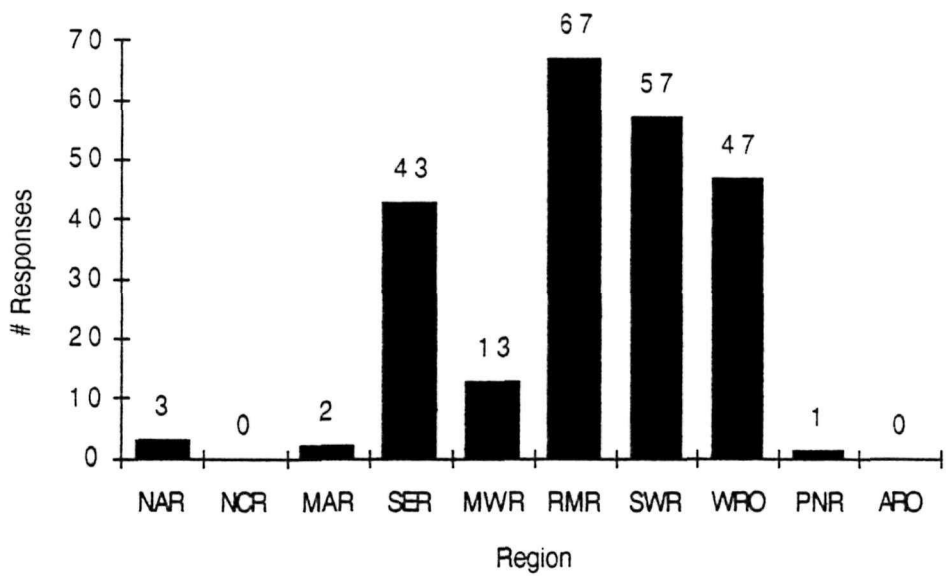


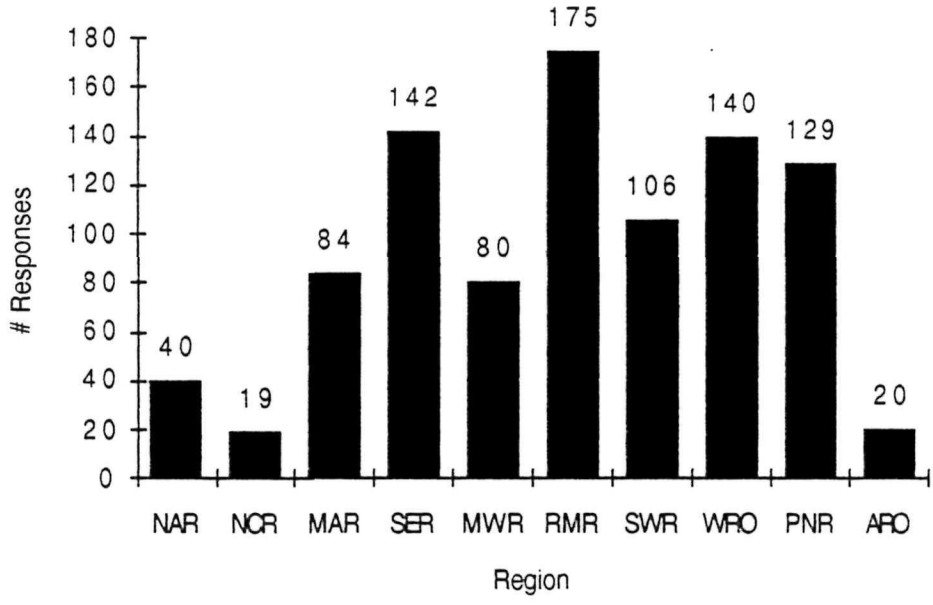
Table 10. Mutual Aid Responses by Region 1989



KEY:

NAR - North Atlantic Region
NCR - National Capital Region
MAR - Mid-Atlantic Region
SER - Southeast Region
MWR - Midwest Region
RMR - Rocky Mountain Region
SWR - Southwest Region
WRO - Western Region
PNR - Pacific Northwest Region
ARO - Alaska Region

Table 11. Support Action Personnel by Region 1989



This table displays the maximum single-day commitment of personnel to interagency wildfire suppression during 1989.

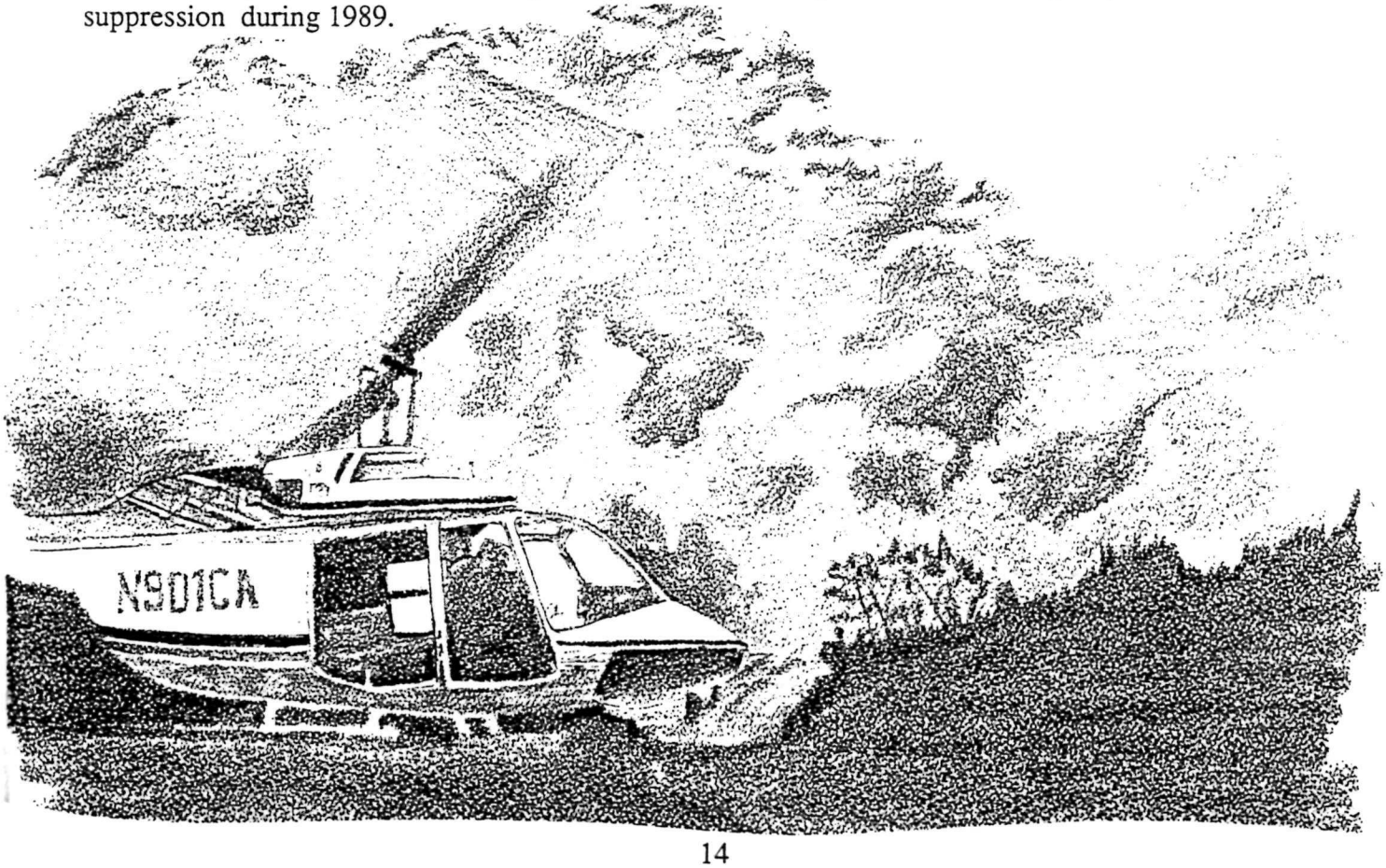


Table 12. NPS Normal Fire Year Statistics

SIZE CLASS IN ACRES	NUMBER OF WILDFIRES	NUMBER OF PRESCRIBED NATURAL FIRES
A (0 - .2)	485	79
B (.3 - 9)	293	35
C (10 - 99)	93	22
D (100 - 299)	28	13
E (300 - 999)	16	10
F (1,000 - 4,999)	9	8
G (5000 +)	5	2
TOTAL	929	169

Start days: 277
Peak number of starts in a single day: 23

The normal fire year calculation displayed here is based on an analysis of NPS fire history for the ten years from 1979 through 1988. "Normal" occurrence is defined as the third worst year in a ten year analysis period, and the statistics for each size class may be derived from different years.

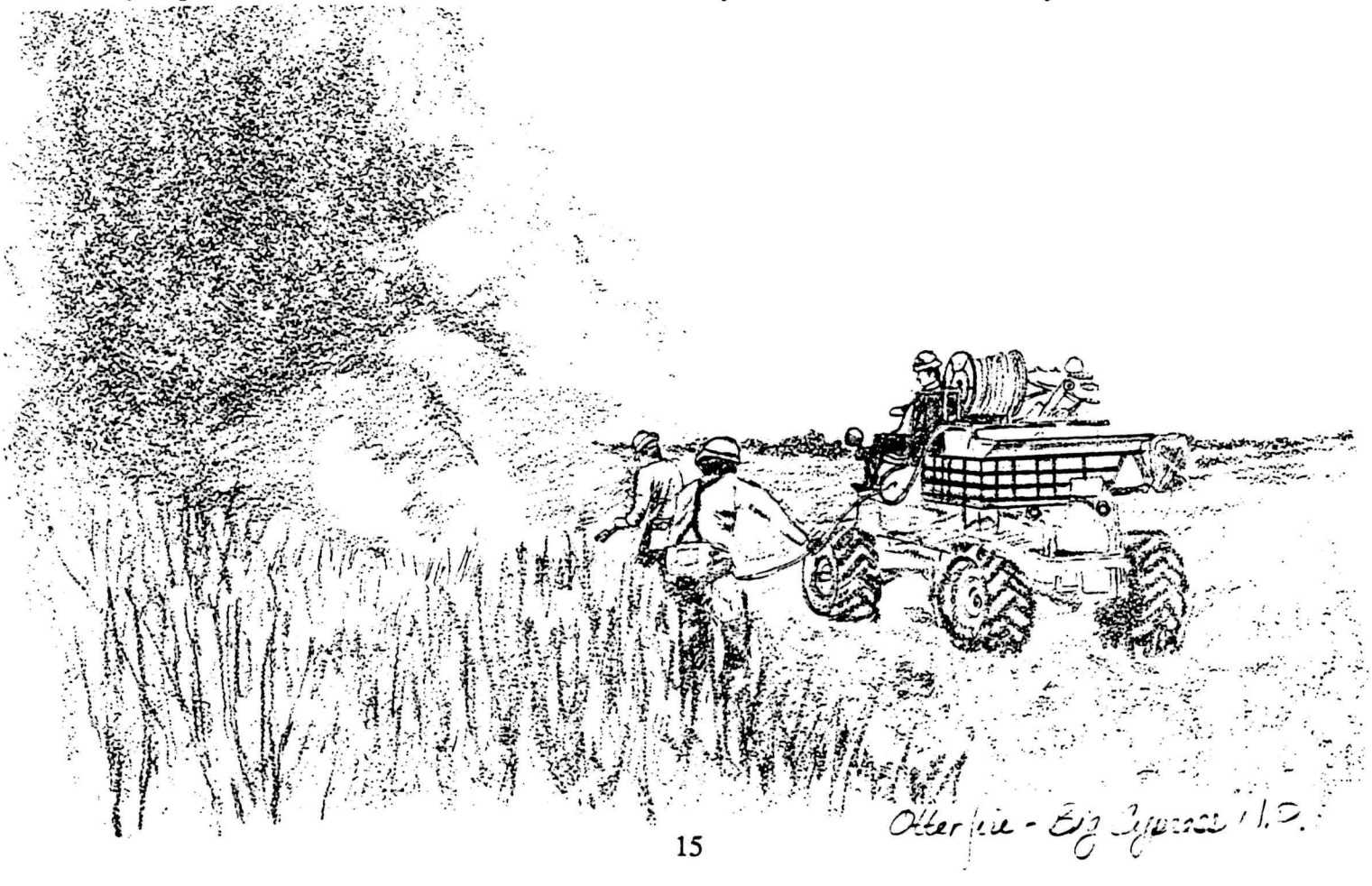
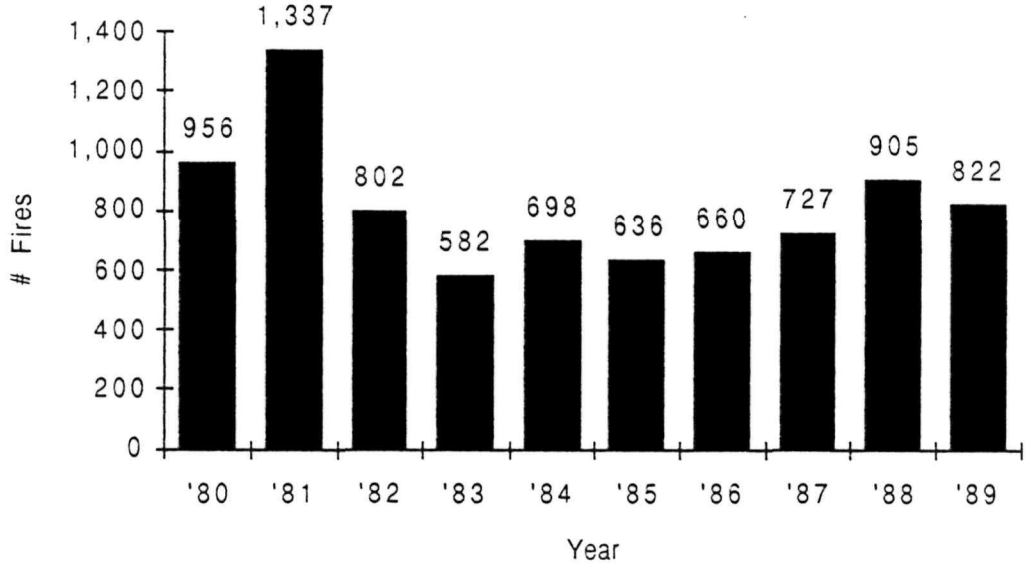


Table 13. Wildfires 1980 - 1989



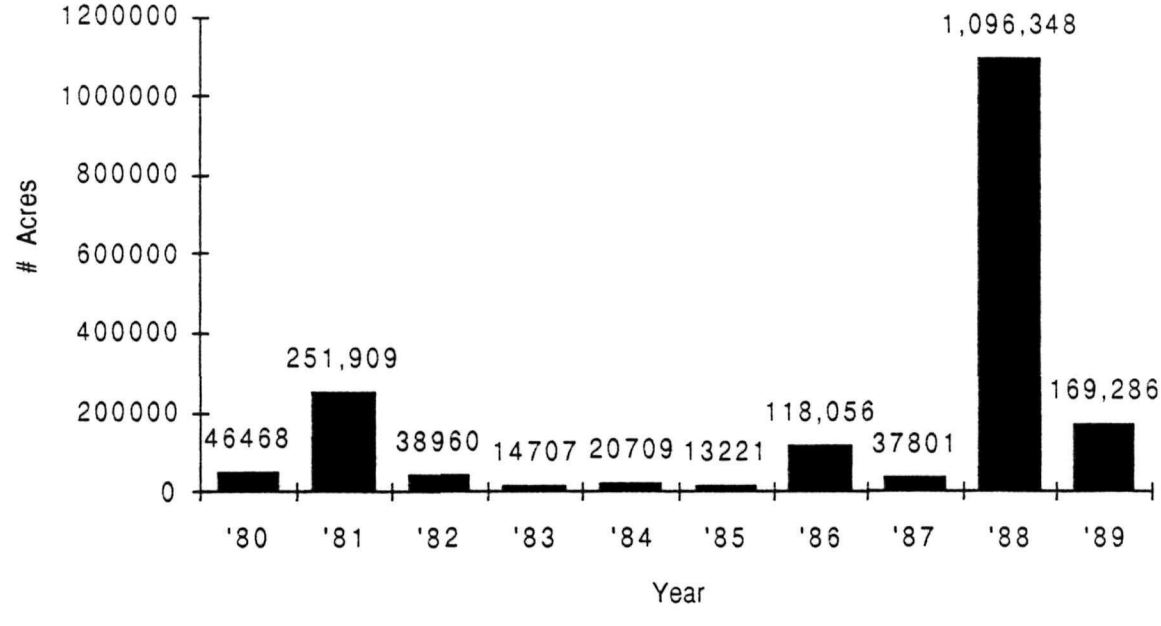
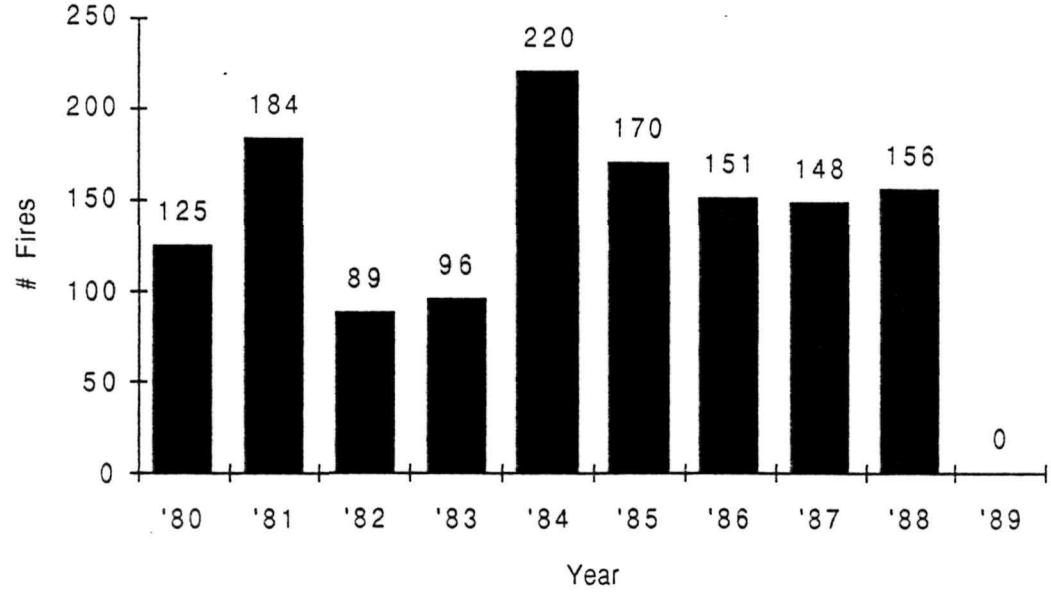
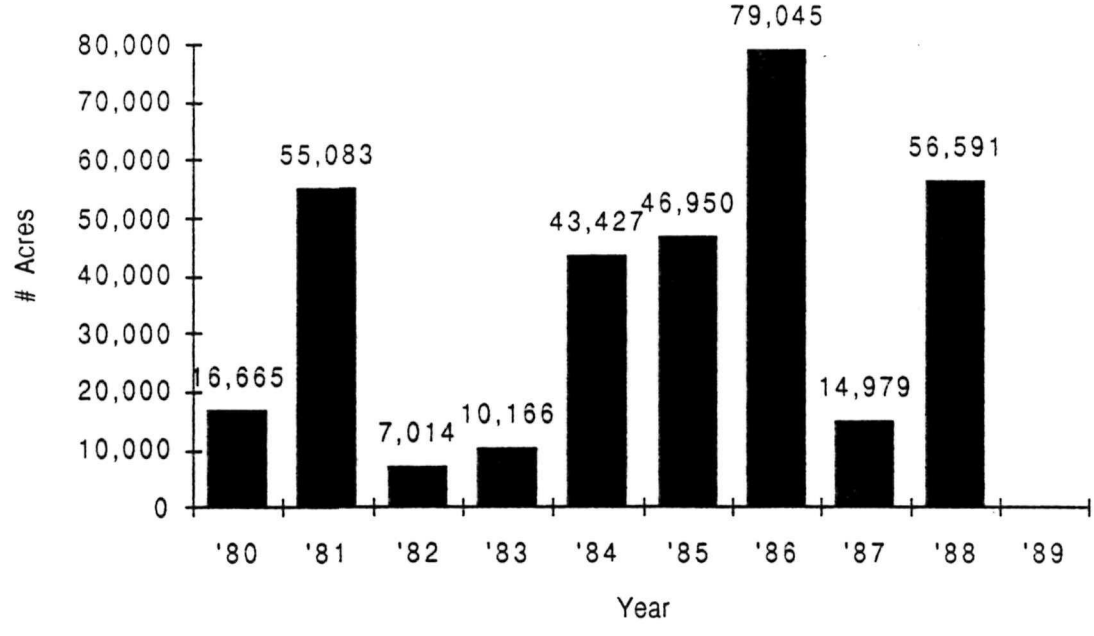


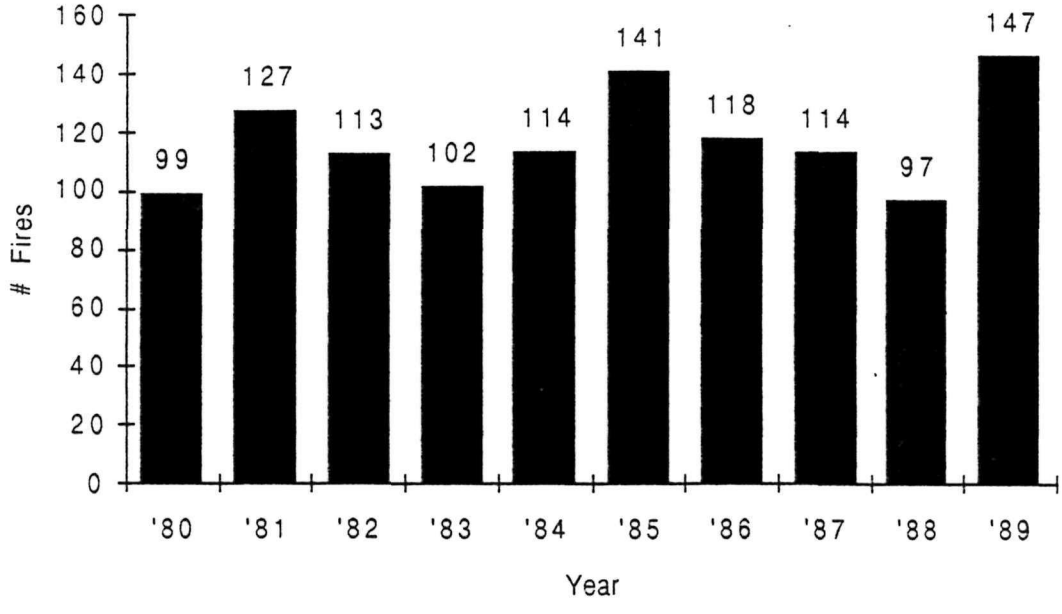
Table 14. Prescribed Natural Fires 1980 - 1989

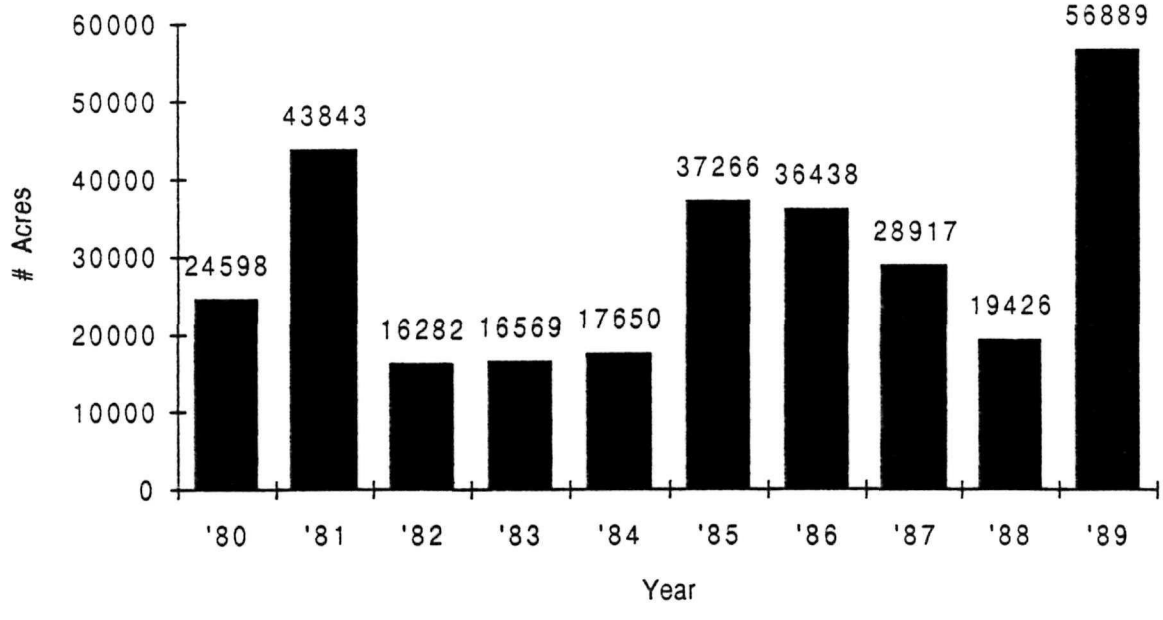




There were no prescribed natural fires conducted in 1989. Park prescribed natural fire programs were reviewed, and many park fire management plans were revised to conform with new fire management guidelines.

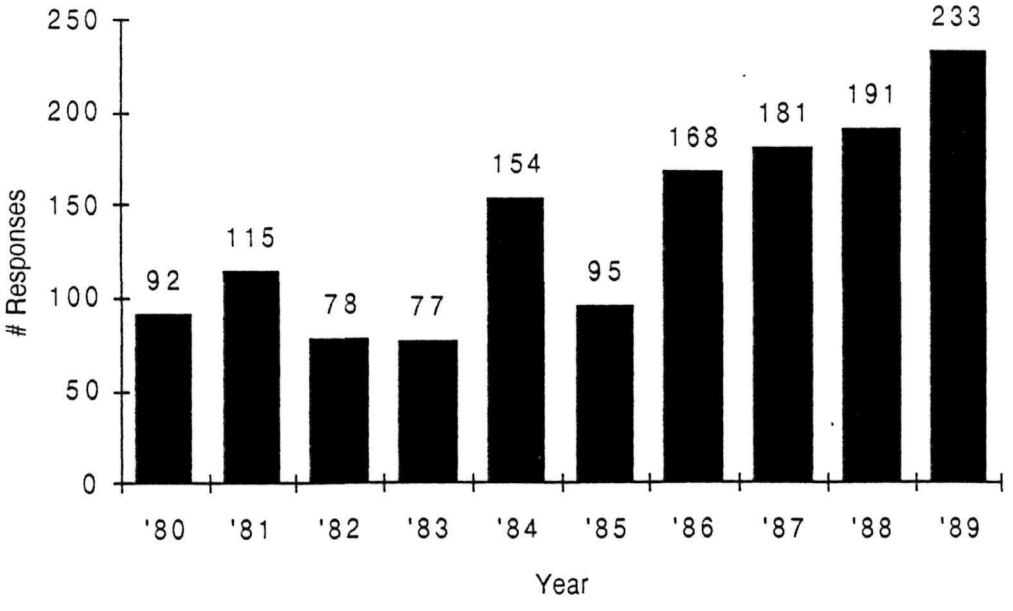
Table 15. Prescribed Burns 1980 - 1989





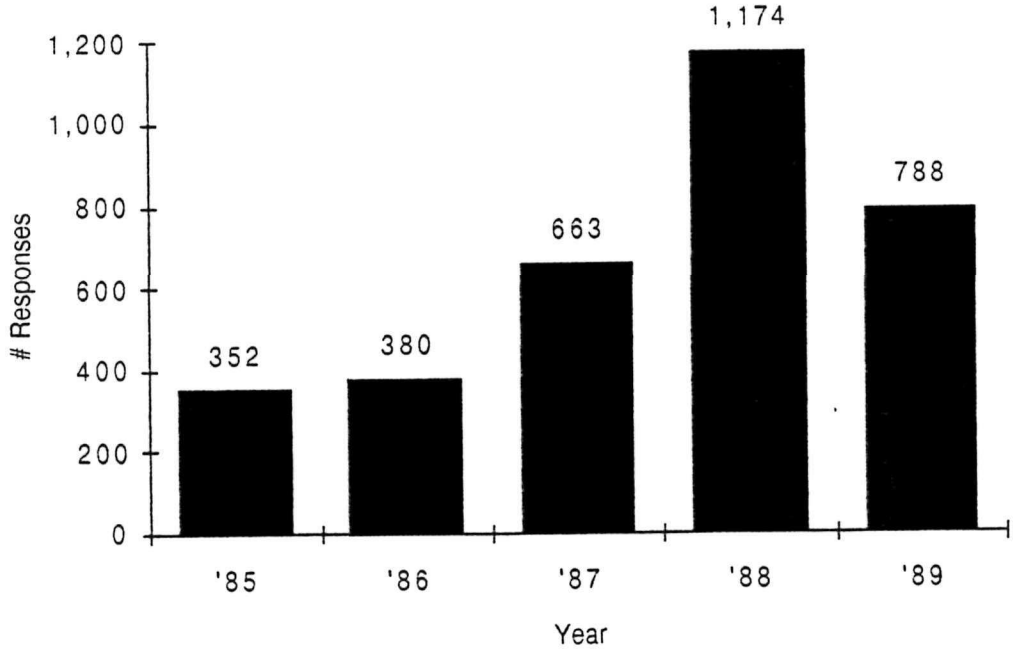
There were more prescribed burns conducted in 1989, and more acres burned, than in any previous year. There are 78 NPS areas that currently include prescribed burning in their fire management programs.

Table 16. Mutual Aid Responses 1980 - 1989



National Park Service personnel have been requested for, and have responded to, more and more mutual aid fire suppression actions each year. Mutual aid responses are defined as suppression assists to other agencies under a Memorandum of Understanding, interagency agreement, or contract. Mutual aid responses also include NPS suppression action taken on other lands to prevent fire spread onto NPS lands. Mutual aid responses are geographically local, and do not include mobilizations of personnel from one geographic area to another.

Table 17. Support Actions 1985 - 1989



Support actions are primarily wildfire suppression assists to non-local areas. They do not include local, mutual-aid responses. National mobilizations of National Park Service personnel for interagency wildfire suppression efforts were unheard of until 1985. Since that time many agency personnel, including those whose regular job assignments are not fire-related, have been trained and dispatched to fire assignments.

Table 16 displays the number of support action dispatches reported for the past five years. The actual number of individuals dispatched is substantially greater. The maximum number of personnel dispatched for support actions in 1989 peaked on August 8th, when there were 977 National Park Service employees reported out of their home units. Most of these people were dispatched to fires on U.S. Forest Service lands in Idaho and Montana. These figures do not include people who were involved in mutual aid or local suppression activities, or the people involved in fire-related support positions at their home units.

In addition to personnel, NPS helicopters, engines, and other equipment were used during the national mobilization.

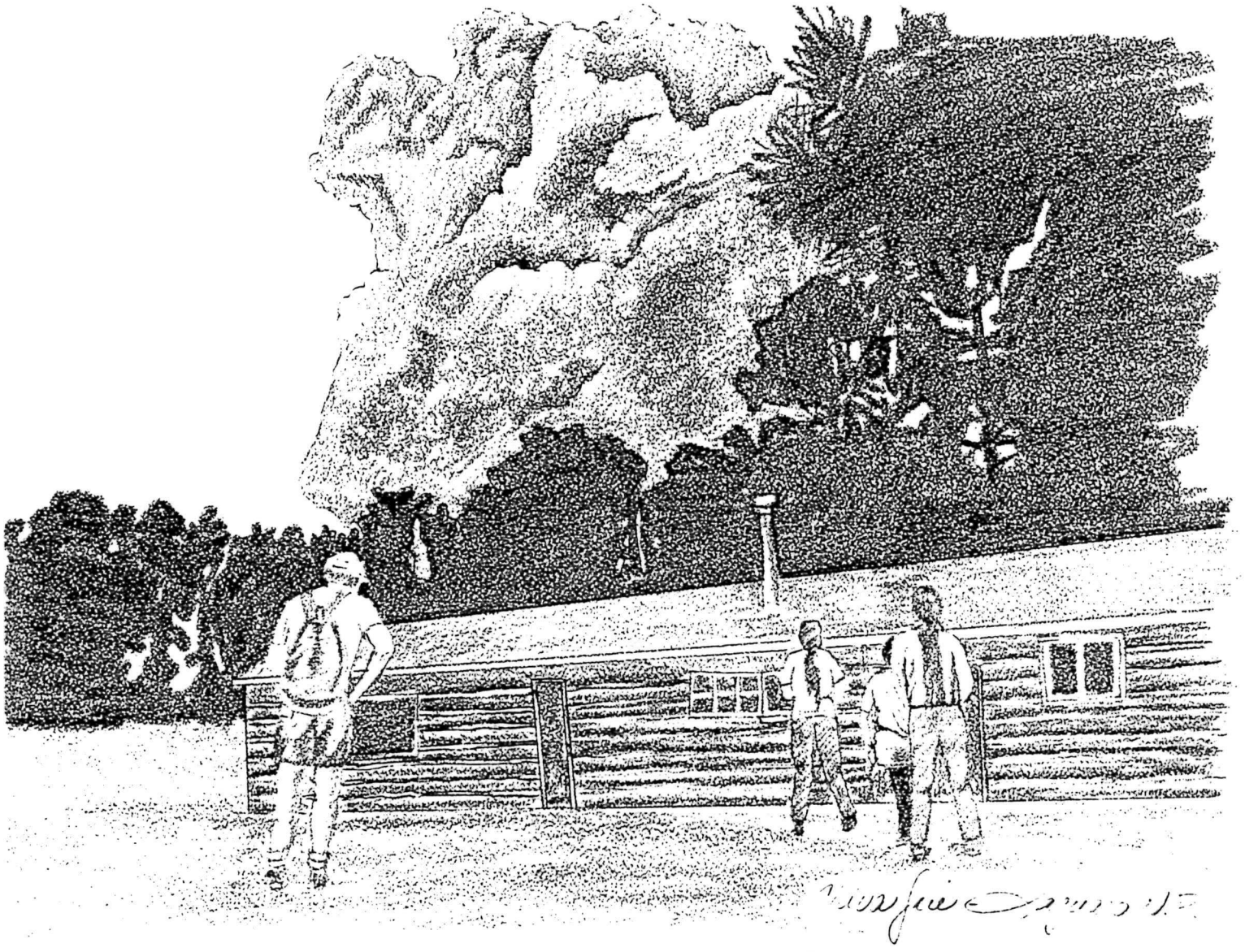
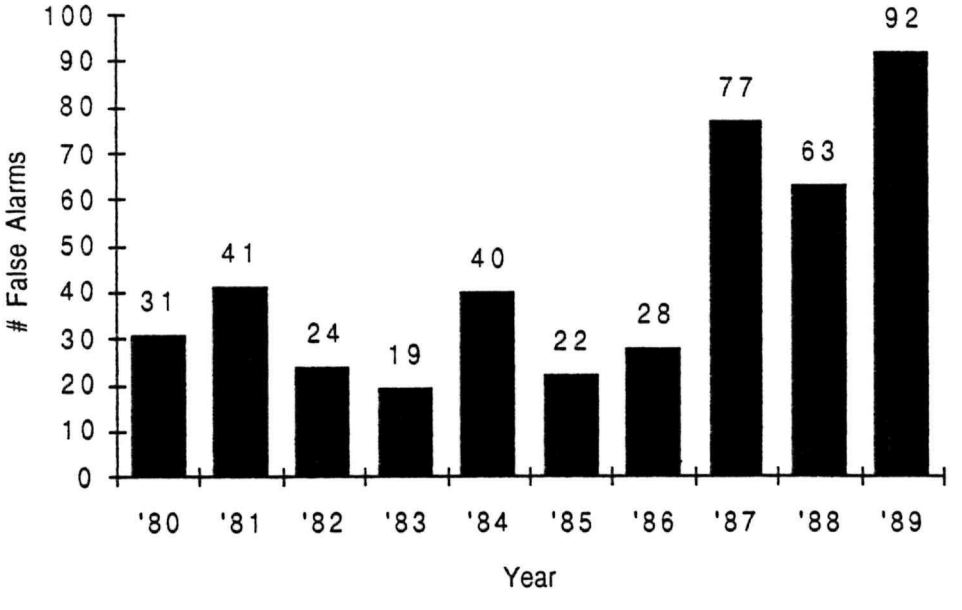


Table 18. False Alarms 1980 - 1989



The number of false alarms reported in 1989 reached an all-time high of 92 incidents.

Table 19. Interagency Hotshot Crew Workload Distribution 1981-1989

YEAR	NUMBER OF WILDFIRES	% TIME WILDFIRE SUPPRESSION	% TIME PRESCRIBED FIRES	%TIME OTHER PROJECT
1981*	42	38	7	33
1982*	22	22	18	28
1983*	19	20	18	26
1984*	55	53	10	14
1985	42	65	5	13
1986	35	50	13	17
1987	35	63	4	15
1988	31	79	3	3
1989	32	68	10	6

*1981-1984 statistics include Alpine, Arrowhead, and Bison crews
1985-1989 statistics include Alpine and Arrowhead crews

The National Park Service presently manages 2 of the 61 Interagency Hotshot Crews as part of its contribution to national interagency fire suppression resources. The crews' primary function is hot-line wildfire suppression. When not needed for suppression activities, the crews are able to make significant contributions on interagency prescribed fire operations and other physically demanding natural resource projects.

National Park Service crews are assigned to duty stations at host parks. The Arrowhead Crew is based at Sequoia-Kings Canyon National Parks, and the Alpine Crew is based at Zion National Park.

Arrowhead crew assignments in 1989 included prescribed burns, trail maintenance, building and utilities projects, road brushing, exhibit construction, and search and rescue. The work was performed for Sequoia and Kings Canyon National Parks and Sequoia National Forest.

In 1989, Alpine crew project work included prescribed burns, hazard tree reduction, trail maintenance, exotic species removal, and fence construction. This work was performed for Zion National Park, Cedar Breaks National Monument, Lava Beds National Monument, Cedar City BLM, Dixie National Forest, and the Shasta-Trinity National Forest.

Table 20. Historical Interagency Fires 1944 - 1988

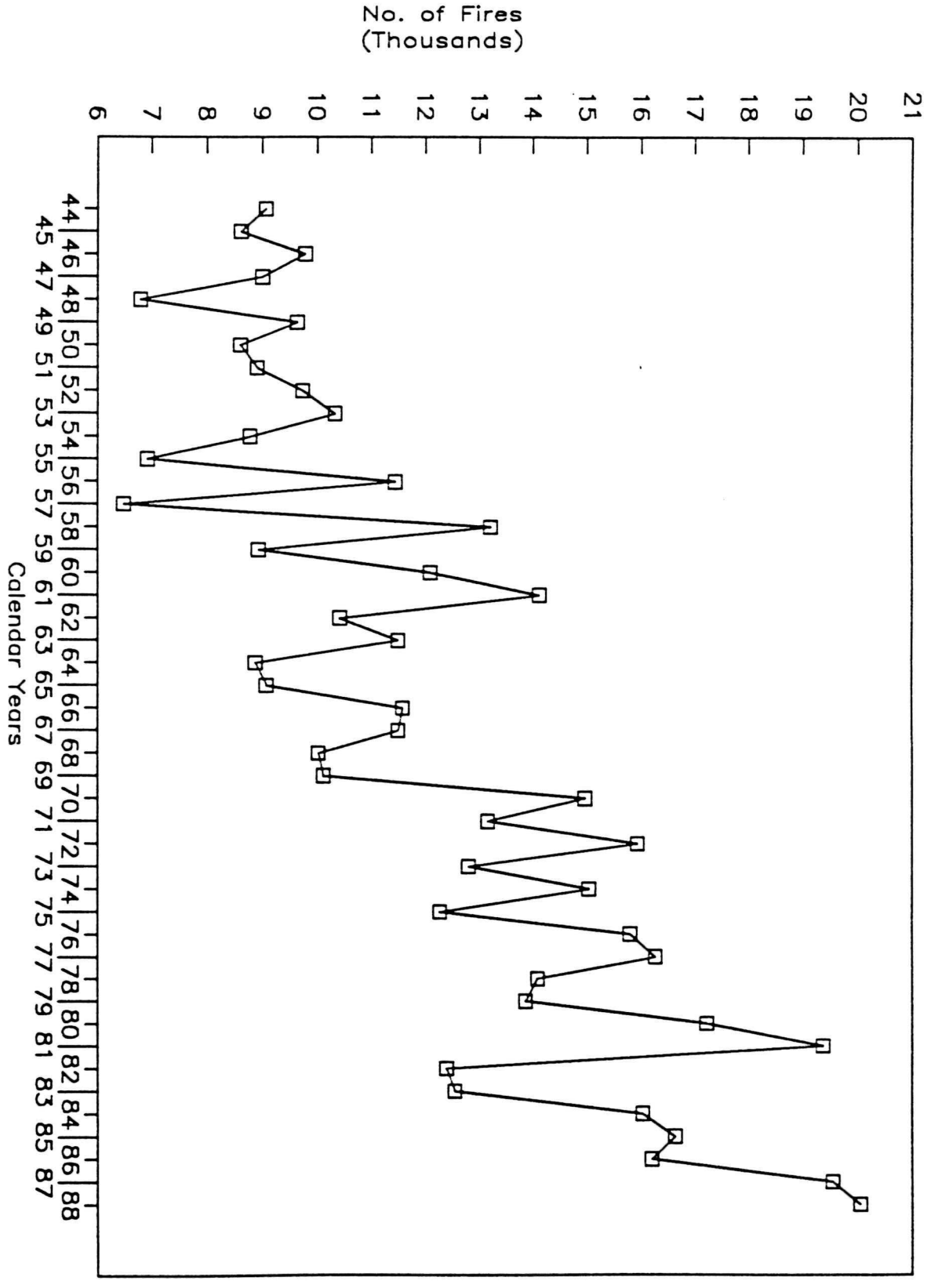
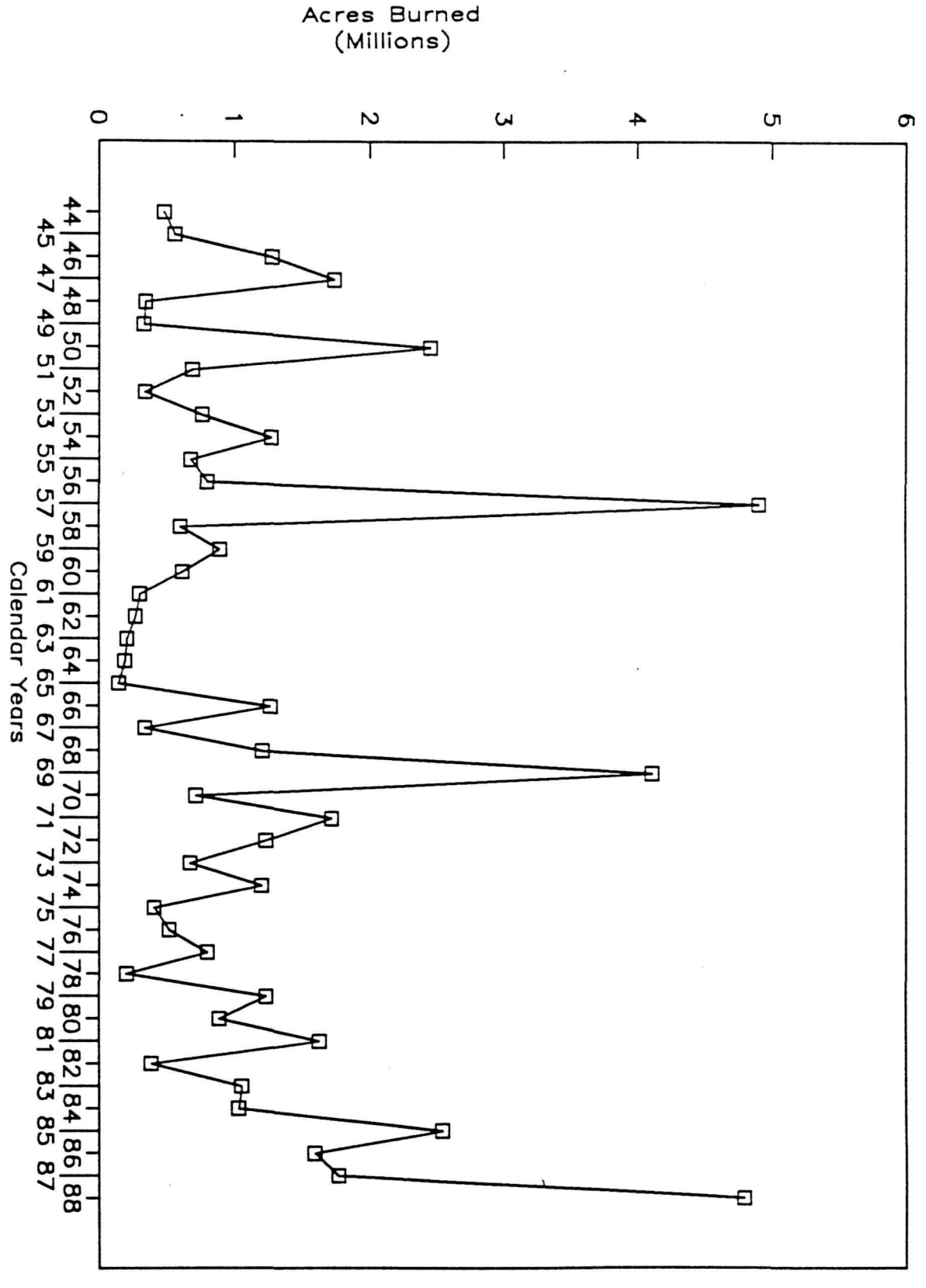


Table 21. Historical Interagency Fire Acres 1944 - 1988



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