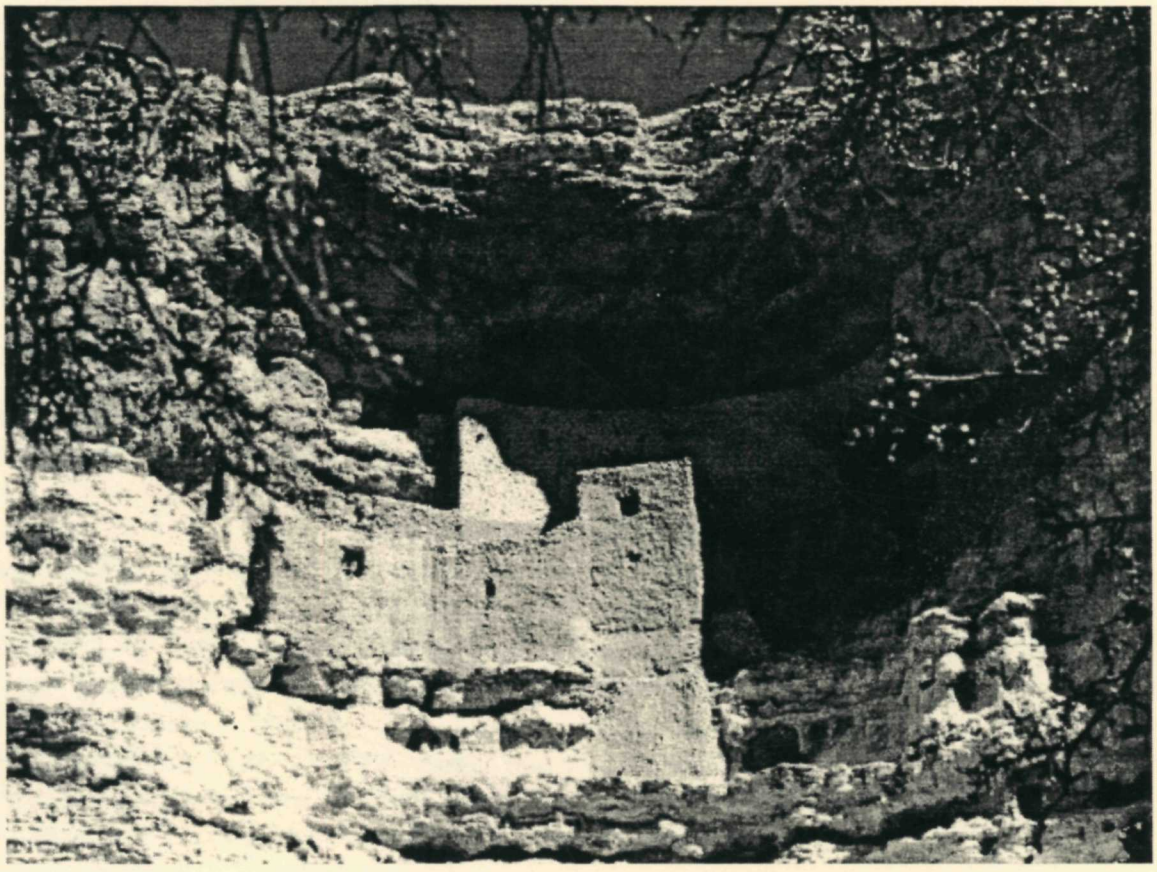

National Park Service
Department of the Interior

1996 Wildland Fire Report

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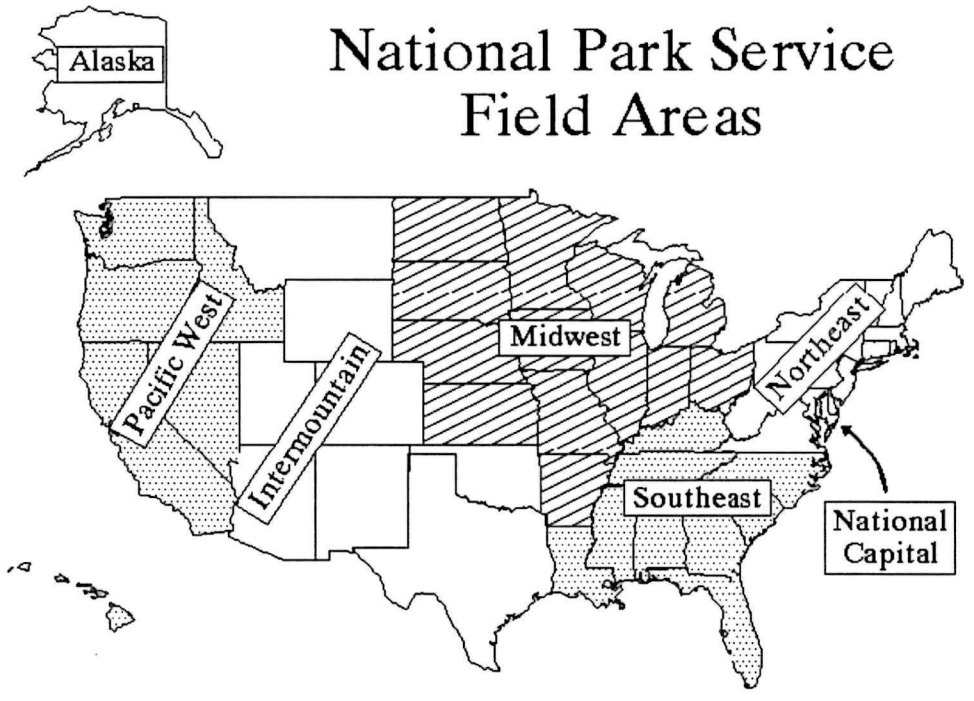


The map pictured above depicts the National Park Service Field Areas and the following list identifies the corresponding park clusters serviced by System Support Offices (SSO's). Not all SSO's are staffed with fire management personnel. System Support Office fire management staff may support parks from other clusters.

Alaska Field Area (AKFA)
- Alaska System Support Office (AKSO)

Intermountain Field Area (IMFA)
- Colorado Plateau System Support Office (CPSO)
- Rocky Mountain System Support Office (RMSO)
- Southwest System Support Office (SWSO)

Midwest Field Area (MWFA)
- Great Plains System Support Office (GPSO)
- Great Lakes System Support Office (GLSO)

National Capital Field Area (NCFA)
- National Capital System Support Office (NCSO)

Northeast Field Area (NEFA)
- Allegheny System Support Office (ALSO)
- Chesapeake System Support Office (CHSO)
- New England System Support Office (NESO)

Pacific West Field Area (PWFA)
- Columbia Cascades System Support Office (CCSO)
- Pacific Great Basin System Support Office (PGSO)
- Pacific Islands System Support Office (PISO)

Southeast Field Area (SEFA)
- Appalachian System Support Office (APSO)
- Atlantic Coast System Support Office (ATSO)
- Gulf Coast System Support Office (GCSO)

The Recent Evolution of Fire Use in The National Park Service

(Observations by Doug Erskine, NPS Fire Director)

We have been fortunate in the past two years to be able to greatly increase the tools available for expanding the use of fire in national parks. The Prescribed Fire Support Modules have been tested, proven successful, and expanded. Four Prescribed Natural Fire Management Teams were established in 1996 and the demonstrated need will result in an increase to six teams in 1997. Professional dedicated prescribed fire specialists are now located in the Midwest, Intermountain, and Pacific West Field Areas; and a specialist serves both the Southeast and Northeast Field Areas. Professional dedicated fire monitor specialists are now available in the Intermountain Field Area as well as the Pacific West Field Area.

The Office of Management and Budget, and the Congress, have agreed that it is appropriate to fund the operational aspects of prescribed natural fires from the suppression fund. We have consistently been able to allocate more funding for hazard fuel and resource management prescribed fire projects than the parks can spend. New software to predict large fire spread and risk assessment software have been developed and proven successful. Hardware to run these programs and technology transfer training is available for those who need and can use this technology.

The Secretaries of Agriculture and Interior have endorsed the final report of the Federal Wildland Fire Management and Program Review which states that wildland fire, as a critical natural process, must be reintroduced into the ecosystem. Furthermore, that this will be accomplished across agency boundaries and will be based upon the best available science. The report also states that agencies will create an organizational climate that supports employees who implement properly planned programs to reintroduce wildland fire. A newly drafted Departmental Manual release echo these policies.

A national Interagency Agreement has been completed between the National Park Service and the U.S. Forest Service which provides for easy transfer of funds to reimburse the Forest Service for their support of NPS prescribed fires when their resources are available. There are many other avenues for parks to get help to conduct prescribed fires such as local agreements with other agencies, contracting, or temporary details of personnel from other parks. All of these avenues of support can be documented in a well thought out burn plan and paid for by burn project funds.

It would seem that we have the tools we need to more closely achieve our objectives for the use of fire in national parks. Policy is in place, technology is available, professional expertise has increased, help is usually available if the effort is made to find it and sufficient funds are available for an aggressive program. During 1996 we dramatically increased our acres of prescribed natural fire over recent years. However, we only achieved about 60 percent of our average management ignited prescribed fire

acres. Over the past several years we have generally stayed in the 55,000 to 65,000 acre range for management ignited prescribed fire acres.

We all know there are any number of reasons for planned ignitions to be unrealized but if our collective objective is truly to increase the use of fire we should see greater success in the near future. It will require hard work and smart planning. As Alaska Field Area Director Bob Barbee was recently quoted in ***Park Science***, "The road to hell is paved with unrocked boats." Maybe it's time we jumped up on the gunnel.

WILDLAND FIRE ACTIVITY SUMMARY

Alaska Field Area

The largest and most destructive fire in the Alaskan wildland/urban interface occurred in the Big Lake area with over 400 structures destroyed. The NPS provided four personnel in response to this incident. The NPS also dispatched six personnel to additional fires in Alaska, and 19 personnel to the contiguous United States. This was the greatest number of Alaska NPS personnel dispatched since 1988. Denali National Park and Preserve, with the largest staff in Alaska, dispatched the most individuals. Klondike National Historic Park, with one of the smallest park staffs in Alaska, deserves special recognition for providing personnel for six dispatches.

During 1996, Denali and Yukon Charley Rivers National Preserve each experienced three wildfires involving 4,352 and 8,876 acres respectively; Wrangle St. Elias National Park and Preserve and Katmai National Park and Preserve each had one small wildfire involving 20 acres and one acre respectively. In some of these instances, NPS acreages burned were a relatively small portion of the overall acreage involved on adjoining lands.

Intermountain Field Area

Wildfire activity was generally down throughout the field area. There were a total of 451 actions involving 21,541 acres, ranking 1996 only fifth over the 10 year average for both ignitions and acreage. These included 366 suppression actions for 21,079 acres, 54 natural outs for 42 acres, and 31 false alarms. However, this picture is deceiving and widely differing conditions throughout the area resulted in some areas experiencing unusually severe conditions while others were below historic norms. Lightning remained the number one ignition source, causing about 75 percent of all ignitions. Cooking and warming fires were in second place with about 15 percent.

Excellent snowpack coupled with normal spring and summer weather conditions led to average to below average ignitions and acreage in the central and northern Rockies. On the other hand, the southern Rockies experienced an unusually dry and warm winter. The second driest period of the 20th century resulted in extreme drought conditions developing in Texas, Oklahoma, New Mexico, Arizona, southern Colorado, and southern Utah. Some areas even approached, or exceeded the driest recorded conditions ever. Oklahoma and Texas developed unusually heavy fire activity in February and March which resulted in considerable resource movement and the first ever involvement of the Federal Emergency Management Agency (FEMA) in wildland fire in either state. These fires were notable not only for their numbers but also for their unusual resistance to control; this pattern was to be repeated throughout the rest of the season. As the normal spring episodic wind events began in early March the drought deepened and overall conditions worsened in New Mexico, Arizona, and the

four corners area. Lightning activity was minor as the atmosphere remained dry, however, with fire indices exceeding all historic southwestern levels, human caused ignitions reached unprecedented levels and seriously strained interagency suppression resource capabilities. In April, the field area's largest fire, the ***Dome*** fire, occurred at Bandalier, with a total of 16,486 NPS acres; this fire was eventually managed by a type 1 incident management team. Notably, three NPS employees, along with several USFS personnel, were required to deploy fire shelters on this fire when their engines were overrun. The field area's other major fire occurred at Mesa Verde in August when lightning ignited the ***Chapin 5*** fire which burned 4,781 acres; this was also managed by a type 1 incident management team. Overall the Service was fortunate in that these were the only two significant fires on NPS lands although cooperators suffered numerous major incidents.

The field area's 577 support actions, it's second highest in the 10 year period, and heavy mobilization throughout the entire season reflect this situation. By late July the monsoon became well established and resulted in above average rainfall in most areas, helping mitigate (but not eliminate) the drought, and fire activity dropped off significantly although resource support to other areas continued at a high level for all field area units.

Despite the severity of the wildfire situation, good progress was made in the program's prescribed fire component. Eighty one prescribed natural and management ignited prescribed fires were conducted for 12,951 acres, the area's second highest total in the 10 year period. Significant prescribed fires were completed at a number of parks including Yellowstone, Dinosaur, Lyndon B. Johnson, Zion, Grand Teton, Big Thicket, Grand Canyon, Bandelier, and Saguaro. Three of the Service's prescribed fire support modules were hosted by parks within the field area and were heavily used as a cost effective resource although demand outstripped availability. Fire effects monitoring remained the program's key weakness due to lack of qualified staffing but late in the year the field area received approval to hire a fire effects specialist and major progress is anticipated in 1997.

Midwest Field Area

The Midwest Field Area experienced a quiet wildfire year with only 155 wildfire incidents. In addition, there were 119 support actions which was slightly above the average for the past 10 years, and was due primarily to the western mobilization. During mid-August, over 100 field area personnel were involved in out of park dispatches to both wildfire and prescribed fire incidents.

The very active spring prescribed fire program continued with most of the Arkansas, Missouri, and Kansas parks completing scheduled burns. Indiana Dunes completed numerous burns both in the spring and the fall with several of the prescribed burns

funded with non-FIREPRO dollars. The fall prescribed fire season was active for the Black Hills park complex along with Scotts Bluff, Jewel Cave, and Voyageurs.

Management ignited prescribed fire (MIPF) is by far the most active component in fire management in the field area in terms of acres burned, with 31 MIPF acres for every wildfire acre burned in comparison over the past 10 years. While this is an admirable accomplishment, the prescribed fire program growth may not see its full potential unless staffing problems can be resolved: maintaining an adequate force of qualified individuals; and loss of staff as a result of an aging workforce and downsizing.

The field area has two parks (Voyageurs and Isle Royale) with approved prescribed natural fire programs. Two successful prescribed natural fires occurred at Isle Royale during the summer, but they were short lived and did not accomplish any significant growth.

Individuals from the field area participated in both Hotshot Crew and Prescribed Fire Support Module detailer programs. Both of these detailer programs provided a valuable service in expanding fire management expertise throughout the Service.

The Eastern Type I Incident Management Team, with three Midwest NPS employees assigned, had a challenging assignment in Oregon during the month of August.

National Capital Field Area

The 1996 fire seasons in the National Capital area were unremarkable, producing only six fires which involved 408 acres. Field area firefighters and overhead steadily supported wildfire mobilizations from February through August. Fifty one field area personnel were dispatched to fire incidents for a total of 816 days. Two dispatchers were detailed to coordination centers during the Southern Area and Western fire activity. The Dulles Module was mobilized in August with the field area parks providing 26 firefighters and one IARR trainee. One incident management team member was dispatched with the Southern Area's Red Team to assist FEMA after hurricane Fran struck the east coast.

Northeast Field Area

The wildland fire occurrence was below average in both the Mid-Atlantic states and in the Northeast due to increased precipitation.

The field area utilized the expertise of the Eastern Prescribed Fire Specialist on a number of project and training events. Under the guidance of the Shenandoah National Park Fire Management Officer, a series of prescribed fires were conducted at Richmond National Battlefield, and prescribed fire planning was undertaken at Petersburg National Battlefield, Fredericksburg and Spotsylvania National Military

Park, Booker T. Washington National Monument, and Appamattox Courthouse National Historic Park. Prescribed fire research burning was conducted at the Lombard/Paradise Hollow Area at Cape Cod National Seashore. Boundary fuel break construction continued at Acadia National Park and New River Gorge National River, and site protection plans for interface areas were completed at Delaware Water Gap National Recreation Area.

Within the field area, over 150 individual resources were mobilized to support out of area wildland fires. Positions filled included incident management team assignments, dispatch/coordination center, buying team, line positions, and military support. The field area also provided handcrews to both the Dulles and New England modules along with providing staffing for interagency crews.

Pacific West Field Area

Several parks in the Pacific Great Basin Cluster experienced significant wildfires in 1996. The ***Ackerson*** fire in Yosemite burned approximately 58,000 acres and cost approximately 30 million dollars for suppression and rehabilitation. Additional damage is expected as a result of the flooding which occurred at year's end.

The ***Kaweah*** fire in Sequoia and Kings Canyon National Parks caused an evacuation of the Upper Ash Mountain housing area at park headquarters. Simultaneously, the park staff was suppressing the ***Castle*** fire, a prescribed natural fire that had exceeded prescription due to smoke complaints from the nearby community of Three Rivers, and managing large prescribed natural fires in the Kern Canyon and Dorst campground areas. In addition, an earlier wildfire occurred near Hospital Rock and caused the closure of the Generals Highway.

The park received assistance from Type I and II Incident Management Teams, as well as two of the NPS's Prescribed Natural Fire Management Teams and NPS Prescribed Fire Support Modules. Secretary of the Interior, Bruce Babbitt, visited the area and was briefed on the ***Kaweah*** fire.

During 1996, Lava Beds National Monument completed 783 acres of management ignited prescribed fire projects, constructed 320 chains of fireline for four projects, and coordinated/hosted an interagency RX-300 ***Burn Boss*** course. The park had seven wildfires, the largest (60 acres) occurred in the wildland/urban interface. Park staff responded to 20 mutual aid and 18 support actions, served on the local Type II Incident Management Team, and various details.

Lassen Volcanic National Park continued with its prescribed fire program, burning approximately 605 acres during the year (452 acres were management ignited and 153 acres were prescribed natural fires). The most notable was the ***Crags Burn*** that incorporated part of the Hat Creek District of the Lassen National Forest as well as

park lands. The completion of the largest management ignited prescribed fire (1,200 acres) was postponed due to co-hosting/instructing the RX-300 course at Klamath Falls, Oregon, in October.

Lassen had its most significant prescribed natural fire (PNF) in over a decade, the ***Crater PNF*** in mid-July, which occurred over a two week period. An escape of this lead to the ***Crater*** wildfire that burned an additional 198 acres over the following week. A local Type II Incident Management Team was brought in to manage this wildfire.

Fire occurrence for parks in the Columbia Cascades park cluster in the northwest was relatively low compared to previous fire seasons. However, this was one of the busiest seasons for support actions on project fires in Oregon and Washington. During mid-August there were over 14 project fires burning in northeast Oregon and two in eastern Washington. The National Park Service provided 300 people for crews and 88 in overhead assignments in support of these incidents.

While North Cascades National Park had only three small human caused wildfires this past season, the park contributed approximately 560 person-days to wildfires outside the park. In addition, the park was involved with the coordination of the ***Elbow Basin*** fire (3,500 acres) adjacent to the park's east boundary, assisting in management of this fire with the Okanogan National Forest under a confinement strategy.

Crater Lake National Park experienced 20 wildfires totaling approximately 75 acres. In addition, the park's engine crew provided support to Bandelier National Monument during a 23 day detail to assist in prescribed fire and wildfire suppression efforts.

Olympic National Park was relatively wetter than normal early in the summer. Later drying contributed to over 29 human caused fires. In August, a burning ban eliminated the continuing problem of abandoned backcountry campfires. The park provided assistance in 49 support actions outside the park which resulted in virtually minimum staffing for much of the summer due to fire dispatches.

Many other smaller parks in the cluster (John Day, Lake Roosevelt, Fort Clatsop, Craters of the Moon, City of Rocks, and Nez Perce) all exhibited a high degree of commitment to wildfire suppression activities in the West by providing employees to support actions, in spite of sometimes profound effects to their daily operations.

Southeast Field Area

Although fire potential was great, fire activity was minimal in the Southeast Field Area (SEFA) parks during the spring fire season. Several parks did provide assistance to their cooperators during February through May.

Wildfire activity at Big Cypress was concentrated in the "expansion area". No wildfires over 100 acres occurred; contributing factors to this success included wet conditions, previous prescribed fires, and aggressive initial attack.

Unusually wet conditions limited prescribed burning activities at Big Cypress, however, they were able to burn approximately 24,000 acres. Four units were burned as part of a long term fire ecology study for the Research Scientist.

Everglade's ***Block B*** fire, which began in late February and burned into March, was the largest pineland wildfire in recent park history. The 3,343 acre fire took four weeks to control. In late March, the 3,040 acre ***Card Sound*** fire threatened the park and the Pine Island/Headquarters area developments. The fire was eventually controlled after five days of suppression efforts were able to keep it from entering the park.

Everglades had an above average year for prescribed natural fires (PNFs). Six PNF's burned a total of 1,804 acres as compared to the park's 10 year average of four PNF's for 710 acres. The ***Gator Bay*** PNF was the largest at 878 acres, and actively burned for three days. Management ignited prescribed fire (MIPF) accomplishments remained below average due to unusually wet conditions. However, the eight MIPF's completed were conducted in pinelands, which are higher complexity prescribed fire areas. The park made use of the five person Prescribed Fire Support Module from Yellowstone during the period May 20, through June 21. The Module assisted with four MIPF's for 1,244 acres, and monitored a 210 acre PNF.

From mid-August to mid-September, field area parks provided resources (77 firefighters and 36 overhead) to the Northwest, California, Great Basin, and Rocky Mountain area mobilizations.

Big South Fork completed a 45 acre MIPF in March, and another 20 acres were burned in April. Assistance was provided on both fires by neighboring Daniel Boone National Forest staff. In April, Big South Fork staff provided assistance to the Daniel Boone in a 3,000 acre MIPF for red-cockaded woodpecker habitat.

Natchez Trace Parkway completed 13 MIPF's totaling 142 acres for hazard fuel reduction, prairie reduction, and vista maintenance.

Frequent cold fronts brought regular precipitation to the field area during the fall fire season which lead to little fire activity on both park and cooperator lands.

In October, two MIPF's were conducted by Great Smoky Mountains fire staff in the Gatlinburg urban interface as part of a hazard fuel reduction test project.

As is usually the case, SEFA fire office staff provided assistance to several all-risk incidents. This year provided a unique experience with Atlanta's hosting the Olympic Games during the period July 19 through August 4. Assistance was provided to the

Olympic Incident Management Team, and the three Atlanta area parks affected by the Olympics.

In January, the SEFA fire office provided support to Kennesaw Mountain when the park had to be closed due to a hazardous material spill that occurred at a manufacturing plant located near the park boundary. During February and March, assistance was also provided to Chickamauga & Chattanooga when that park experienced a diesel fuel pipeline spill near the park boundary that flowed into the park's cave system.

During the late summer and early fall, the SEFA fire office provided assistance as requested and provided communications between the SEFA Office and WASO with parks threatened or impacted by the following tropical storms or hurricanes: ***Bertha*** (July, affecting Virgin Islands, San Juan, and the South Florida parks); ***Edouard*** (August, affecting the Virgin Islands and San Juan); ***Fran*** (August and September, affecting Cape Hatteras and Cape Lookout, Guilford Courthouse and Moores Creek); ***Hortense*** (September, affecting the Virgin Islands and San Juan); and ***Lilli*** (October, affecting South Florida parks).

PROGRAM ACCOMPLISHMENTS

Fire Management Program Center

The National Park Service's FIREPRO program has served the Service well in defining and prioritizing fire management program needs during the past 15 years, but it has lacked a means of assuring timely replacement of major wildland fire apparatus, specifically, approximately 140 engines, 16 water tenders, 4 hotshot crew carriers, and 301 slip-on pumpers on the NPS property roles.

The Fire Management Program Center (FMPC) proposed to establish a self-sustaining amortization program for wildland fire apparatus that would assure replacement of these types of emergency vehicles in a timely manner. This program would be similar to the already operational programs of other federal, state, and local wildland fire agencies.

In 1996, the NPS signed an Interagency Agreement with the Bureau of Land Management (BLM) to utilize their existing Working Capital Fund (WCF) process to record, track, analyze, and amortize this equipment, and to insure that funding will be available to replace individual apparatus when it reaches the end of its service life.

In preparation for NPS participation in the WCF, a task group was established and met for the first time in June, 1996. The group determined what NPS apparatus from parks would be included in the WCF and set priorities for replacement drawing upon recommendations from park and support office fire management officers; subsequently, 21 engines and three water tenders were purchased from four separate vendors listed on current GSA FS schedules. This replacement equipment, plus several engines previously authorized for purchase in FY96, were the first to be entered into the WCF. A lump sum payment covering the annual cost of replacing each piece of equipment in the WCF will be transferred to the BLM each fiscal year.

Another 45 engines and tenders were identified by the group as overdue for replacement and it is hoped that funding will be sufficient to allow this "backlog" to be eliminated in the next few years. The task group identified additional engines and tenders recommended for eventual replacement based on service life projecting out to the year 2012.

Of the 301 slip-on pumpers currently in the NPS fire equipment inventory, 35 were recommended for conversion or upgrade to light engines under the WCF. The remaining slip-on pumper units currently in the inventory, many of them obsolete, are not currently covered by the WCF, but may eventually, if funding permits. For now, slip-ons are dealt with on an individual basis through capitalized equipment requests in the annual FIREPRO budget call.

Program center staff participated in completion of a final report to the Federal Fire and Aviation Leadership Council (FFALC) concerning programmatic increases and reduction of agency differences in prescribed fire management. This report was signed by FFALC members, and directed agencies to implement recommendations presented in the report. Significant recommendations include adoption of an Interagency Prescribed Natural Fire (PNF) Burn Plan to replace the NPS Fire Situation Analysis (FSA) and shift from use of the Maximum Allowable Perimeter (MAP) concept to the Maximum Manageable Area (MMA) concept by all agencies. Program Center staff also provided oversight for development of a draft PNF Manager position taskbook.

Support was provided on work groups that addressed action plan items identified in the Implementation Action Plan for the Federal Wildland Fire Management Policy and Program Review, chartered by the Secretaries of the Interior and Agriculture.

Program Center staff participated as a member of the Interagency Forest Health Work Group and assisted in completion of the draft U.S. Forest Service Forest Health Policy Document, served as NPS representative and supported data input to the Grand Canyon Visibility Transport Commission study on emission production from prescribed fire, and participated as a member of the review team on the Forest Service's Prescribed Natural Fire programmatic review - Region 6, and assisted the Bureau of Land Management in preparation of Draft 9214, Prescribed Fire Manual, in Portland, Oregon. Staff also served on the curriculum committee for Technical Fire Management Training modules, reviewed Fuels Management Curriculum, and participated in the IFCC Research Working Team and served as project coordinator for two research projects.

Considerable time was devoted to developing the implementation plan and procedures for the approved Federal Fire Policy and Program Review.

The Deputy Chief Ranger and his Area Command Team were assigned to the ***Kaco Complex*** on the Kaibab and Coconino National Forests in June. Many of the Program Center staff were involved in numerous wildfire assignments, participated as team members on national Area Command Teams, and assisted in formation of national Prescribed Natural Fire Management Teams which included serving in various team positions.

FIREPRO program audits were conducted in Voyageurs National Park and three NPS areas in Alaska. Center staff also participated in geographic area fire safety site visits; program reviews at Voyageurs and Isle Royale National Parks, and Grand Portage National Monument.

A Center employee participated as a member of the Prescribed Fire and Fire Effects Working Team (PFFEWT) and the National Advisory Group for Fire Danger Rating (NAGFDR). During the year, the PFFEWT continued to support course development and maintenance for the prescribed fire curriculum. Developmental work for ***Advanced***

Fire Effects, RX-540, was continued and a test course will be available in 1997. Development efforts continued on ***Prescribed Fire Monitoring and Analysis***, RX-290, and combining ***Prescribed Fire Behavior Analysis***, RX-590, and ***Fire Behavior Analyst***, S-590 into a single course. This proposal provides for a single fire behavior course at the 590 level while maintaining the two individual fire behavior positions (RXFA, FBAN) and establishes modularized courses at the 490+ level. Courses will be developed to cover long range fire behavior assessment and large fire growth simulation. Program Center staff also supported working team efforts in development and interpretation of interagency air quality policy, and in the role of team liaison to course development steering committees. Staff participated in NAGFDR ongoing efforts to provide input in the maintenance and improvement of fire danger rating capabilities.

Fire management plans were reviewed for Guadalupe Mountains, Great Basin, Carlsbad Caverns, Mesa Verde, and Great Smoky Mountain National Parks; Cumberland Island National Seashore; Vicksburg National Military Park; Congaree Swamp, Capulin Volcano, and Great Sand Dunes National Monuments.

The fifth year of a scheduled 10 year NWCG suppression and prescribed fire curricula revision project was accomplished, with assistance from the Training Specialist and numerous NPS subject matter experts from the field. Unfortunately, several scheduled courses had to be postponed due to federal furloughs.

The NPS Fire Management Intern Program was initiated: three selections were made from qualified applicants and transferred to mentor fire management parks. The three interns (Lisa Elenz, Beth Healy, and Kristy MacMillan) immediately started intensive development programs at the start of the new fiscal year. At the end of this particular 2-3 year program, successful graduates will be assigned to target parks as prescribed fire specialists or fire management officers.

The development of the ***Fire Program Management*** (FPM) course was completed. This 60 hour course is required training for all NPS fire management officers. Geographic boards have the responsibility for hosting this course in their respective areas.

The Multi-Agency Fire Training Schedule was made available on the Internet. Much effort went into getting all geographic areas online, inputting their respective training schedules to the DOI Shared Applications Computer System (SACS) where the schedule is hosted.

Program Center staff participated on various instructor cadres for national training courses at the National Advanced Resources Technology Center (NARTC) and elsewhere. Significant support was provided to national and regional training in the form of course coordinators, lead instructors, and workshop coordinators for the following courses: RX-590, ***Prescribed Fire Behavior Analyst; Fire Ecology and***

Ecosystem Management; *Fire Management Leadership for Local Line Officers*; and RX-340, *Introduction to Fire Effects*.

Staff members also served as NPS representatives on the steering committees for the *National Park and Wilderness Cadre Training* course; and RX-590.

Support was also provided in the form of presentations at the following workshops, symposiums, and meetings: Interior West Fire Council Annual Meeting, Saskatoon, Saskatchewan, Canada; 20th Tall Timbers Fire Ecology Conference; Interagency Fire Management Meeting, Portland, Oregon.

Center staff served on the program committee as local arrangements coordinators, and as session monitors, and assisted with the registration and administration for the 20th Tall Timbers Fire Ecology Conference, held in Boise. Additional information transfer was facilitated by Center staff through the acceptance for publication of two contributed papers in the Tall Timbers Conference, and a corresponding review note for ***Park Science***.

Significant Program Center effort went into development of the DOI/USFS ***Serious Wildland Fire-Related Accident Investigation Process*** as an interim change to 485 DM 7, ***Serious Accident Investigation***. Organizations and procedures were identified, which center on use of the Incident Command System to coordinate the various bureaus' risk management and fire management responses to such accidents. Numerous NPS personnel were identified to serve on such investigations.

The NPS has taken over the lead responsibility for development and conclusion of the ***Firefighter Survival*** training package; Center staff are assigned with tentative completion by the end of 1997. This was a priority identified by the South Canyon Interagency Management Review Team (IMRT).

Numerous NPS employees and Center staff participated in the implementation of Phase I (of four phases) of the Tri-Data, Inc. ***Firefighter Safety Awareness*** contract. The Phase I report was published and distributed in December, 1996. Phase II (identification of desired firefighter safety culture) was initiated in November, 1996.

Significant effort was made by Rocky Mountain National Park fire and resource management staff to develop standard position descriptions for all NPS Interagency Hotshot Crew (IHC) positions. This resulted in upgrades to all positions, and converting the IHC Superintendent to the 401 Series. This NPS effort will be used by other DOI bureaus in reviewing position management of their respective IHC's.

Program Center staff assisted in the establishment of the new Aviation Training and Qualifications Working Team, chartered by the Department of the Interior and the USDA-Forest Service to develop a curriculum and qualifications system for bureau aviation users. This effort is aimed at streamlining the existing confusing and

redundant aviation curriculum, reducing user costs, and standardizing qualifications between the DOI and Forest Service.

Incident qualifications taskbooks were put into production in the Shared Applications Computer System (SACS). The U.S. Fish and Wildlife Service made the taskbooks available on the Internet: you can access it at ***http:fwspceaa.nifc.r9.fws.gov/~olson/fire/docs/docs.html***.

A five-tier organizational structure was implemented in the SACS to replicate the new reorganization within the National Park Service. As a result, park Area FMO's can now access the databases of those parks they serve, without the inconvenience of having to log-on individually for each park.

Along with all the other directives, guidelines, and special orders that guide operations in the National Park Service, NPS-58, ***Structural Fire Guidelines***, will undergo a change over the next year to conform with the newly revised process for directives adopted for Servicewide application. In this regard, field surveys of five pre-selected parks will be conducted, and in late August, 1997, there will be an opportunity for everyone to review the draft document and make comments and suggestions on the content and format.

The ***Structural Fire Program Review Process*** is being analyzed with a view to making the application simpler and less time consuming. The level of detail required for a full scale analysis is greater than the need of most NPS units. Field surveys in five representative NPS units will be conducted to produce a working document to guide unit staff in addressing structural fire protection needs in that unit. The results will become the basis for a Servicewide approach to identify and define program application techniques for use at the park level.

Efforts continue in developing and initiating a process to collect, organize and display accurate and timely information about the number, cost and impact of structural fires in NPS facilities. Efforts are being made to utilize unused data fields in the Case Incident Reporting System (CIRS)/National Incident Based Reporting System (NIBRS) to collect structural fire information at a level of detail that meaningful information can be obtained. Once this is accomplished, the data will be distributed in a useable format to the appropriate levels of NPS management for consideration. The information will also be provided to the National Fire Information Reporting System (NFIRS) to be included in nationwide fire occurrence statistics.

What used to be known as the ***National Wildland/Urban Interface Protection Program*** (formally "***Initiative***") has now evolved into an advisory group associated with the National Wildland Fire Coordinating Group (NWCG). The basic premise of the group remains the same and National Park service presence and participation will remain at a high level of involvement.

One of the recommendations in the ***Federal Wildland Policy Review*** is to provide training to municipal fire departments covering operations on wildland fires and in wildland/urban interface areas. The NPS has been an active participant on the interagency task group that is in the process of developing the course. Initial design and format was accomplished in September, 1996, text writing and educational support technique organization continues. Preliminary scheduling targets pilot testing of the course in March, 1997, at the National Interagency Fire Center in Boise, Idaho, and in April, 1997, in Suffolk County, New York. This is an important component in cross-service training that has been needed for a long time.

The National Park Service was actively involved in updating and reformatting the ***Development Strategies in the Wildland/Urban Interface*** publication first made available by the Western Fire Chiefs' Association in 1991. The new improved publication was produced in August, 1996, and is currently available through the Western Fire Chiefs' Association.

Alaska Field Area

For the past several years the Alaska interagency fire community has been using the ***Canadian Forest Fire Danger Rating Indices***. Several agencies are collecting soil moisture and fire behavior data on ongoing fires to validate and calibrate the indices to the Alaska environments. Jan Passek, Area Fire Management Officer at Denali National Park and Preserve lead the NPS data collection effort. Results from this year's efforts are inconclusive. Efforts are underway to establish interagency protocols for data collection next fire season.

Mechanical hazard fuel reduction efforts continued at specific sites in Wrangle St. Elias, Yukon Charley Rivers, and Denali. This effort is expected to continue in these units with hazard fuel reduction efforts starting in Gates of the Arctic.

The digitizing of the fire management options at 1:63,360 scale, within all Alaska NPS units nears completion. This information is being incorporated into the GIS databases that are being assembled for all NPS parks. By the 1997 fire season, the NPS fire management officers will be supported by GIS capabilities for all NPS units. Land cover mapping has been completed for three units this past field season. Fire perimeters from the historic fire occurrence records are scheduled to be digitized in 1997.

A contract was awarded this year to develop an interface between FARSITE (***Fire Area Growth Simulator***) and ARCView, a PC-based GIS program. A prototype is expected by the 1997 fire season. Jan Passek continues to serve on the cadre of R-590 and as course developer for FARSITE training. Brad Cella continues to serve a Steering Committee Chair for the ***Fire in Ecosystem Management*** training course presented at

the National Advanced Resource Technology Center. Both Jan and Brad participated as instructors for interagency training efforts in Alaska.

In September, Karen LaMay arrived from Santa Monica Mountains National Recreation Area to assume the FIREPRO Administrative Assistant position in the Alaska Field Area Fire Management Office.

Intermountain Field Area

Activities continued to be dominated by the Service's reorganization and resultant decision to restructure the wildland fire organization in the field area. In concert with the park fire staffs it was decided to combine the old regional fire staffs in Santa Fe and Denver into a single organization led by a field area fire management officer. This organization would represent and speak for the interests of all three park clusters within the field area.. It was decided that Denver would be the most efficient location for the new organization and a transition plan was developed. The new organization was implemented late in the year although some of the fire staff may remain in Santa Fe until FY98. An advisory group, comprised of one park fire management officer from each cluster, was also formed and was actively involved in establishing budget and program priorities. Recognizing that many of the small parks needed more fire management assistance than was being provided it was also decided to establish fire groups in which each park would be assigned to an existing park fire management officer who would provide professional fire management services as needed.

Two new faces joined the fire staff during 1996, in newly created positions. Dave Lentz was hired as the field area's prescribed fire management specialist, and Elizabeth Anderson was hired as the fire monitoring specialist. With these dedicated positions the field area's prescribed fire management program will have significant improvements in 1997.

Significant external accomplishments included greater NPS involvement in the geographic area coordinating groups (GACC) in USFS regions 1, 2, 3 and 4, including the chairmanship in regions 2 and 3. Direct participation in the region 8 GACC was diminished, however, the Atlantic Coast Support Office FMO agreed to represent IMFA interests in that group.

In response to the escalating human caused fire problems in the southern portion of the area an interagency, multi-state, fire prevention planning team was created and hosted by IMFA. The team's efforts led to a major reduction in numbers and severity of human caused ignitions and represented the first ever prevention effort on this scale; the concept was successfully adopted later in the season by Alaska and the Great Basin.

In May, FEMA established a federal drought task force to develop responses to worsening western drought and the field area fire staff represented wildland fire management for DOI on this task force.

Midwest Field Area

Ben Holmes, Fire Management Officer (FMO) for the Midwest Field Area for the past seven years, concluded a distinguished fire career in 1996 when he became Environmental Compliance Coordinator for the field area. When Ben first took over fire management for what was then the Midwest Region, only one park had a prescribed fire program. He left the position with more than one-third of the parks within the field area having active prescribed fire programs.

Fred Bird, FMO at Rocky Mountain National Park, accepted the position that Ben vacated; just in time to get caught up in the 1996 western mobilizations and the Fiscal Year 1997 FIREPRO budget call.

Yellowstone National Park's Assistant Fire Management Officer, Dick Bahr, accepted appointment to a new Prescribed Fire Specialist position for the Midwest Field Area.

National Capital Field Area

This was a year of transition for the National Capital Field Area (NCFA) fire program.. Don Boucher entered on duty in April, 1996, as the new Fire Management Officer for NCFA. The NCFA continued to actively participate as a member of the Virginia Multi-Agency Coordinating Group.

Three parks have begun actively pursuing the use of management ignited prescribed fire to control hazard fuel loading and to maintain or reclaim historical landscapes. Revised park fire management plans should be complete in early or mid-1997. Prince William Forest Park hopes to begin using management ignited prescribed fire for hazard fuel reduction in early 1998.

Northeast Field Area

The major accomplishment of 1996 was the consolidation of the Allegheny, Chesapeake and New England fire management programs under the Northeast Field Area (NEFA). Under the consolidation, five fire management areas were created to provide service to units within the field area. The FIREPRO funded parks developed interpark agreements between parks within their areas, that outline procedures to facilitate the most efficient and effective fire management program. The five areas and corresponding lead parks are: ***North Country Area*** - Acadia National Park; ***New England Area*** - Cape Cod National Seashore; ***Mid-Atlantic Area*** - Delaware Water

Gap National Recreation Area; ***Mountains to the Sea Area*** - Shenandoah National Park; and ***Allegheny Area*** - New River Gorge National River.

A second, and equally important change involved mobilization and coordination. All resources within the field area are now mobilized through the Eastern Incident Coordination Center at Shenandoah National Park. The Center processes resource orders from both the Southern Area and Eastern Area Coordination Centers, and has established systems to insure resources flow according to established national guidelines.

Pat Boucher, NEFA Fire Program Assistant was awarded the 1996 Al Bell ***Excellence in Dispatching*** Award, the first NPS employee to be so honored with this award.

The NEFA Fire Management Officer has been working with the NPS Fire Management Program Center and staff at Saint-Gaudens National Historic Site on the Wildland Fire Fighter Monument, which is being sculpted at Saint-Gaudens and will be installed at the National Interagency Fire Center in Boise, Idaho.

Interagency coordination continues to grow stronger in the northeast with NPS participation on the Eastern Area Coordination Group; interagency type II hand crews; and through instructing and participating in interagency training, most notable, the ***Fire Program Management*** course.

Pacific West Field Area

Lassen Volcanic National Park is continuing to write additional plans to conduct interagency hazard fuel treatments along the park and forest-shared boundary. This will lead to a better buffer of the prescribed natural fire zone within the park.

Lassen, Whiskeytown National Recreation Area, and Lava Beds National Monument, continued to share a prescribed fire technician as well as lending each other assistance to complete management ignited prescribed fire projects throughout the year. Lassen continued to operate the Manzanita Lake interagency fire station with the Lassen National Forest; this was its 22nd year of operation.

Great Basin National Park completed its Fire Management Plan and will be managing prescribed natural fires for the first time in 1997. The Point Reyes National Seashore staff continued with the ***Vision*** fire rehabilitation plan, focusing on the eradication of alien grasses which threatened to invade portions of the fire area.

Southeast Field Area

On December 9, 1996, Big Cypress Suppression Specialist Jack Finley received the ***Department of the Interior's Valor Award*** for actions he took on September 23, 1994,

in a helicopter crash on the ***Blackwell*** fire near McCall, Idaho. The military CH-47 helicopter crashed while attempting to land during suppression operations. Jack was the observer/ground liaison officer. Severe damage occurred to the aircraft, as well as a post-crash fire. Despite the extreme hazards (over 800 gallons of jet fuel on board), Jack assisted in extinguishing the fire, kept nearby ground personnel away from the ship, helped an injured pilot exit the aircraft, and re-entered the aircraft to look for the missing crew chief. Jack exited only after locating the crew chief and determining that he was deceased and further rescue efforts would be futile.

Doug Wallner was designated as the Eastern Prescribed Fire Specialist to provide services to the National Capital, Northeast, and Southeast Field Areas. Although physically remaining in Philadelphia, Pennsylvania, the majority of his workload is located in the Southeast. Wallner provided technical assistance to the following parks in drafting Fire Management Plans that provide for prescribed fire: Big South Fork; Kings Mountain; Little River; and Mammoth Cave.

Big Cypress was selected as one of the mentor fire management parks to host a candidate from the new NPS Fire Management Intern Program. Beth Healy, a Fire Management Assistant from Golden Gate, was selected as the intern assigned to Big Cypress for the duration of the 2-3 year development program.. Upon successful completion of the program, Beth will be reassigned to a target park.

The Great Smoky Mountains fire staff and Oconaluftee Job Corps Center (JCC) worked cooperatively to establish a type II hand crew using JCC staff and students. The SEFA now has JCC fire crews located at the Great Onyx JCC at Mammoth Cave, and the Oconaluftee JCC.

In March, the Southern Area Geographic Board (SAGB) decided, with Southeast Agency Directorate (agency directorate for the NPS, Fish and Wildlife Service, and Forest Service) approval, to relocate the Southern Area Coordination Center (SACC) from the U.S. Forest Service Southern Regional Office to the Peachtree/Dekalb Airport (the actual move is not to take place until mid-January, 1997). Several significant factors provided justification for this relocation. The Southeast Agency Directors for the U.S. Forest Service, U.S. Fish and Wildlife Service, and NPS have formally agreed to the shared use of their agency aircraft and pilots. Agency aircraft are scheduled and tracked by the SACC, and eventually each agency's aircraft will be located at the Peachtree/Dekalb Airport.

The SAGB also decided, with the Southeast Agency Directorate's approval, to relocate the Southern Interagency Fire Cache. The facility that the cache was located in was too small to meet the growing demand for equipment and supplies and materials, and was in need of major repairs. A new facility, three times as large as the old facility, was leased in the same area near the London, Kentucky, Airport. The new facility was dedicated on November 26, 1996.

Two fire management plans were approved by the Field Director: Great Smoky Mountains' was approved in September, followed by approval of Vicksburg's in October, 1996.

The Natchez Trace Fire Management Officer assisted Blue Ridge Parkway in development of a Fire Prevention and Analysis Plan. Natchez Trace also provided technical assistance to Vicksburg in coming online with the Shared Applications Computer System (SACS) and the Weather Information Management System (WIMS) network. The Natchez Trace staff is also providing assistance to Vicksburg in the development and initial implementation of the park's management ignited prescribed fire program.

The SEFA Field Office was reorganized into the Southeast Support Office, November 25, 1996, when the Field Office moved into the new Atlanta Federal Center. The parks in the SEFA will remain organized in the three park clusters: ***Appalachia, Atlantic Coast,*** and ***Gulf Coast***. The SEFA Fire Office is a member of the Education/Visitor Services Team in the Southeast Support Office.

Incident Commanders for the SEFA All-Risk Incident Management Teams presented the ***ICS for Executives*** course to the Field Directorate and Atlanta park superintendents and their key staff.

The SEFA Fire Office provided funding for the Cape Hatteras Superintendent, and superintendents from Congaree Swamp and Cumberland Island to attend the ***Fire Management Leadership*** course. Training funds were provided to Great Smoky Mountains to host S-234 ***Firing Methods and Procedures***; Natchez Trace to present P-151 ***Fire Cause Determination***; and to Great Onyx JCC in support of their fire crew. The SEFA Fire Office sponsored two ICS courses: I-200 ***Basic ICS*** and I-300 ***Intermediate ICS***.

The SEFA Fire Coordinator, fire management officers from Great Smoky Mountains and Natchez Trace, and fire coordinators from Blue Ridge and Cape Hatteras attended the ***Fire Program Management*** course at Fort Mitchell, Kentucky.

The SEFA Fire Management Officer's meeting was held at Cumberland Island in June, with the Eastern Prescribed Fire Specialist, all park fire management officers, and fire coordinators from Blue Ridge, Big South Fork, and Cape Hatteras in attendance.

INTERAGENCY HOTSHOT CREWS

The National Park Service presently manages two 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 natural resource projects.

The NPS crews are assigned to duty stations at hosting parks. The ***Arrowhead*** crew is permanently based at Sequoia and Kings Canyon National Parks, and the ***Alpine*** crew is permanently based at Rocky Mountain National Park.

In 1996, both crews were involved in a variety of projects in their host parks as well as in other National Park Service locations. Projects included: hazard fuel reduction in Mesa Verde and Grand Canyon National Parks; prescribed burn prep work at Grand Canyon; shaded fuel break, debris pile burning and dorm landscaping in Rocky Mountain; front country trail maintenance, and re-roof buildings in Sequoia and Kings Canyon.

Interagency Hotshot Crew Workload Distribution, 1987 - 1996

Year	Number of Fires	% Time Wildfire Suppression	% Time Prescribed Fires	% Time Other Projects
1987	35	63	4	15
1988	31	79	3	3
1989	32	68	10	6
1990	26	54	9	12
1991	30	51	5	20
1992	29	54	5	29
1993	22	51	14	13
1994	46	82	2	9
1995	23	60	9	10
1996	48	72	3	14

Interagency Hotshot Crew Wildland Fire Assignments, 1996

ALPINE IHC:

FIRE NAME	LOCATION/AGENCY	DATES
Animas Mt.	Montrose BLM	5/4-6
West Needles	San Juan NF	5/7-9
Buffalo Creek	Pike San Isabel NF	5/18-25
Dipping Vat Complex	Southern Ute BIA	6/11-19
36 Fire	Craig BLM	6/26-28
Deer	Las Vegas BLM	6/29-7/1
Diego	San Bernadino NF	7/2-5
Sorenson Complex	Utah State	7/6-9
Islen Springs	Ely BLM	7/10-11
Garden	Ely BLM	7/12-13
Warner Point	Montrose BLM	7/14-16
Wildcat PNF	Zion NP	7/20
Wildcat Wildfire	Zion NP	7/21-28
Cabin	Las Vegas BLM	7/29-30
Crane Springs	Elko BLM	8/1
Pinnacle	Elko BLM	8/1-2
Division	Elko BLM	8/2-9
Juanita	Southern Ute BIA	8/15-16
Arboles Bowl	Southern Ute BIA	8/17-18
Chapin #5	Mesa Verde NP	8/19-23
Spring	Umpqua NF	8/24-9/3
Stockwell #2	Bighorn NF	9/6-18

Interagency Hotshot Crew Wildland Fire Assignments, 1996

ARROWHEAD IHC:

FIRE NAME	LOCATION/AGENCY	DATES
Transept	Grand Canyon NP	5/30
ABC Misc/4 fires	Sitgreaves NF	6/9-15
Hochderffer	Coconino NF	6/22-27
Bridger	Kaibab NF	6/27-7/1
Bee	San Bernardino NF	7/2-4
Wasioja	Los Padres NF	7/4-6
Coleville	Nevada State	7/8-10
Sage Flat	Inyo NF	7/15-17
Muir	Sequoia NP	7/18
Telephone	Grand Mesa NF	7/25-30
Cavedale	CDF Sonoma RU	8/1-3
O'Pinion	Craig BLM	8/4-7
Smith Ridge	Umpqua NF	8/11-13
Y-Me-Z	Umpqua NF	8/13
Little Wren	Umpqua NF	8/14
Wren	Umpqua NF	8/14-15
Bugle	Umpqua NF	8/15-16
Ranger	Umpqua NF	8/17-19
Ackerson	Yosemite NP	8/24-9/5
Camp	Angeles NF	9/7-8
Pan Ridge MIPF	Sequoia-Kings NP	10/7-8
Wild	Los Padres NF	10/8-15
Sunset MIPF	Sequoia-Kings NP	10/16-18
Sur	Los Padres NF	10/18-21
Harmony	CDF Monte Vista	10/21-23
Sur	Los Padres NF	10/27-29

PRESCRIBED FIRE SUPPORT MODULES

The Prescribed Fire Support Modules (PFSM) were established by the National Park Service in 1995. The primary mission of the program is to assist with prescribed natural fires (PNF) in the areas of holding, monitoring, mapping, and fire behavior predictions. Secondary priorities are to assist with ignition, holding and monitoring of management ignited prescribed fires (MIPF); prepare all aspects of MIPF, including control line location and construction, writing burn plans, establishing and reading fire effects plots, archeological surveys, etc.; and perform hazard fuel reduction projects. The program consisted of 28 people in 1996, divided into four modules of five to nine individuals. Module duty station locations in 1996 were Bandelier National Monument, Zion National Park, Whiskeytown National Recreation Area, and Yellowstone National Park.

The PFSM provided assistance to 24 NPS units in three NPS Field Areas. These NPS units, encompassing a broad range of program activity and complexity, included the following:

Bandelier NM	Glacier NP	Redwood NP
Bryce Canyon NP	Golden Gate NRA	Rocky Mountain NP
Carlsbad Caverns NP	Grand Canyon NP	Saguaro NP
Cedar Breaks NM	Grand Teton NP	Sequoia NP
Dinosaur NM	Great Sand Dunes NM	Walnut Canyon NM
El Malpais NM	Lake Mead NRA	Whiskeytown NRA
El Morro NM	Lassen Volcanic NP	Yellowstone NP
Everglades NP	Lava Beds NM	Zion NP

Additional assistance was provided on PNF and MIPF projects to seven other locations under the administration of four land management agencies other than the National Park Service. These agencies included:

California Department of Forestry, Shasta-Trinity Ranger Unit
California State Parks
U.S. Fish and Wildlife Service, Colusa National Wildlife Refuge, California
U.S. Forest Service, Bitterroot National Forest, Montana
Bridger-Teton National Forest, Wyoming
Santa Fe National Forest, New Mexico
Shasta-Trinity National Forest, California

In addition, the PFSM provided assistance on one joint NPS/USFS interagency PNF with the Gallatin National Forest in Montana.

The PFSM assisted on 15 PNF's in 1996, of which 14 burned on NPS land (assistance was provided to the Bitterroot National Forest's ***Swet/Warrior*** incident). The total area

involved was 47,779 acres, of which 11,779 acres burned on NPS land. Of those 15 PNF's, three were converted to wildfires.

Assistance was provided with the ignition of 45 MIPF's in 1996. The total area involved was 10,590 acres. Thirty-seven of these burns were on NPS land, four were on National Forests, two were on National Wildlife Refuges, two were on California State Parks, and one was one California state land.

Modules mechanically treated 35 acres on nine hazard fuel reduction projects.

Quantifiable accomplishments are summarized in the following table:

	Prescribed Natural Fires		Management Ignited Rx		MIPF Preparation		Hazard Fuel Reduction	
Module	# of Fires	# of Acres	# of Fires	# of Acres	# of Fires	# of Acres	# of Fires	# of Acres
Bandelier	7	44,754	5	1,965	7	9.7	1	25
Zion	7	45,947	6	2,119	12	4.6	3	2
Whiskeytown	4	4,910	20	3,252	16	5.1	3	7
Yellowstone	10	10,148	15	5,034	6	0.9	2	1
**Totals:	15	47,779	45	10,590	41	20.3	9	35

**** Total numbers may not add up because of use of more than one module on some incidents.**

FIRE EFFECTS MONITORING

The National Park Service has been monitoring fire effects to various degrees for more than a decade. While some parks have done very little, others have extensive programs. This year the NPS furthered this effort by expanding funding support and developing an agency policy on monitoring that states:

> ***"All parks with a management ignited prescribed fire program should monitor their fire effects. A park is free to monitor using their own protocols, but the national standard will be the National Fire Monitoring Handbook."***

The main goals of this program are to:

- verify that burn objectives are met;
- document immediate post-fire effects of management ignited prescribed fires/MIPF;
- follow trends in plant communities where fire effects are known;
- facilitate the sharing of fire related information.

The current list of fire effects funded parks included:

- all parks using MIPF in the Pacific West Field Area;
- Bandelier National Monument;
- Dinosaur National Monument;
- Glacier National Park;
- Grand Canyon National Park;
- Saguaro National Park;
- Wind Cave National Park;
- Voyageurs National Park;
- Yellowstone National Park.

In addition, the following parks have established a fire effects monitoring program on their own in the absence of fire effects monitoring funding support in FY96:

- Big Cypress National Preserve;
- Bryce Canyon National Park;
- Carlsbad Caverns National Park;
- Grand Teton National Park;
- Guadalupe Mountains National Park;
- Indiana Dunes National Lakeshore;
- Zion National Park.

The annual workload associated with establishing new plots and monitoring them post-fire is a variable one. Initially a park may have many plots to establish in several vegetation types, but the plots may not burn for several years due to lack of

prescription, lack of funds to support burning, competing wildfire suppression priorities, etc.. In addition, plots are normally read at increasing intervals post-fire. In order to deal effectively with these workload spikes at individual parks, most fire effects monitoring efforts now utilize teams of monitors that serve clusters of parks. These clusters will provide a critical mass of work that will sustain a team throughout a work season; the philosophy being that even if some parks within the cluster have dormant needs in a given year, others will pick up the slack. Monitoring teams justify longer employment periods for monitors, and permanent positions for lead, highly trained monitoring technicians.

The multi-park monitoring team concept began in Central and Southern California in 1992, followed by Southern Arizona and Northern California in 1994. In 1996 a team was established to support Crater Lake and North Cascades National Parks and Oregon Caves National Monument; another team supported Wind Cave National Park, Badlands, Devils Tower and Mount Rushmore National Monuments; and a third team supported Voyageurs and Isle Royale National Parks. In late 1996, another team was created to serve the New Mexico and west Texas parks.

Interest in the program continues to grow both inside and outside of the Department of the Interior. This increased interest can only benefit the program by:

- developing a larger and more significant database;
- providing more ideas for improvement of the monitoring handbook and/or associated software;
- improving communication and information exchange;
- ensuring program continuity;
- providing a clearer outline of potential prescribed fire research needs.

The formation of a National Fire Effects Working Team has moved the discussion of fire effects outside the former NPS "Western Region." The ***Western Region Fire Monitoring Handbook*** is currently in the initial phases of revision to create a ***National Fire Monitoring Handbook***. Additionally, there are now two field area level Fire Effects Monitoring Program Coordinators: Elizabeth Anderson, Intermountain Field Area; and Paul Reeberg, duty-stationed in the Pacific West Field Area and currently serving all remaining field areas.

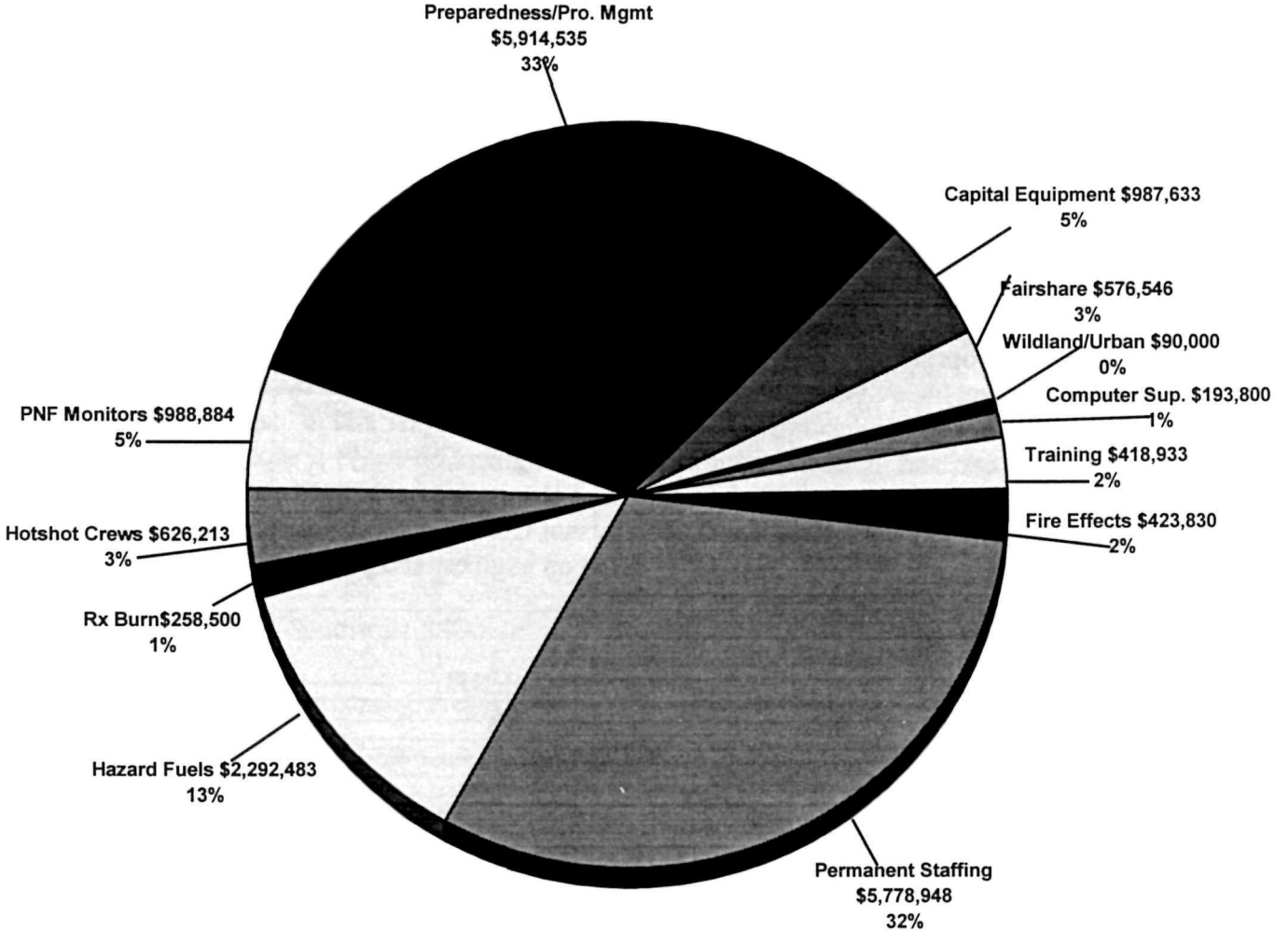
Plot Installation by Field Area

Number of Plots Installed in 1996				**Total Number of Plots Installed**			
PWFA	IMFA	MWFA	TOTAL	PWFA	IMFA	MWFA	TOTAL
38	79	6	123	862	420	34	1,316

Workload by Fire Effects Team

Team	# Plots Installed	# Plots Revisited	Total # Plots Visited
Northern California	1	153	154
Central and S. CA	13	84	97
Sequoia-Kings NPs	2	38	40
Yosemite NP	6	17	23
Columbia Cascades	27	0	27
Bandelier NM	14	31	45
Dinosaur NM	5	47	52
Glacier NP	13	0	13
Grand Canyon NP	18	8	26
Southern Arizona	7	13	20
Black Hills	11	0	11
Northern Lakes	6	8	14

FIRE MANAGEMENT AUTHORIZATIONS, FY96



SEVERITY FUNDING

Severity funding must be requested and approved through the National Park Service's Fire Management Program Center in Boise, Idaho.

Severity funding is intended to increase initial attack preparedness and fire prevention response to an anticipated long term fire potential greater than the normal fire year. The severe fire potential may be the result of long term drought, unusual fuel conditions, or other conditions.

Severity differs from step-up planning in that step-up plans are approved by the System Support Office Fire Management Officer, and are driven by staffing classes which are determined by the burning index. Step-up plans are shorter term increases in preparedness and prevention. Severity funds must be terminated as soon as conditions return to the normal fire year.

Severity appropriations in 1996 (totaling $583,500) provided for increased cooperative prevention activities in the Southwest Geographic Area; rental of call-when-needed helicopters; availability extension of an interagency helicopter and manager; helitack crew members, and lookouts; bring seasonal firefighters on early; preposition engines with crews; emergency hire fire lookout/aerial observer, engine and helicopter crew members; extend availability of the NPS Hotshot Crews; preposition overhead; rental of pickup trucks and cover additional mileage on engines; and purchase of supplies.

FIELD AREA	REQUESTING UNIT	AMOUNT
Pacific West	Sequoia & Kings Canyon NPs	$10,000
Intermountain	Dinosaur NM	7,000
	Big Thicket NP	46,800
	El Malpais NM	6,000
	Guadalupe Mountains NP	29,000
	Carlsbad Caverns NP	12,000
	Lincoln Zone, Fairshare Helicopter Support	120,000
	Increase SW Area Prevention Activities	211,700
	Mesa Verde NP	27,000
	Rocky Mountain NP	15,000
	Grand Canyon NP	86,000
	Zion NP	8,000
	Flagstaff Area Parks	5,000

INTERAGENCY FAIRSHARE PROGRAMS

FIELD AREA	REQUESTING UNIT	DESCRIPTION	AMOUNT
Fire Mgmt. Program Center		NWCG Operations Support, NARTC Support	$110,600
Pacific West	Columbia Cascades SSO	Air Tanker Operations	57,000
	Pacific Great Basin SSO	Coordination Centers, BLM Initial Attack @ LAME	45,000
	Channel Islands	Helicopter and crew	30,000
	Joshua Tree	Interagency Coordination Center	5,000
	Lassen Volcanic	Susanville Interagency Coordination Center	15,000
	Lava Beds	Modoc Dispatch Center	7,500
	Mojave	Interagency Coordination Center	5,000
	Santa Monica Mtns.	Angeles NF Dispatch	15,500
	Whiskeytown	Redding Coordination Center	2,500
Intermountain	Colorado Plateau/Rocky Mountain SSO	USFS: N. Rockies; R1/FIDC; RMACC; BLM: WSFCC/CO; WICC/WY. DOI position/Missoula, Eastern Great Basin Coordination Center, Cedar City Dispatch	127,500
	Southwest SSO	SWCC; SWA Caches; CAZ/SOAR	9,900
	Carlsbad Caverns	Interagency Helicopter	27,000
	Saguaro	Interagency Helicopter	8,300
	Dinosaur	Interagency Helicopter	10,000
	Grand Canyon	Zone Dispatch	6,200
	Mesa Verde	Interagency Helicopter	15,000
	Grand Teton	Interagency Helitack	18,526
	Rocky Mountain	Interagency Dispatch Center	1,500
Midwest	Wind Cave Voyageurs	Interagency Helicopter MN Interagency Coordination Center	7,100 2,500
Southeast	Southeast Field Area	Interagency Helicopters; Regional Cache; Southern Area Coordination Center, Air Tanker Base [GRSM]	49,920
		TOTAL:	$576,546

1996 SERVICEWIDE

FIRE STATISTICS

NORMAL FIRE YEAR STATISTICS

The normal fire year calculation is based on an analysis of National Park Service fire history for 10 years, from 1987 through 1996. "Normal" occurrence is defined as the third worst year in a 10 year analysis period, and the statistics for each size class may be derived from different years.

SIZE CLASS IN ACRES	NUMBER OF WILDFIRES	NUMBER OF PRESCRIBED NATURAL FIRES
A (0 - 0.2)	495	84
B (0.3 - 9.9)	285	21
C (10 - 99.9)	62	3
D (100 - 299.9)	26	4
E (300 - 999.9)	16	2
F (1,000 - 4,999.9)	14	0
G (5,000+)	5	0
TOTALS:	903	114

Start Days: 313 (Wildfires); 311 (Prescribed Natural Fires)
Peak number of starts in a day: 36 (WF); 27 (PNF)

NATIONAL FIRE ACTIVITY

FIRE TYPE	# FIRES	NPS ACRES
Suppressed on NPS lands by NPS full control strategy	607	80,733
Suppressed on NPS lands by NPS modified control	39	12,161
Suppressed on NPS lands by other federal agency	8	3,020
Suppressed on NPS lands by non-federal agency	50	192
TOTAL WILDFIRES:	704	96,106
PRESCRIBED NATURAL FIRES	83	17,924
MANAGEMENT IGNITED PRESCRIBED FIRES	232	40,920
TOTAL PRESCRIBED FIRES:	315	58,844
NATURAL OUTS ON NPS LANDS	155	260
MUTUAL AID BY NPS ON OTHER LANDS	310	
SUPPORT ACTIONS (NON-LOCAL)	1,254	
FALSE ALARMS	131	

WILDFIRES BY SIZE CLASS

SIZE CLASS IN ACRES	AGENCY LANDS FIRES	AGENCY LANDS ACRES	ALL LANDS ACRES
A (0 - 0.2)	431	47.5	0.0
B (0.3 - 9.9)	167	298.2	12.5
C (10 - 99.9)	63	1,561.9	129.9
D (100 - 299.9)	17	2,733.1	197.0
E (300 - 999.9)	12	6,346.1	475.0
F (1,000 - 4,999.9)	8	18,305.5	4,275.5
G (5,000+)	6	66,814.0	102,077.0
TOTALS:	704	96,106.3	107,148.9

There were 704 wildfires reported on NPS land in 1996, which is 78 percent of the normal fire year calculation. Approximately 85 percent of the wildfires were controlled at under 10 acres in total size.

WILDFIRES BY CAUSE

NATIONAL PARK SERVICE LANDS

CAUSE	# FIRES	# ACRES	% FIRES	% ACRES
Lightning	261	74,446.6	37	78
Campfire	114	5,175.2	16	6
Smoking	23	1,351.4	3	1
Debris Burning	27	985.5	4	1
Incendiary	76	2,235.3	11	2
Equipment Use	27	194.1	4	0
Railroads	15	341.2	2	0
Children	11	5.6	2	0
Miscellaneous	150	11,371.4	21	12
TOTALS:	704	96,106.3		

LARGE WILDFIRES[1]

FIELD AREA	PARK	FIRE NAME	NPS ACRES	TOTAL ACRES
Pacific West	Sequoia & Kings Canyon	Castle Complex	2,690.0	2,690.0
		Kaweah	3,300.0	4,479.0
	Yosemite	Ackerson	47,234.0	59,604.0
	Santa Monica Mountains	Calabasas	113.0	13,190.0
Southeast	Everglades	Block B	3,343.0	3,343.0
		Star Grove	1,121.0	1,121.0
Intermountain	Dinosaur	Zenobia2	2,069.0	2,069.0
	Mesa Verde	Chapin 5	4,781	4,781.0
	Zion	Wildcat	5,817.0	5,830.0
	Big Thicket	Knight	1.5	3,000.0
	Padre Island	Panhandle	1,000.0	1,000.0
	Bandelier	Dome	4,779.0	16,486.0
Alaska	Yukon-Charley Rivers	631459	8,842.0	39,116.0
		Circ Mount	29.0	34,665.0

LARGE MANAGEMENT IGNITED PRESCRIBED FIRES

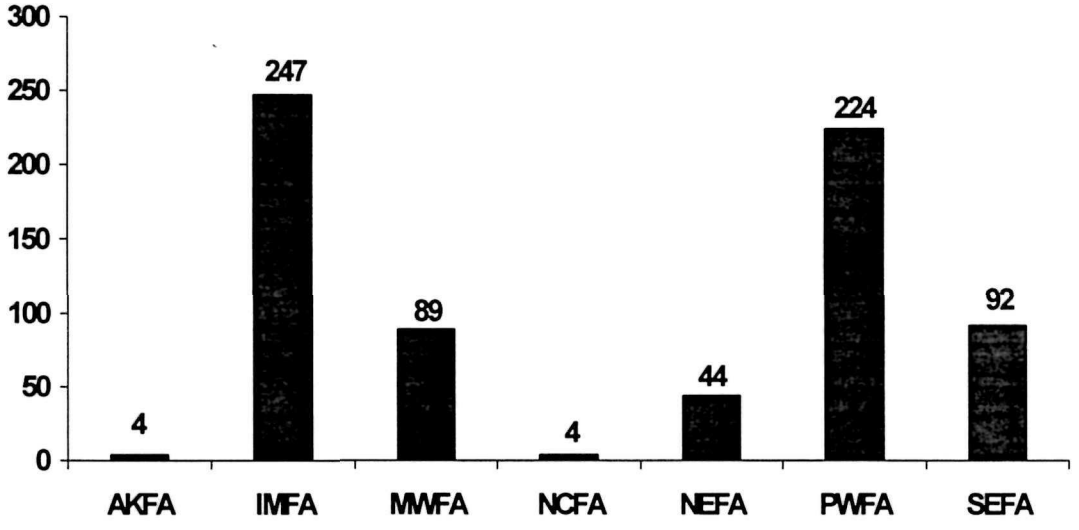
FIELD AREA	PARK	FIRE NAME	NPS ACRES	FUEL TYPE	COST/ ACRE
Pacific West	Lake Mead	Twin II	1,800.0	Chaparral/Chaparral	20.00
	Yosemite	North Mt	1,000.0	Timber/Hardwd Litter	1.00
Southeast	Big Cypress	Monroe SW	6,266.4	Herb/Tall Grass	1.74
		Birdonwrx	3,272.6	Herb/Tall Grass	0.80
		Dplakesrx	2,934.1	Herb/Tall Grass	0.80
		Skillet3rx	4,531.8	Herb/Tall Grass	1.74
		Pinecrest2	1,840.4	Herb/Tall Grass	1.66
		Airplanerx	1,486.7	Herb/Tall Grass	2.08
Midwest	Wind Cave	Boundary	798.0	Herb/Short Grass	11.45
	Ozark	Stegall	325.0	Herb/Short Grass	5.52
Intermountain	Grand Teton	Uhl Draw-B	575.0	Herb/Timbr/Grass	3.44

There were 232 management ignited prescribed fires completed during 1996 for a total of 40,920 agency acres treated. The largest burn program was conducted at Big Cypress where 22 management ignited prescribed fires treated 23,891 acres.

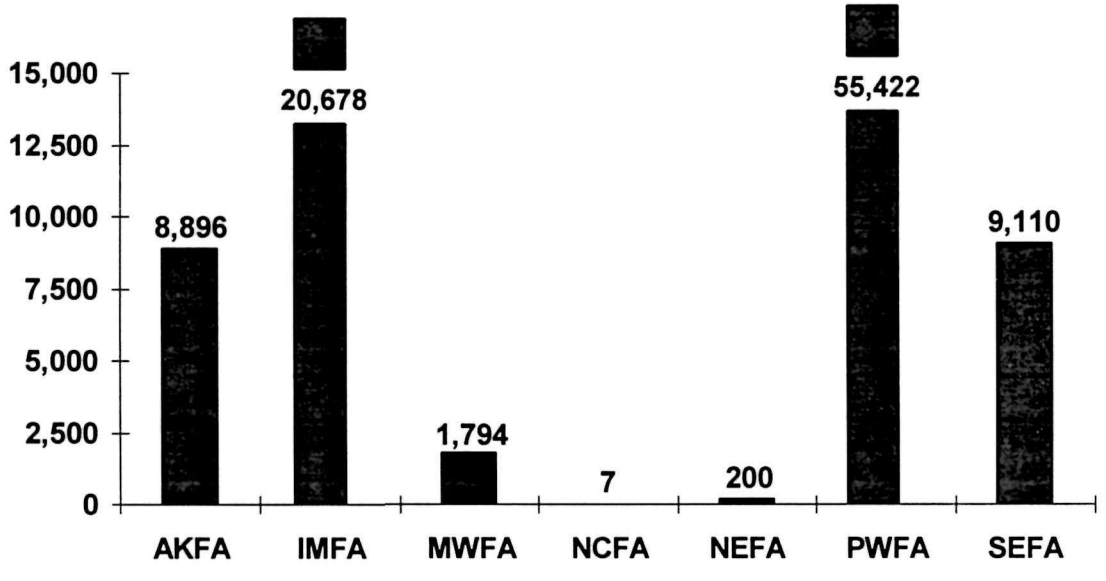
[1] "Large", for the purpose of these tables, would include any fire totaling over 1,000 acres regardless of land ownership.

WILDFIRES BY FIELD AREA

Number of Fires

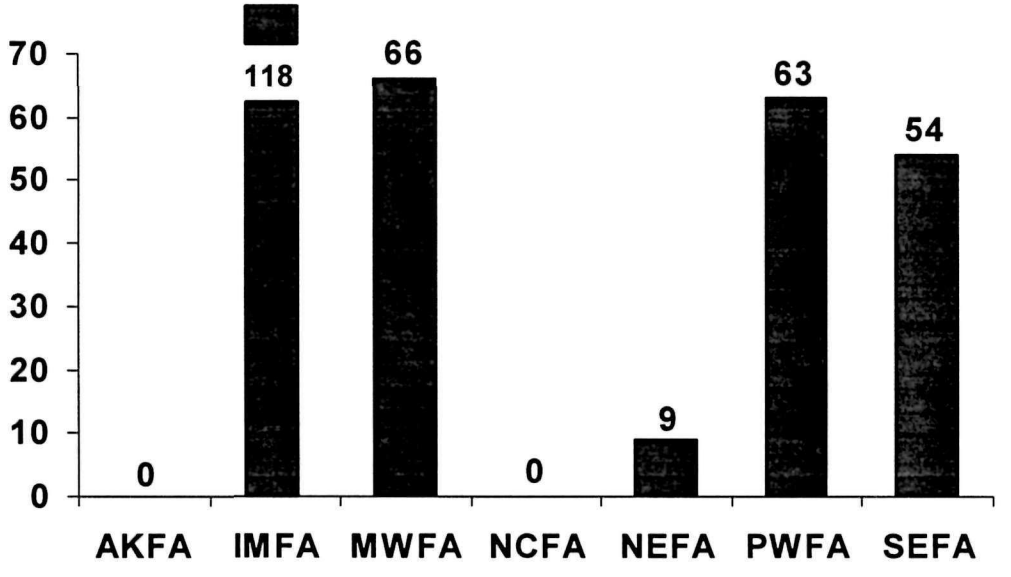


Number of Acres



MUTUAL AID RESPONSES BY FIELD AREA

Number of Responses

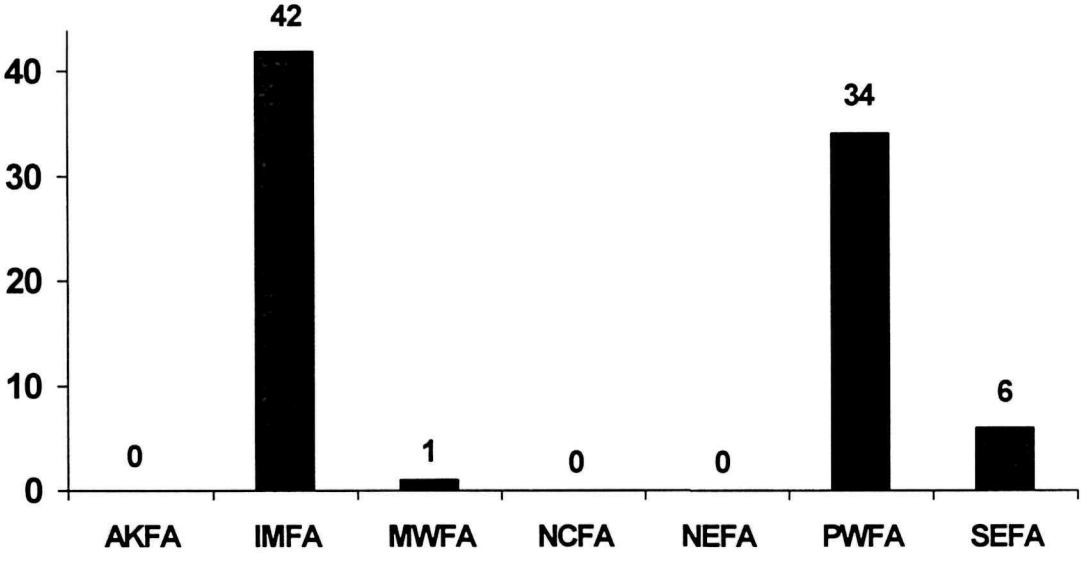


Key:

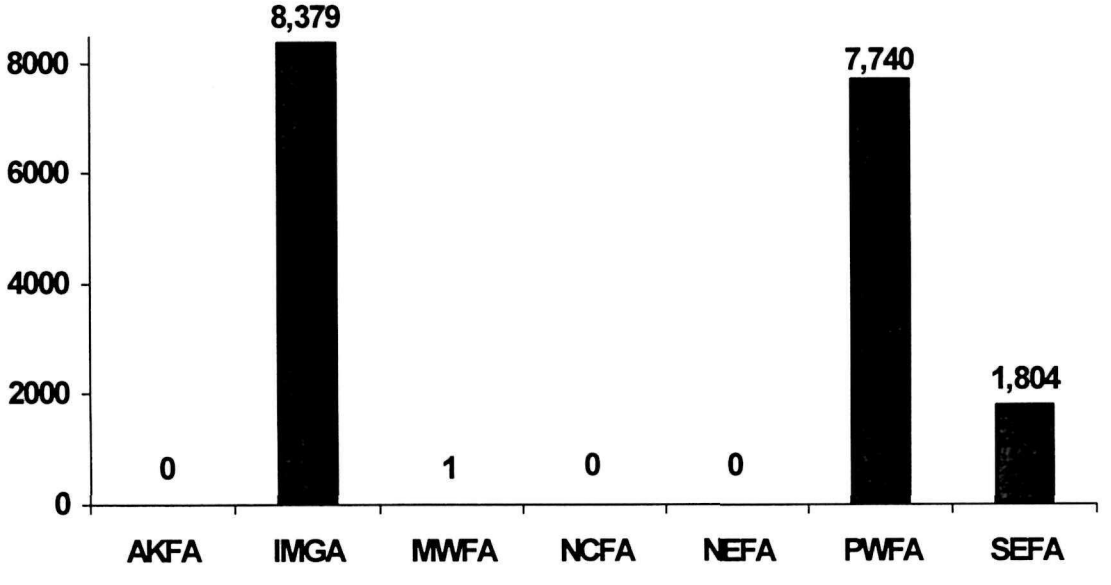
AKFA =	**Alaska Field Area**	**NEFA =**	**Northeast Field Area**
IMFA =	**Intermountain Field Area**	**PWFA =**	**Pacific West Field Area**
MWFA =	**Midwest Field Area**	**SEFA =**	**Southeast Field Area**
NCFA =	**National Capital Field Area**		

PRESCRIBED NATURAL FIRES BY FIELD AREA

Number of Fires

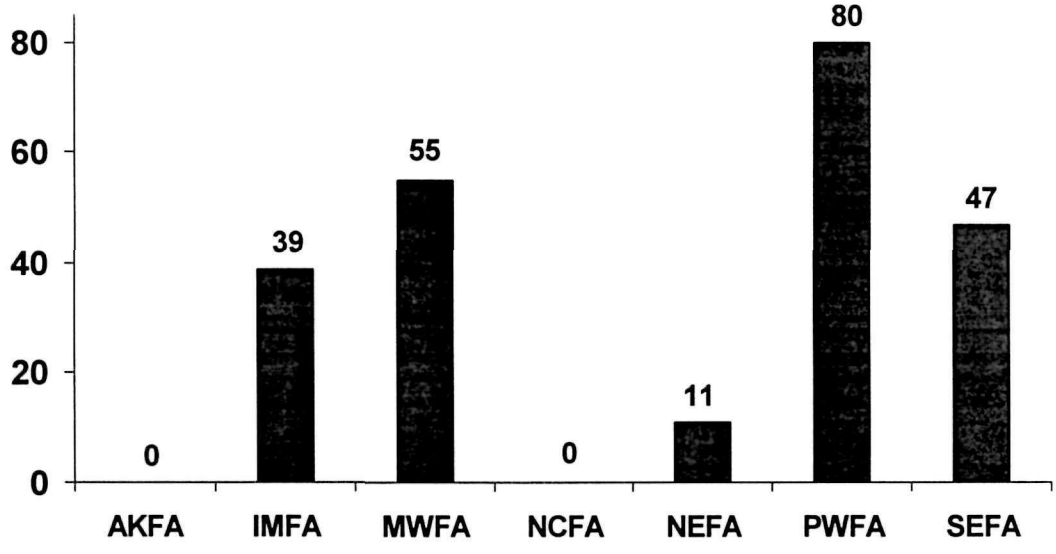


Number of Acres

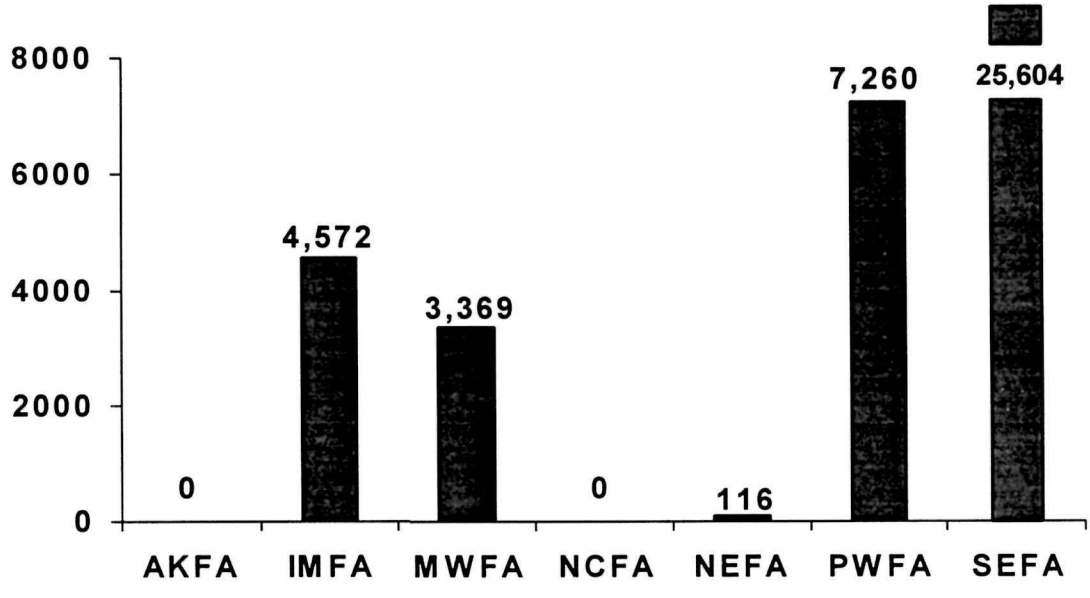


MANAGEMENT IGNITED PRESCRIBED FIRES BY FIELD AREA

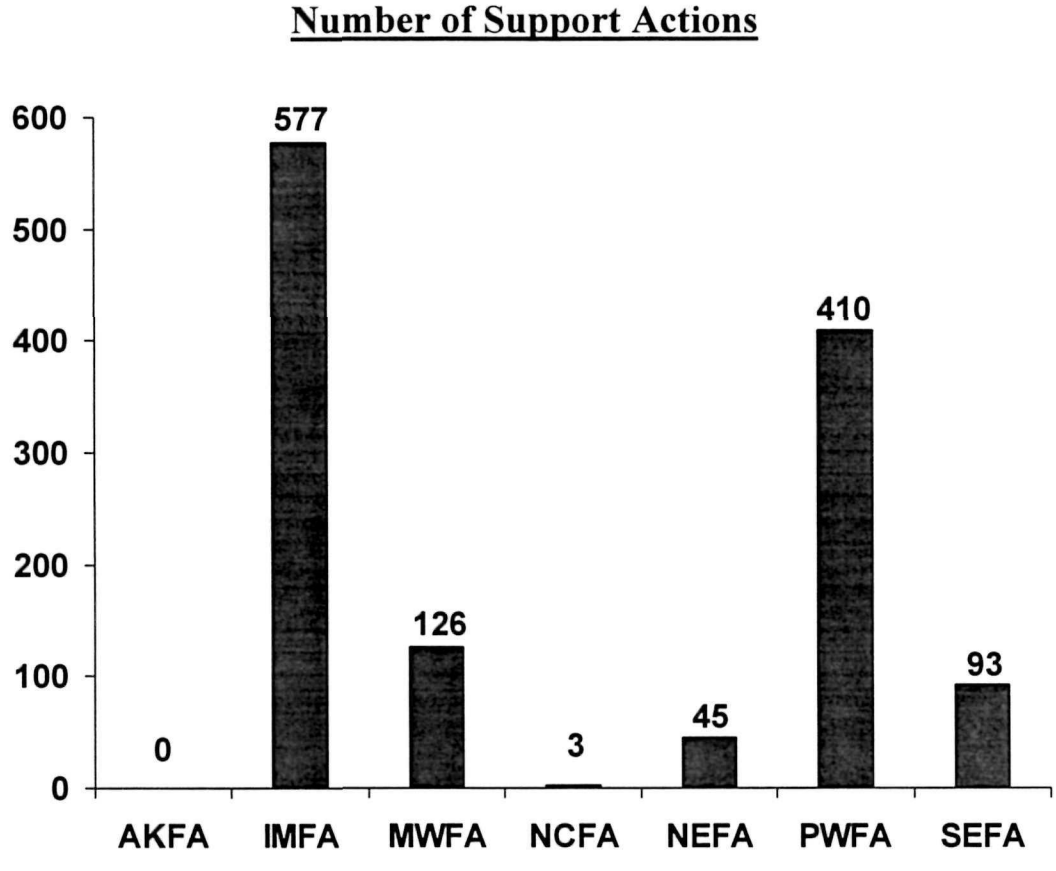
Number of Fires



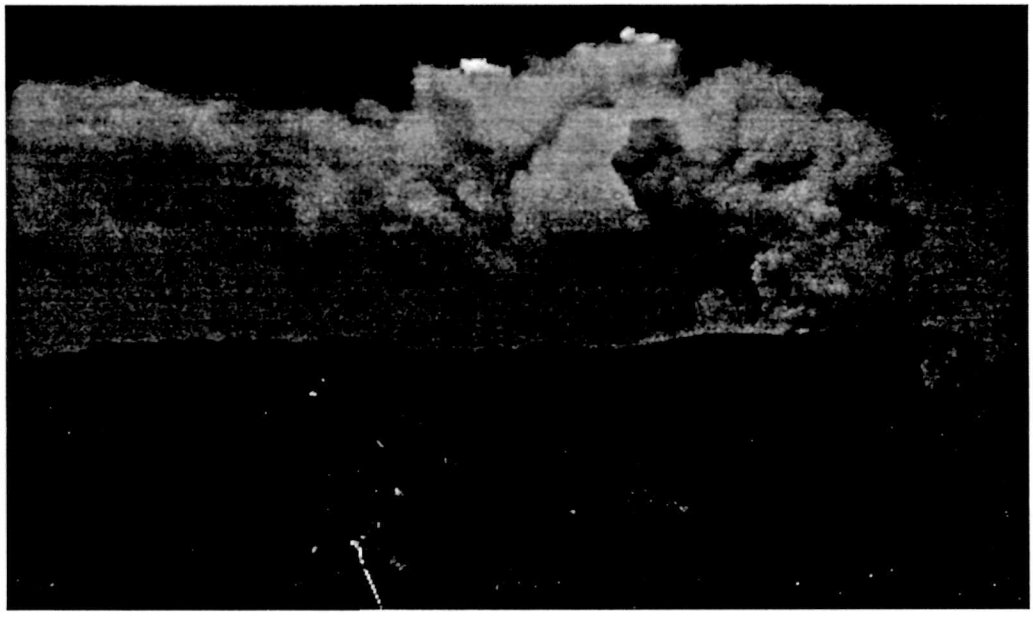
Number of Acres



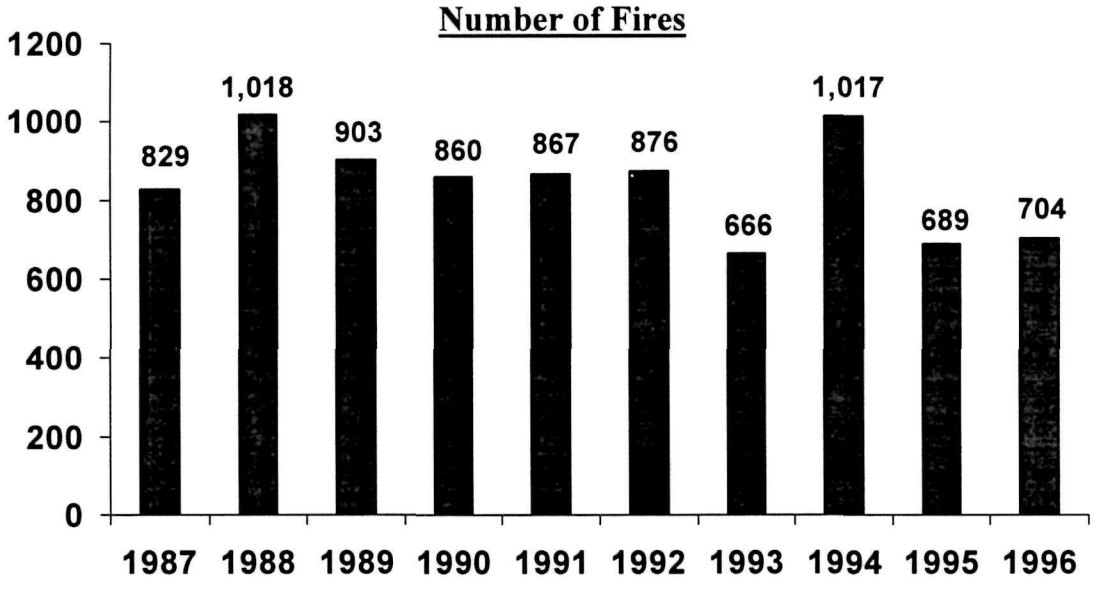
SUPPORT ACTIONS BY FIELD AREA

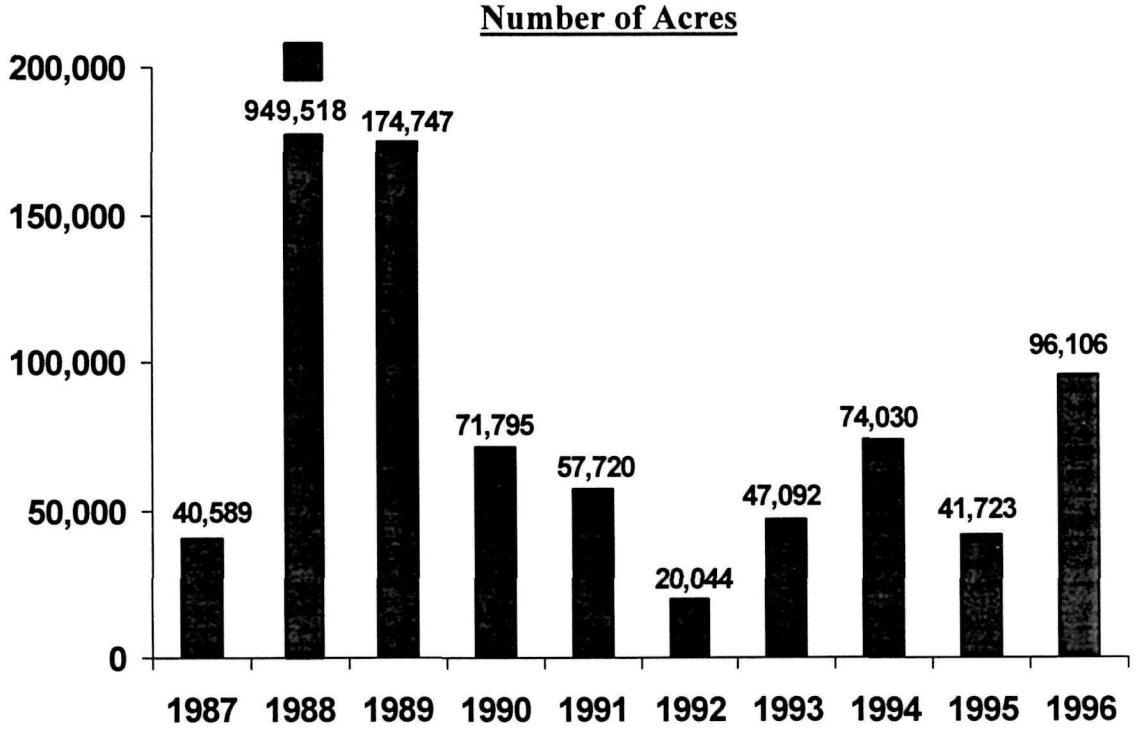


1987-1996
FIRE STATISTICS
SERVICEWIDE

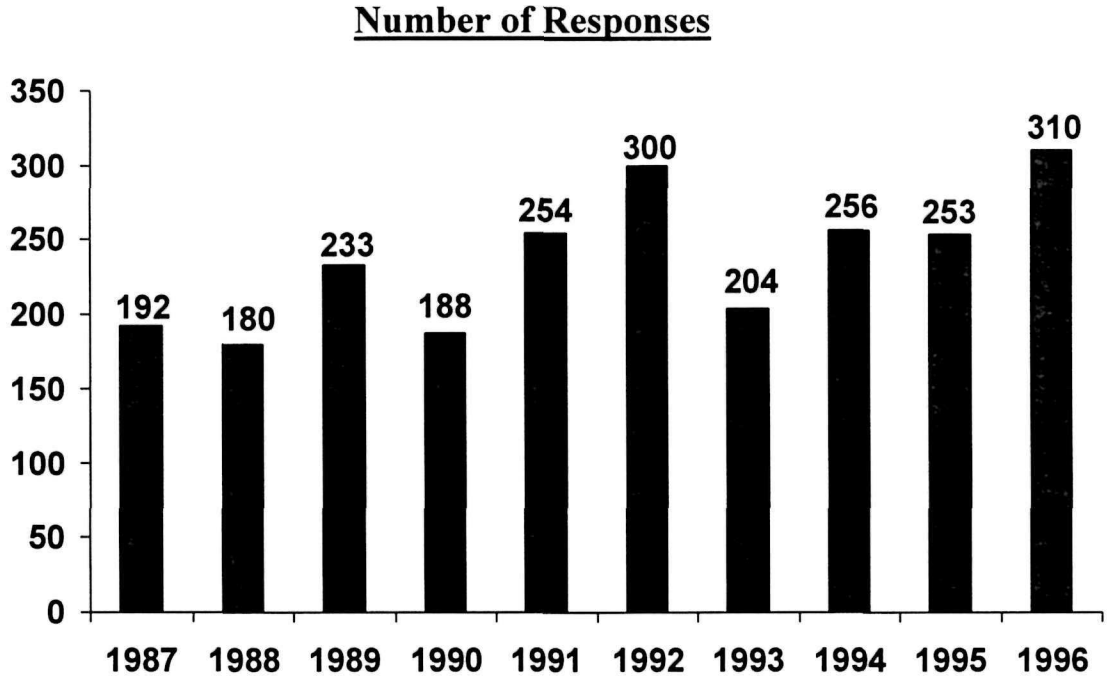


NPS WILDFIRES, 1987-1996

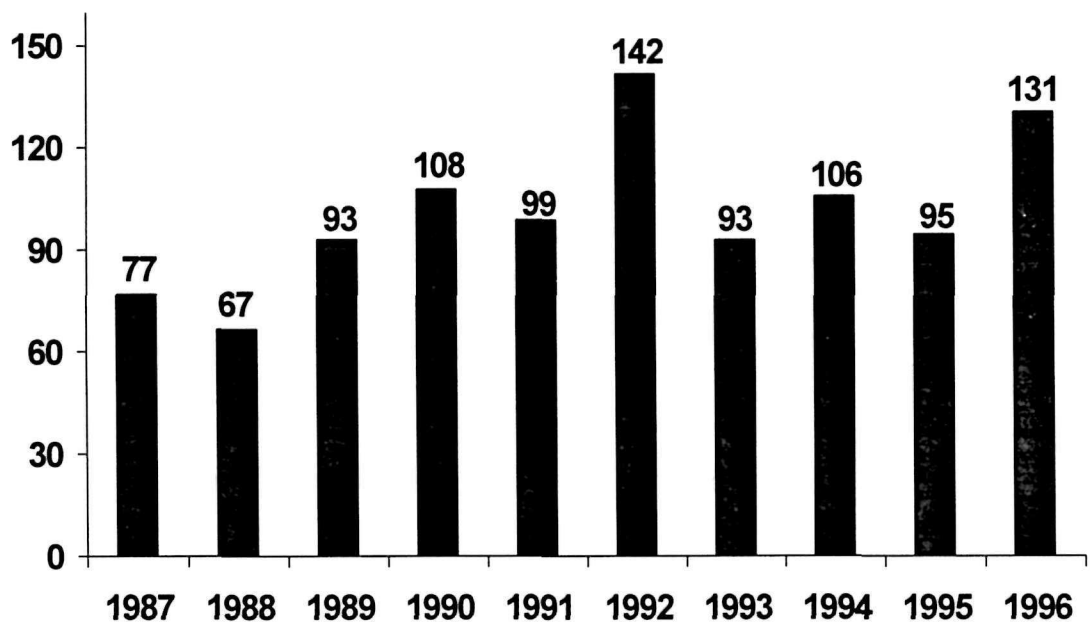




NPS MUTUAL AID RESPONSES, 1987 - 1996

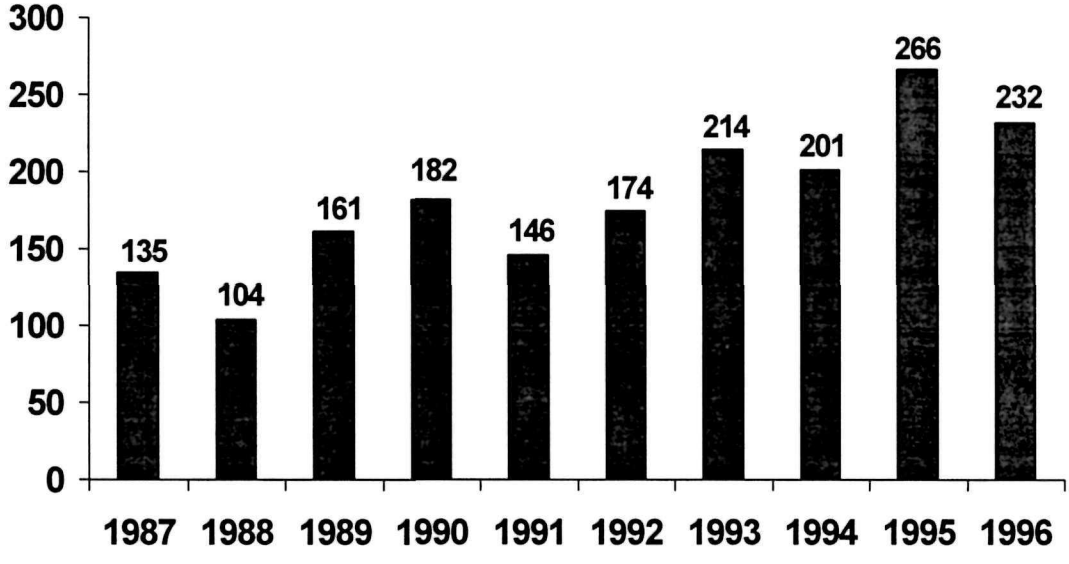


NPS FALSE ALARMS, 1987-1996

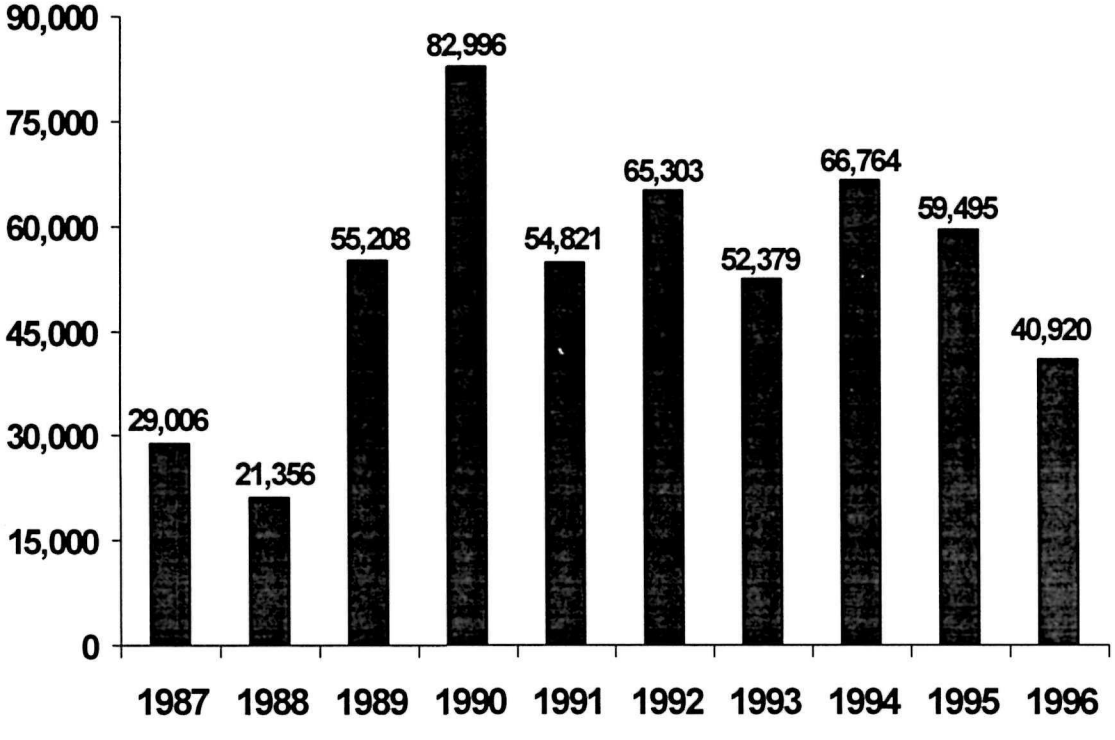


NPS MANAGEMENT IGNITED PRESCRIBED FIRE, 1987 - 1996

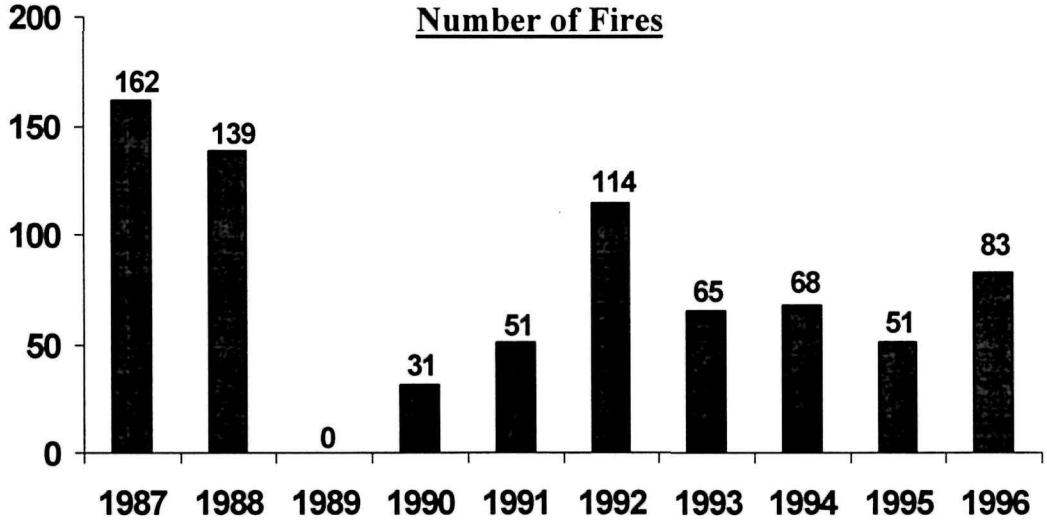
Number of Fires

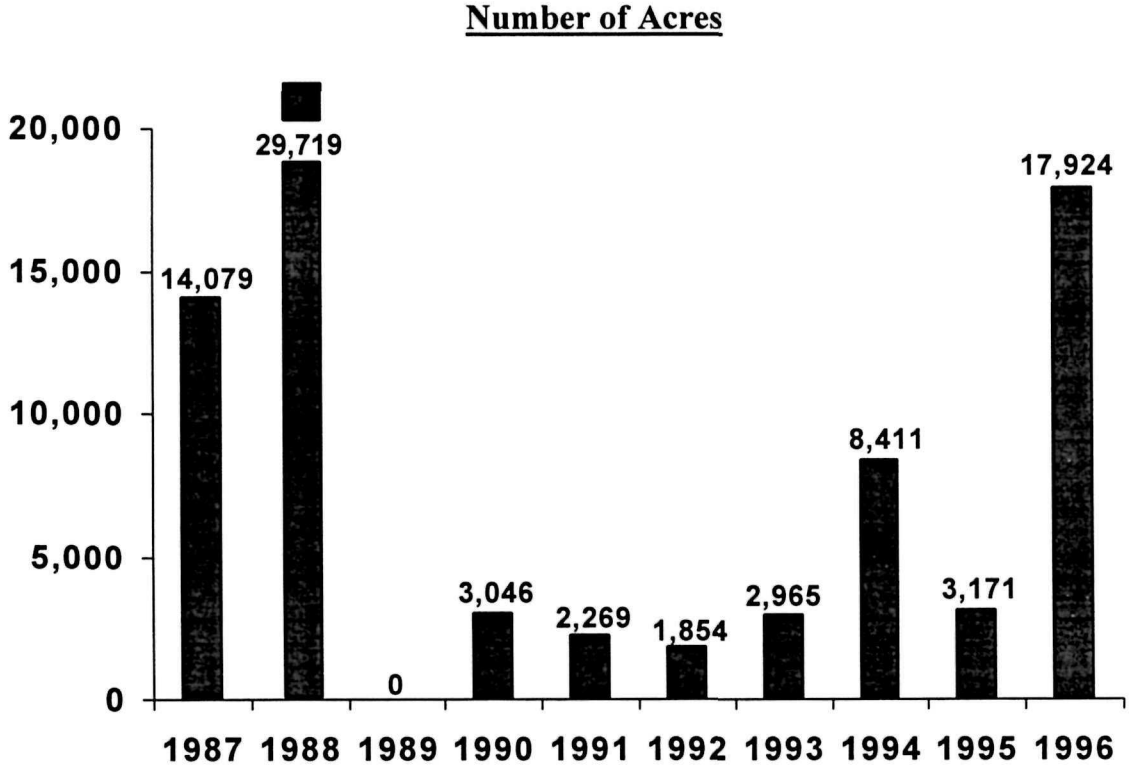


Number of Acres

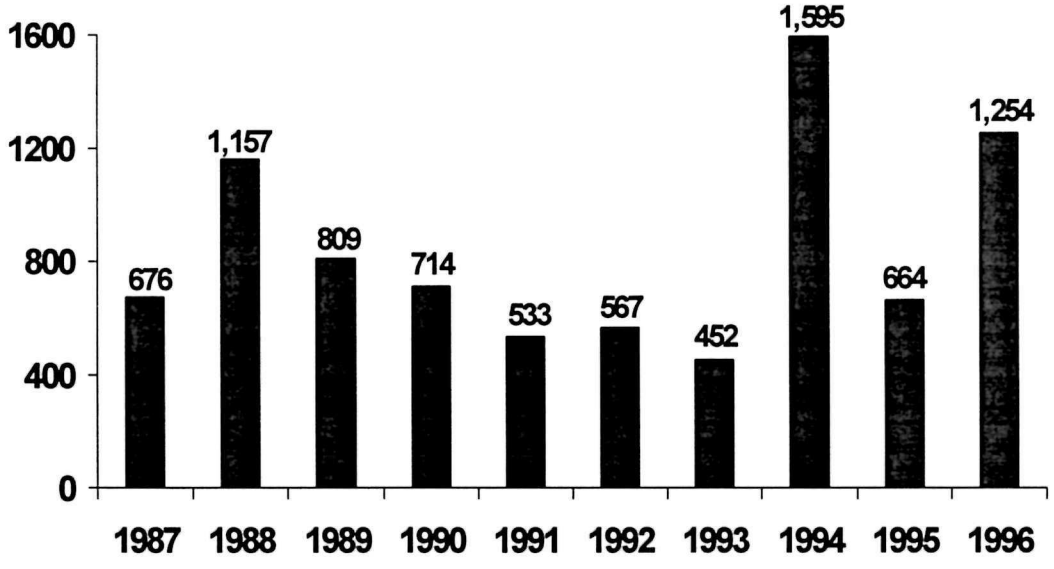


NPS PRESCRIBED NATURAL FIRES, 1987-1996





NPS SUPPORT ACTIONS, 1987-1996



Number of Support Actions

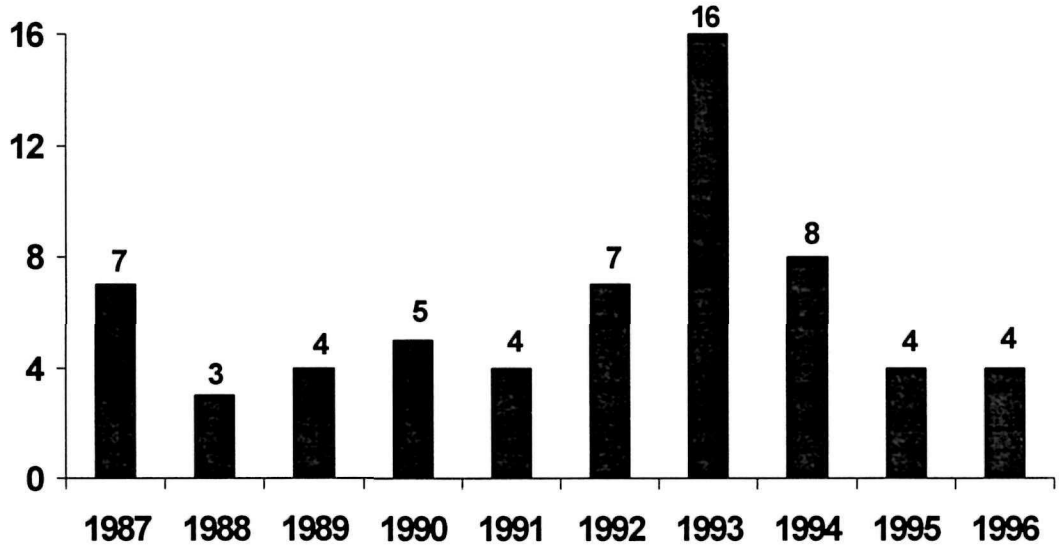
Support actions are primarily wildfire suppression assists to non-local areas. They do not include local mutual aid responses. National mobilizations of National Park Service personnel for interagency wildfire suppression efforts were unheard of until 1985. Since that time many agency personnel, including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

The above graph displays the number of support action dispatches, consequently the actual number of individuals dispatched is substantially greater. 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 are commonly used during mobilizaions.

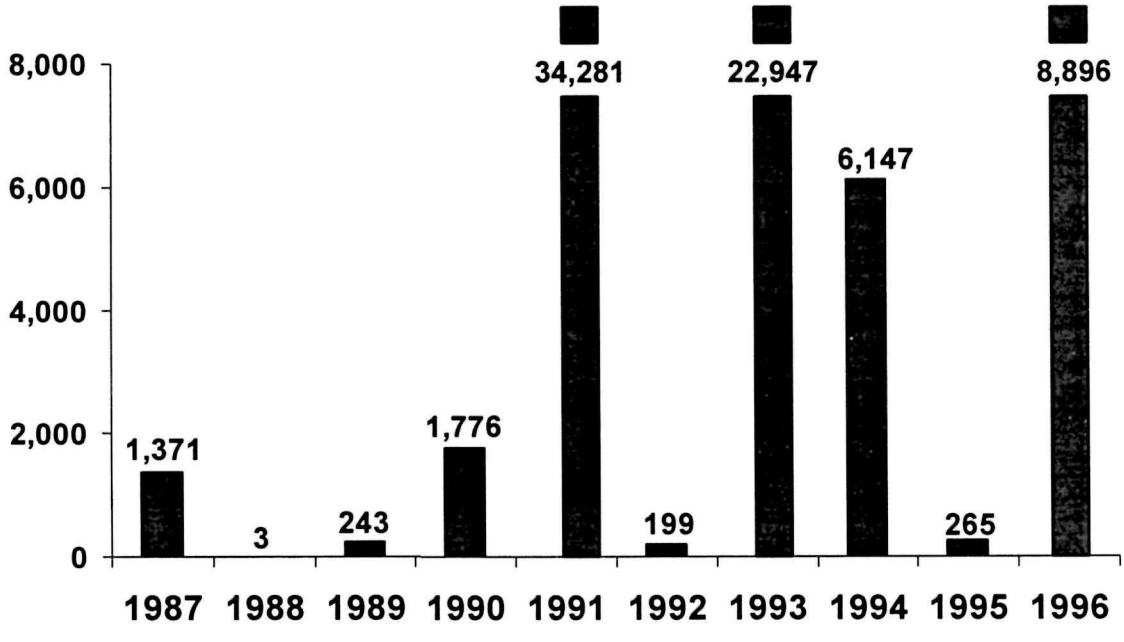
1987 - 1996
FIRE STATISTICS
BY FIELD AREA

ALASKA FIELD AREA WILDFIRES, 1987 - 1996

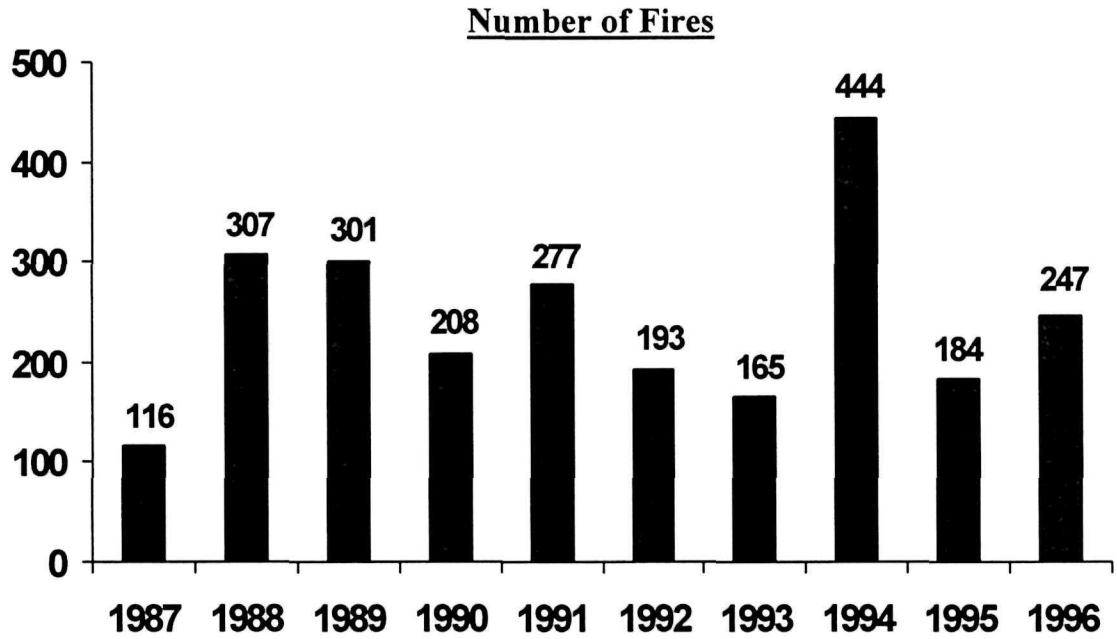
Number of Fires

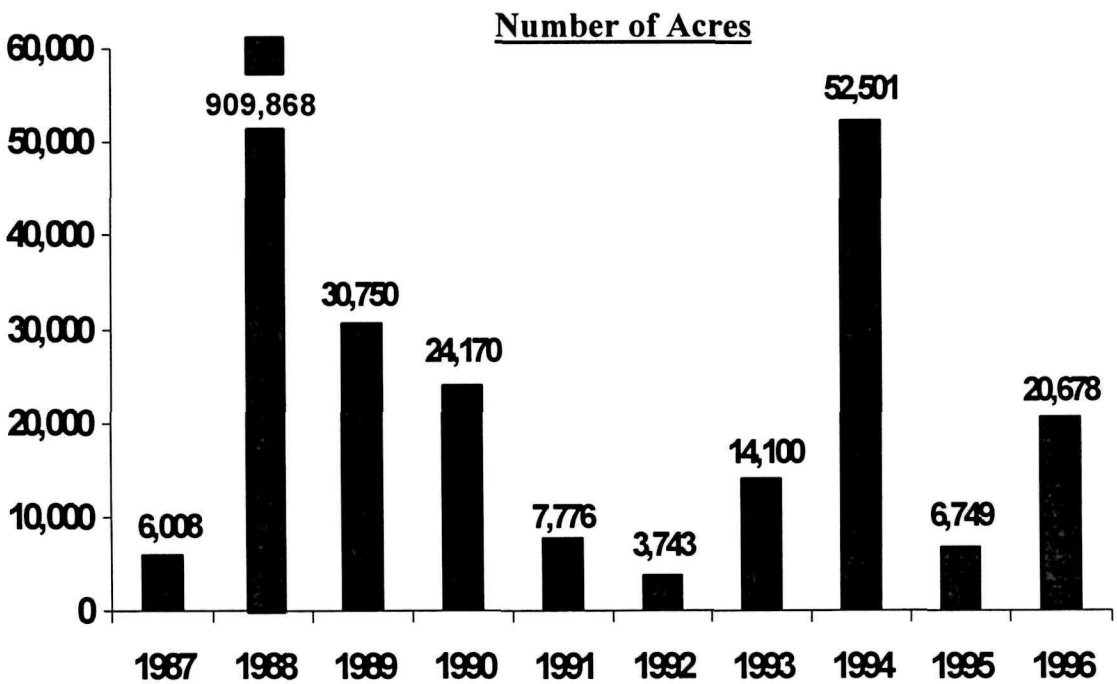


Number of Acres



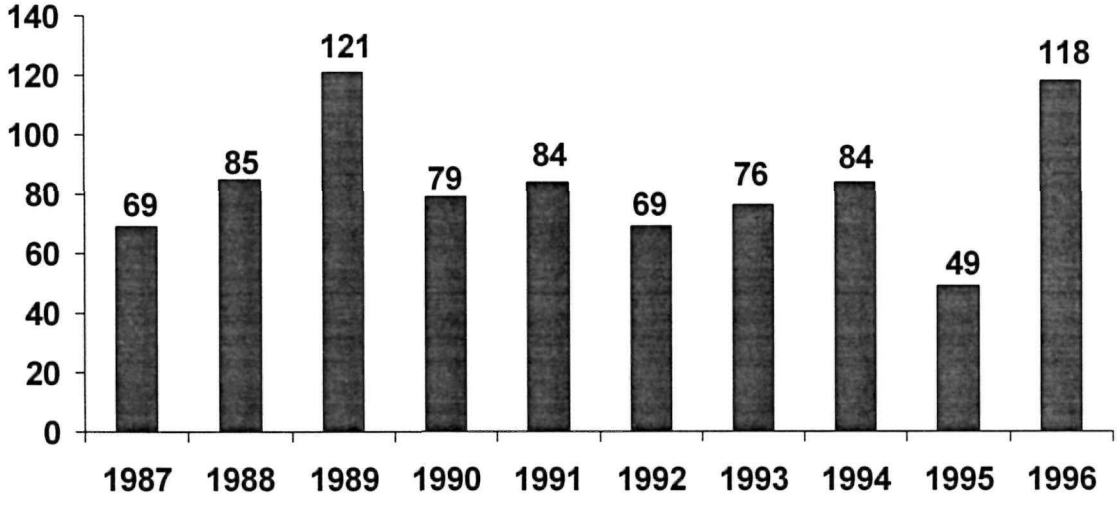
INTERMOUNTAIN FIELD AREA WILDFIRES, 1987 - 1996



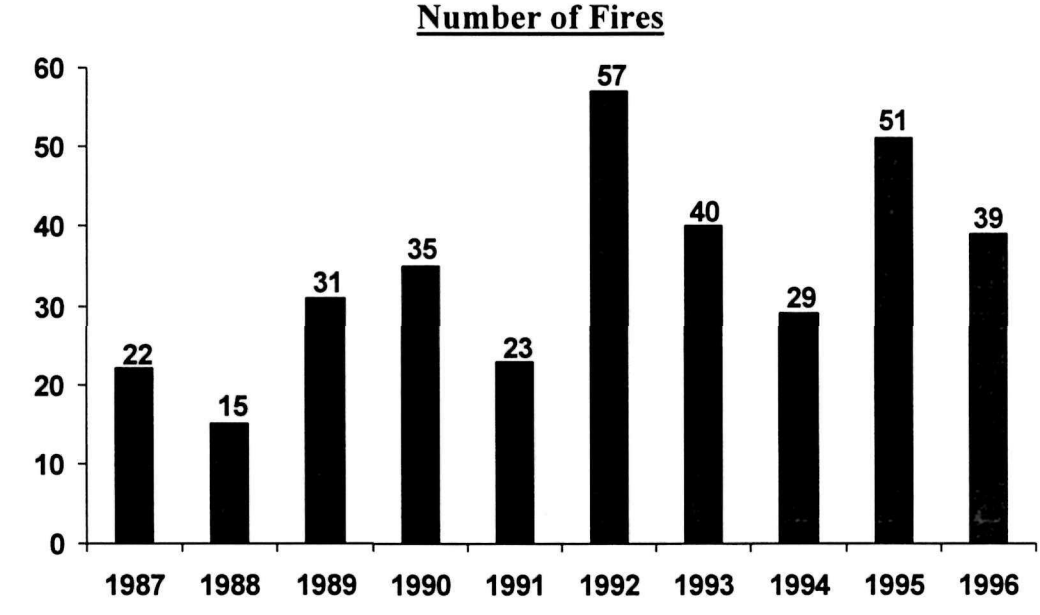


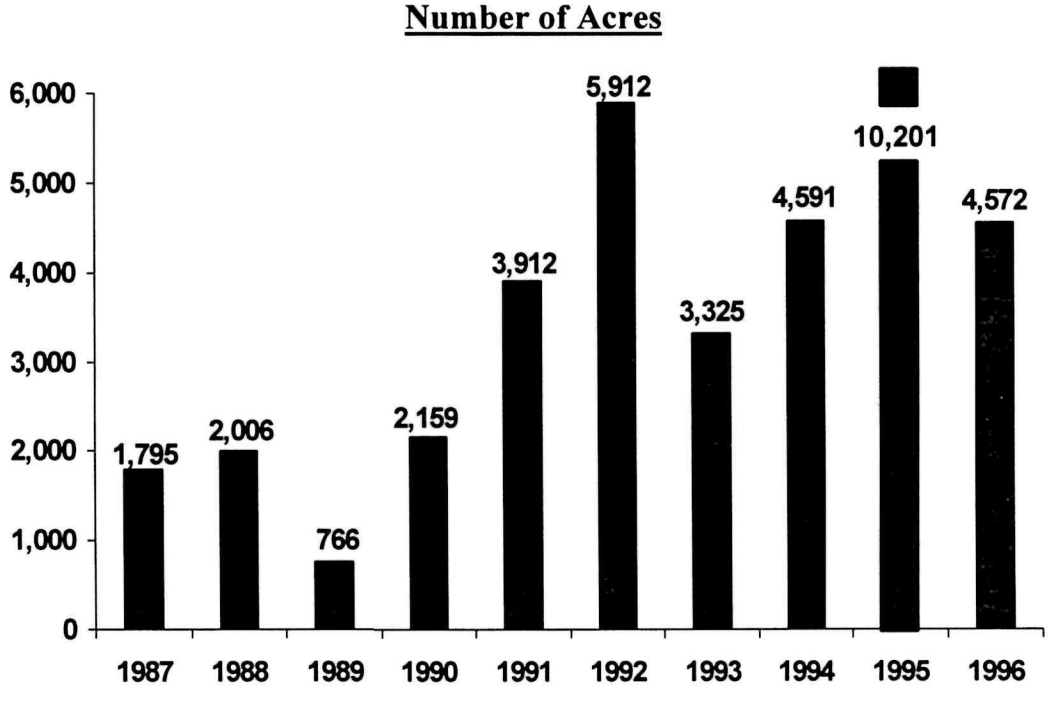
INTERMOUNTAIN FIELD AREA
MUTUAL AID RESPONSES, 1987-1996

Number of Responses



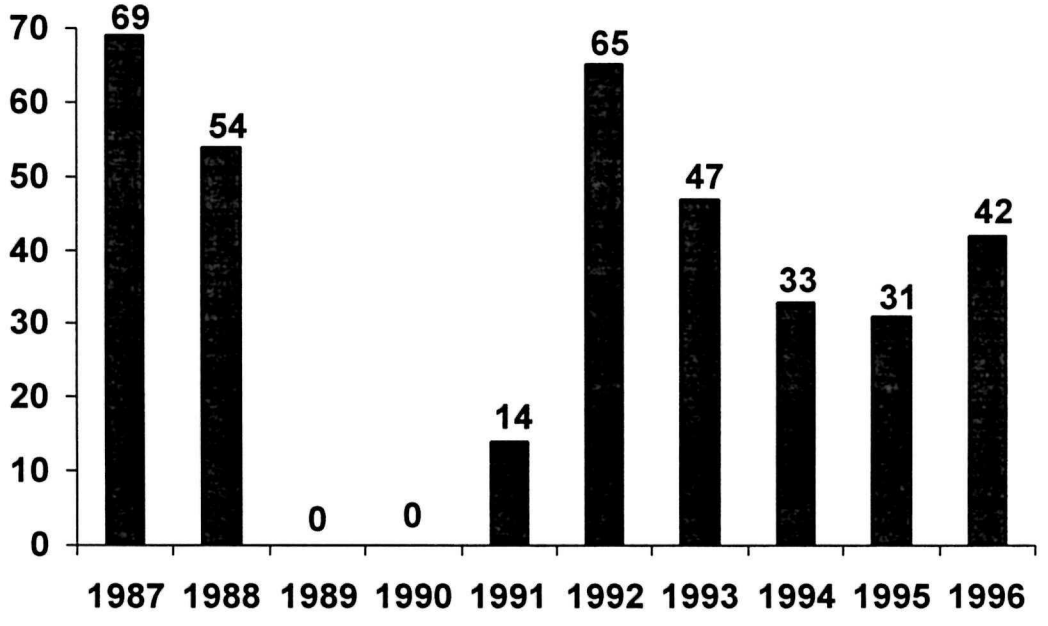
INTERMOUNTAIN FIELD AREA
MANAGMEMENT IGNITED PRESCRIBED FIRES, 1987-1996



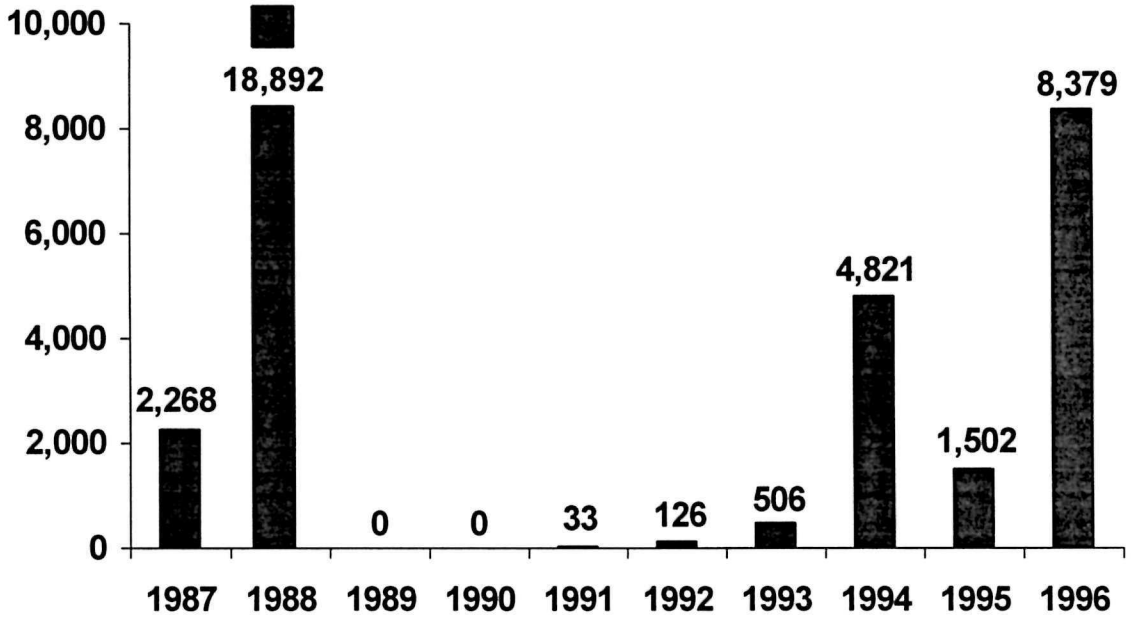


INTERMOUNTAIN FIELD AREA
PRESCRIBED NATURAL FIRES, 1987-1996

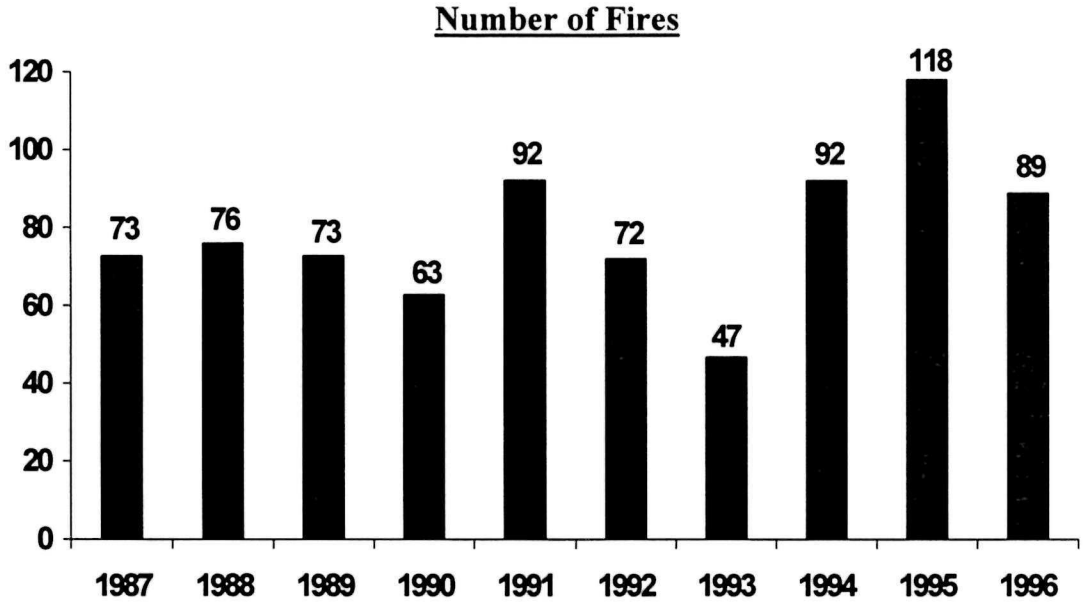
Number of Fires

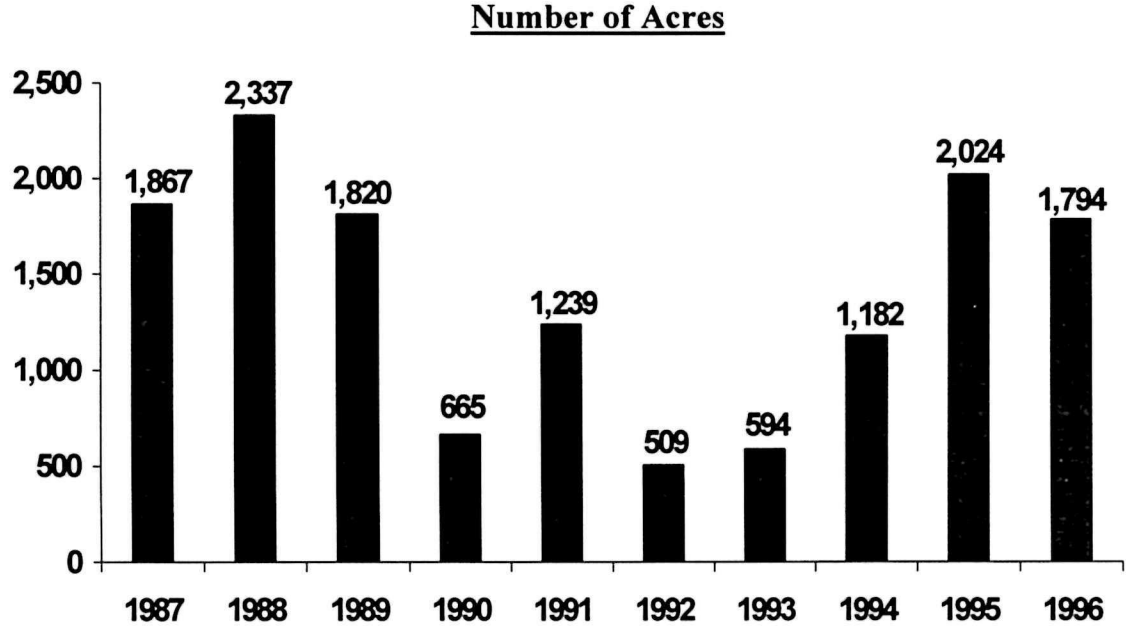


Number of Acres

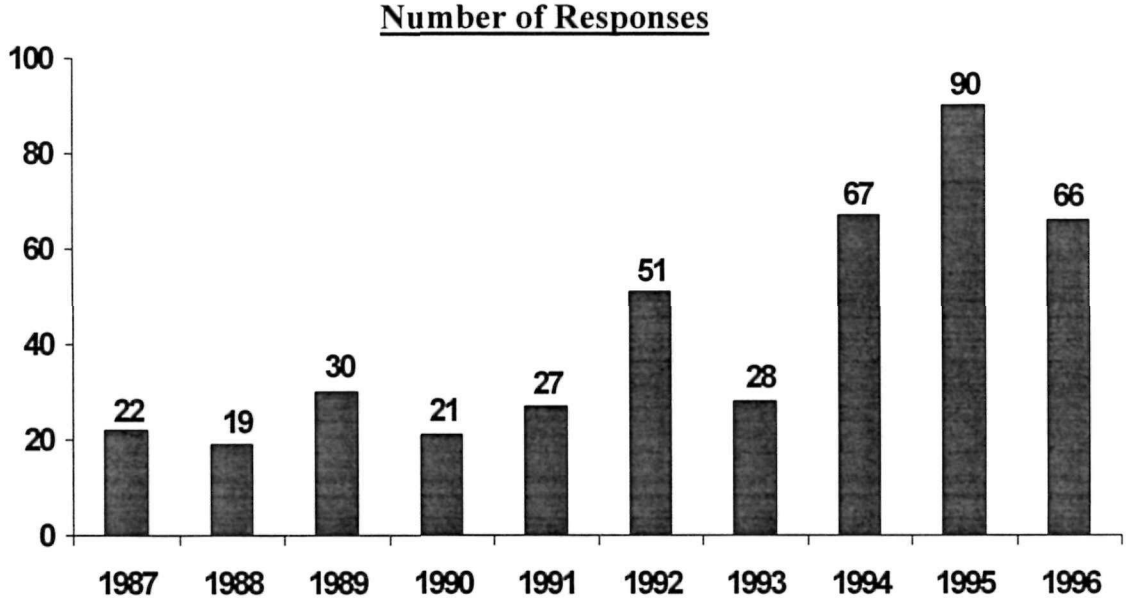


MIDWEST FIELD AREA
WILDFIRES, 1987-1996



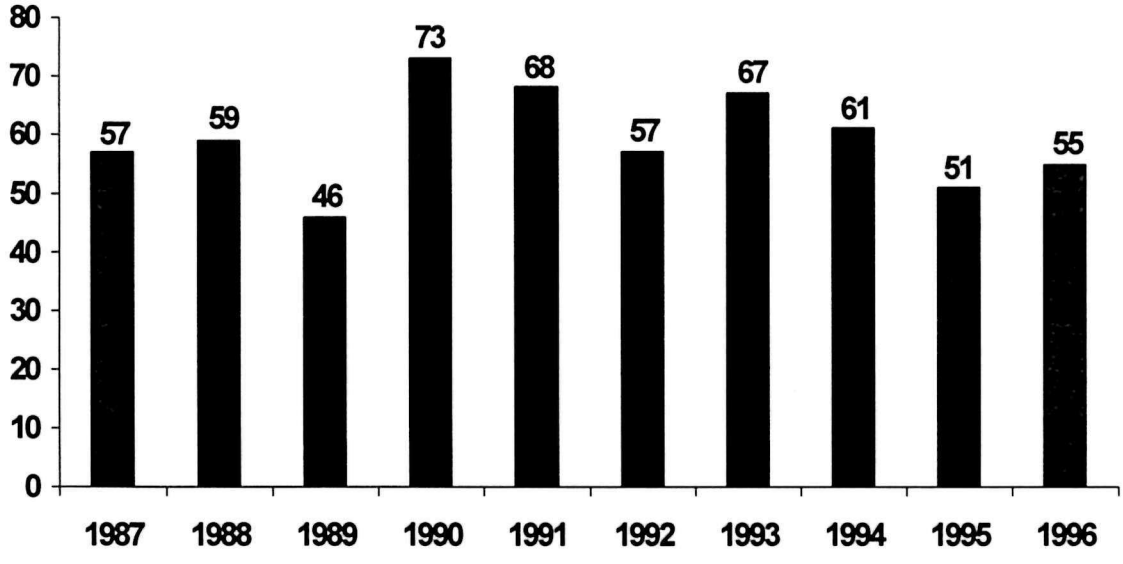


MIDWEST FIELD AREA
MUTUAL AID RESPONSES, 1987-1996

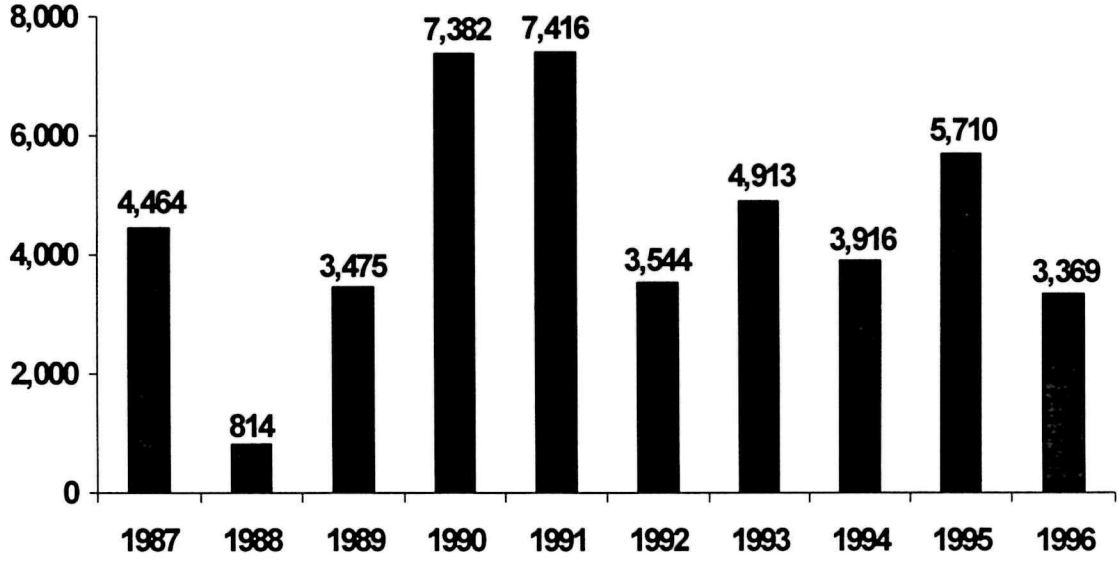


MIDWEST FIELD AREA
MANAGEMENT IGNITED PRESCRIBED FIRES, 1987-1996

Number of Fires

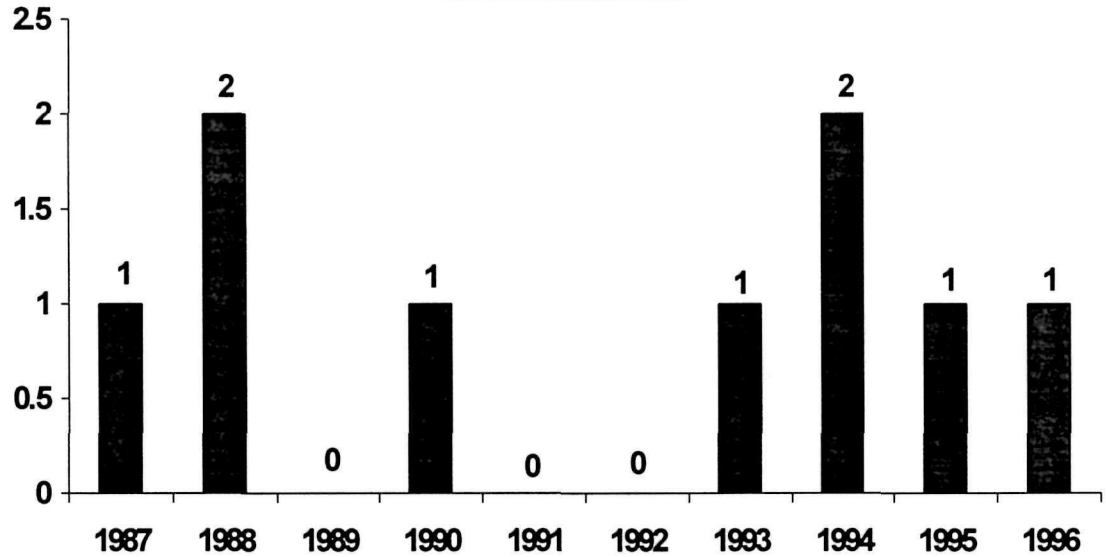


Number of Acres

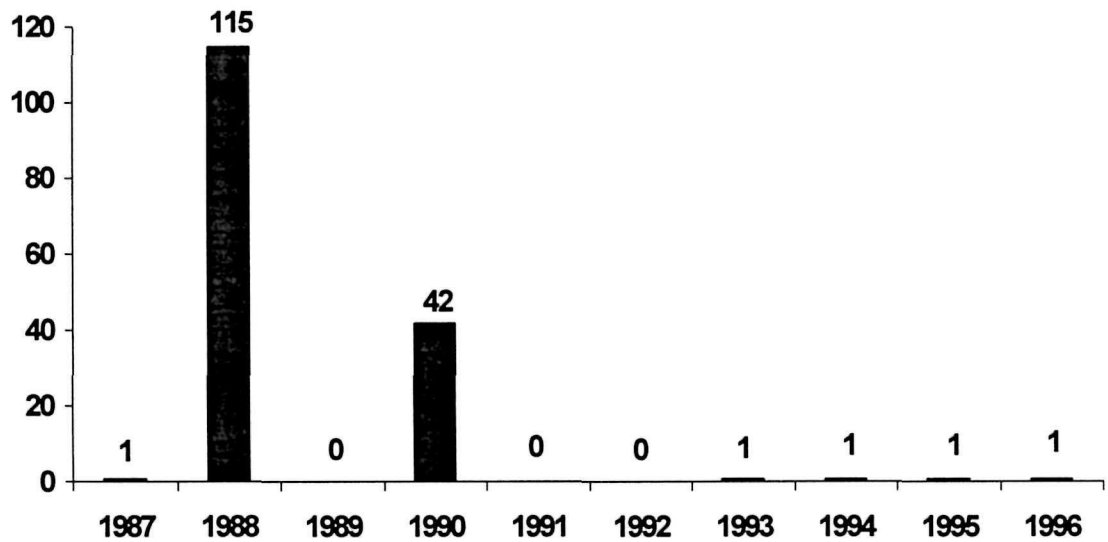


MIDWEST FIELD AREA
PRESCRIBED NATURAL FIRES, 1987-1996

Number of Fires

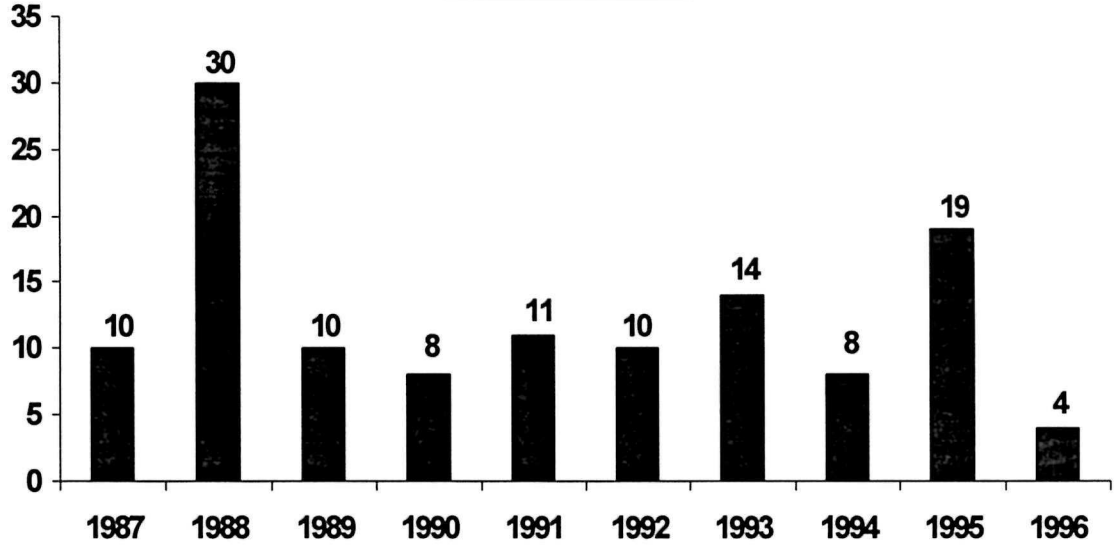


Number of Acres

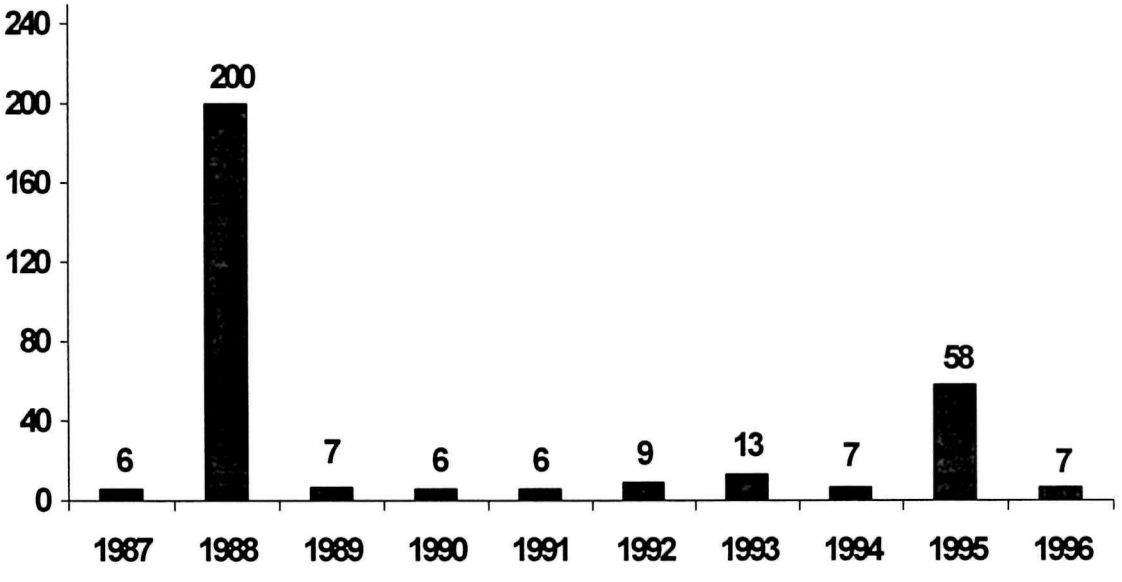


NATIONAL CAPITAL FIELD AREA
WILDFIRES, 1987-1996

Number of Fires

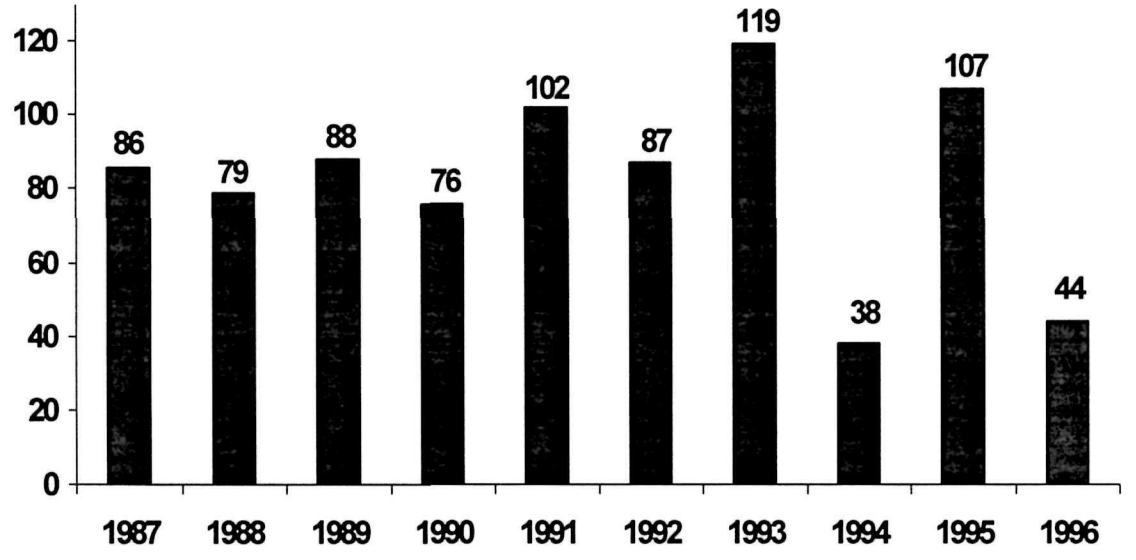


Number of Acres

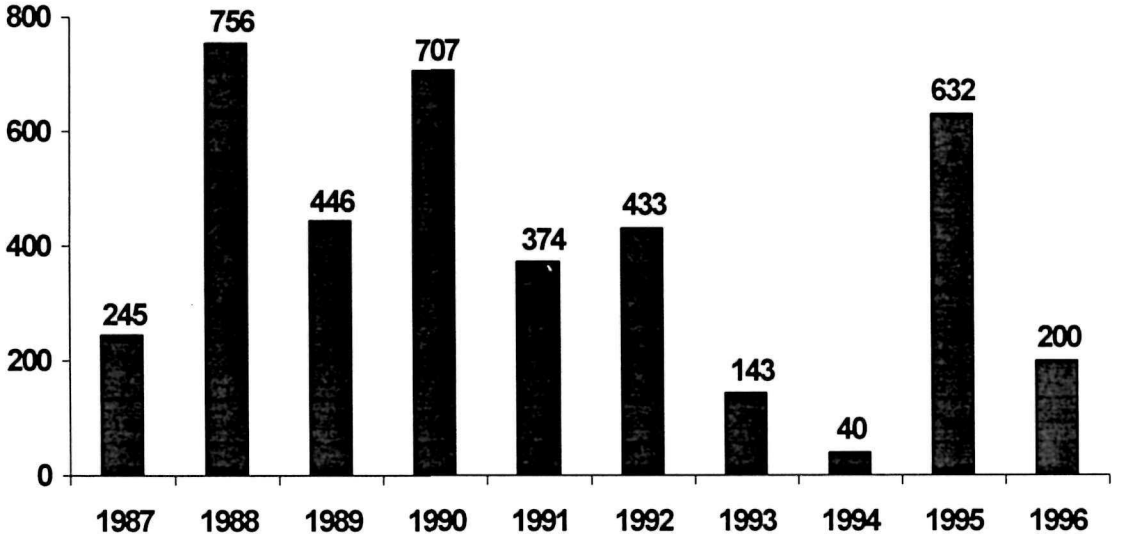


NORTHEAST FIELD AREA
WILDFIRES, 1987-1996

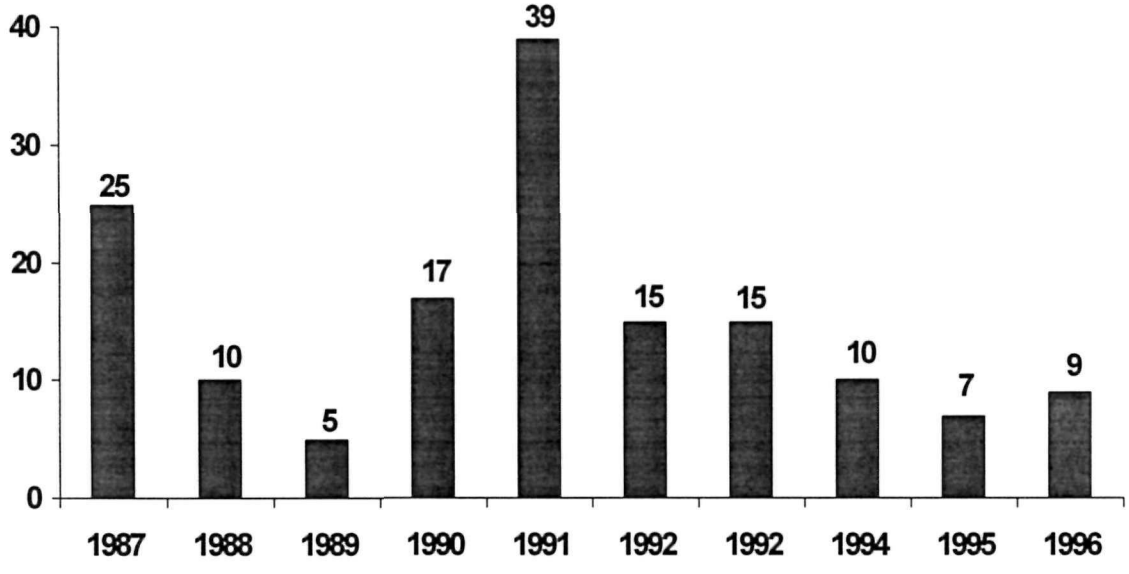
Number of Fires

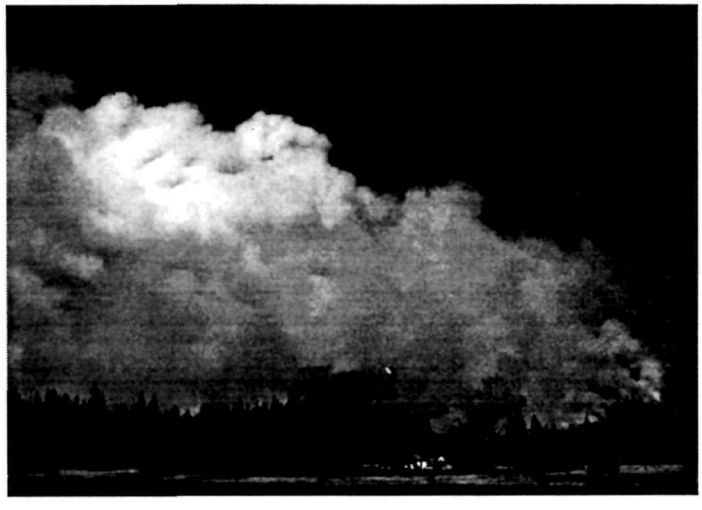


Number of Acres



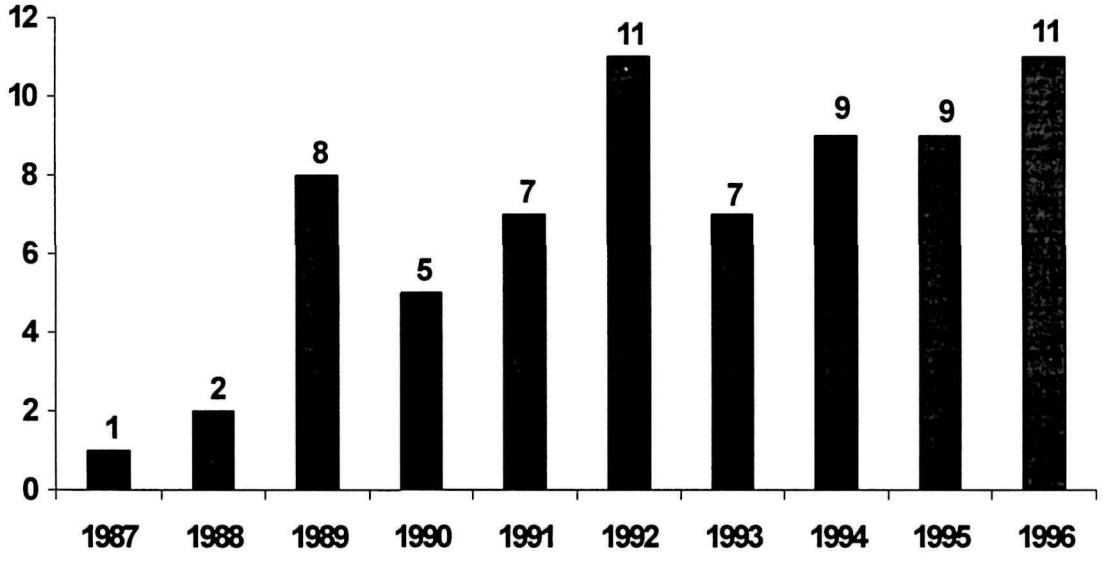
NORTHEAST FIELD AREA
MUTUAL AID RESPONSES 1987-1996



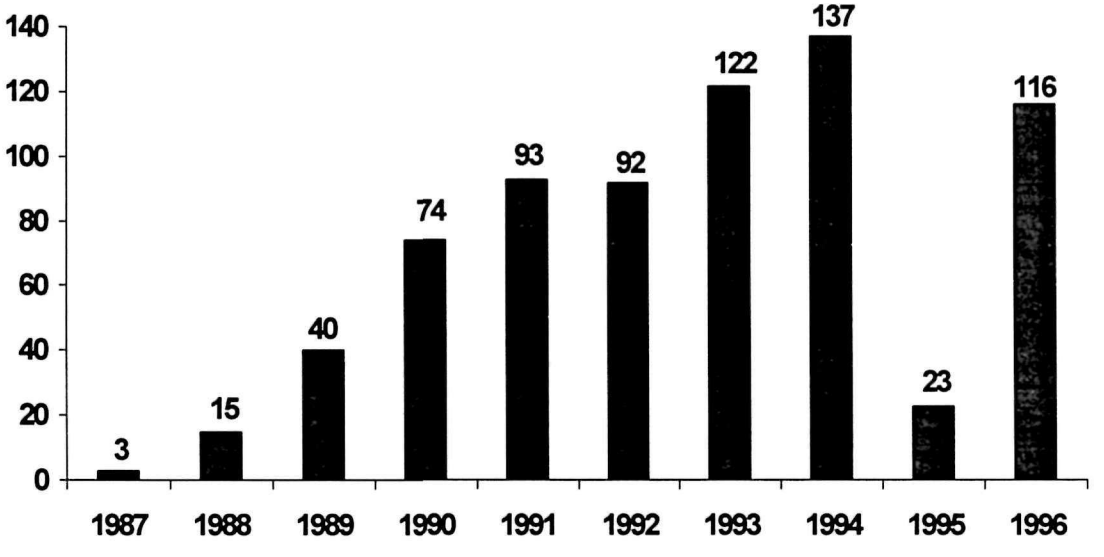


NORTHEAST FIELD AREA
MANAGEMENT IGNITED PRESCRIBED FIRES, 1987-1996

Number of Fires

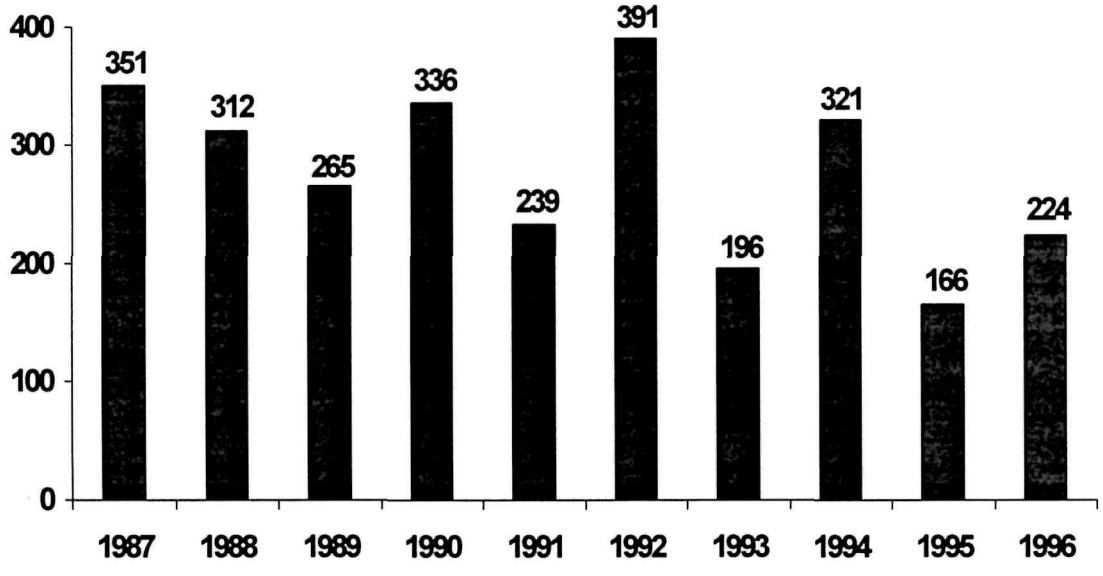


Number of Acres

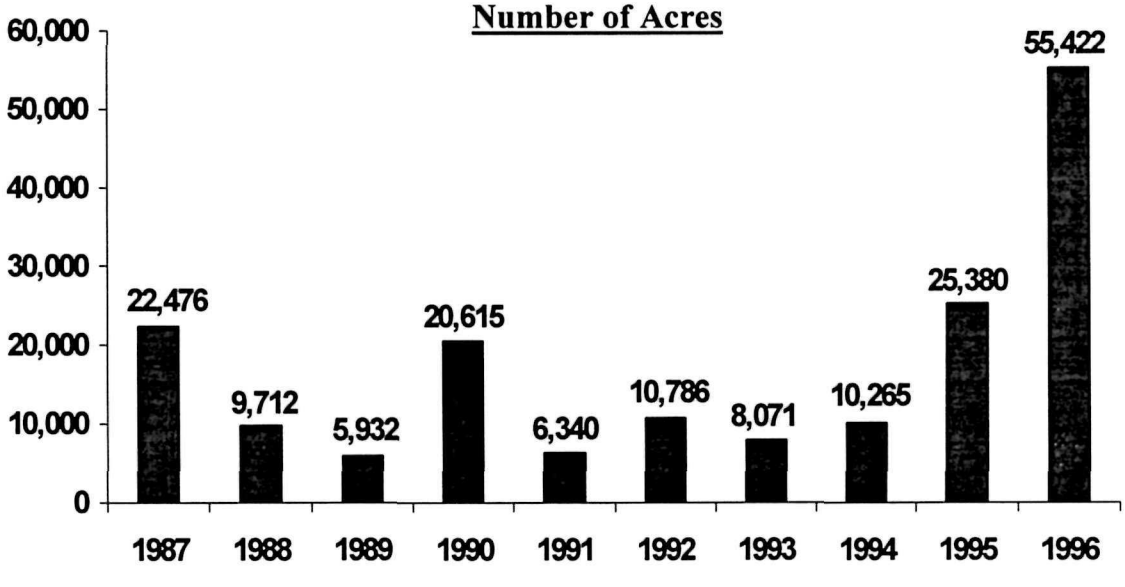


PACIFIC WEST FIELD AREA
WILDFIRES, 1987-1996

Number of Fires

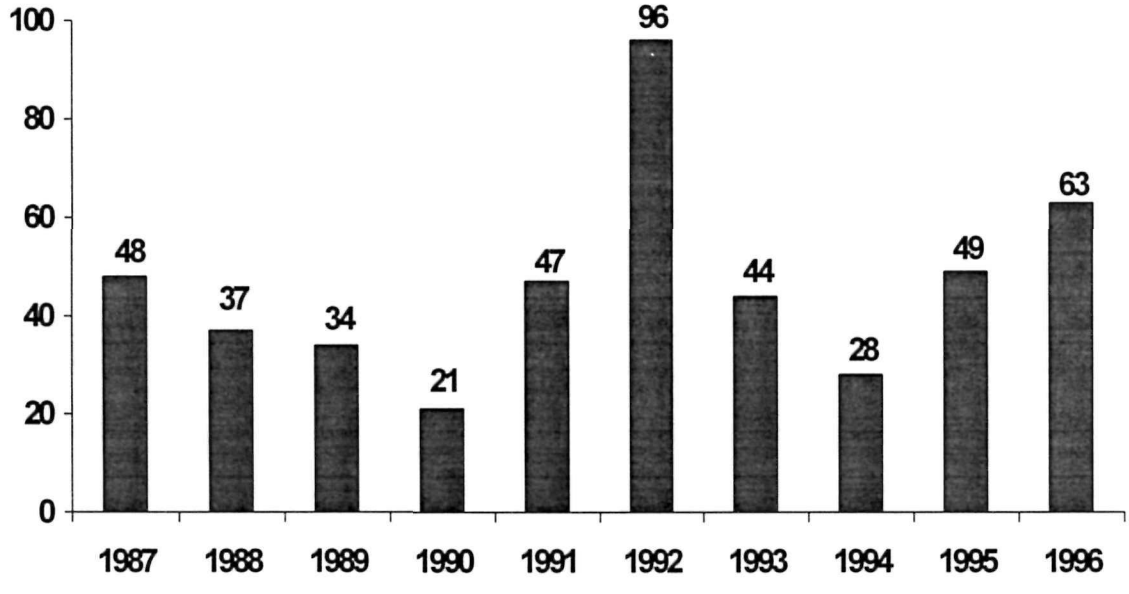


Number of Acres



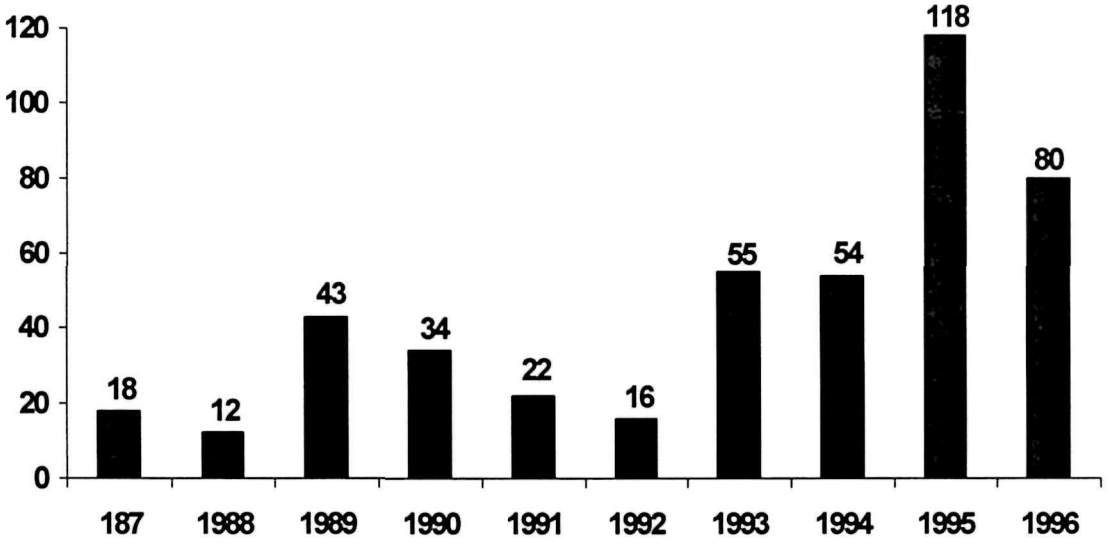
PACIFIC WEST FIELD AREA
MUTUAL AID RESPONSES, 1987-1996

Number of Responses

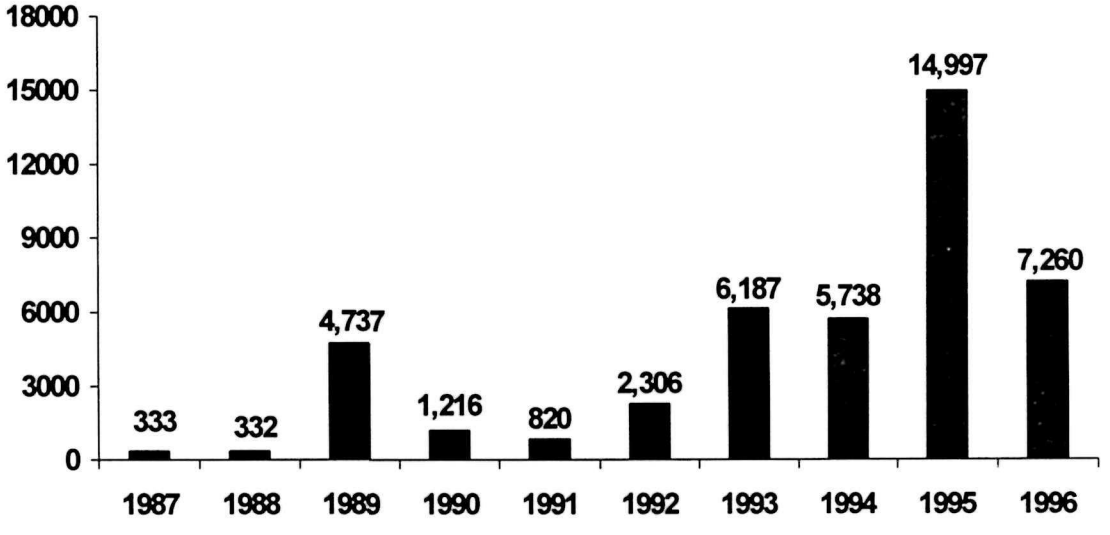


PACIFIC WEST FIELD AREA
MANAGEMENT IGNITED PRESCRIBED FIRES, 1987-1996

Number of Fires

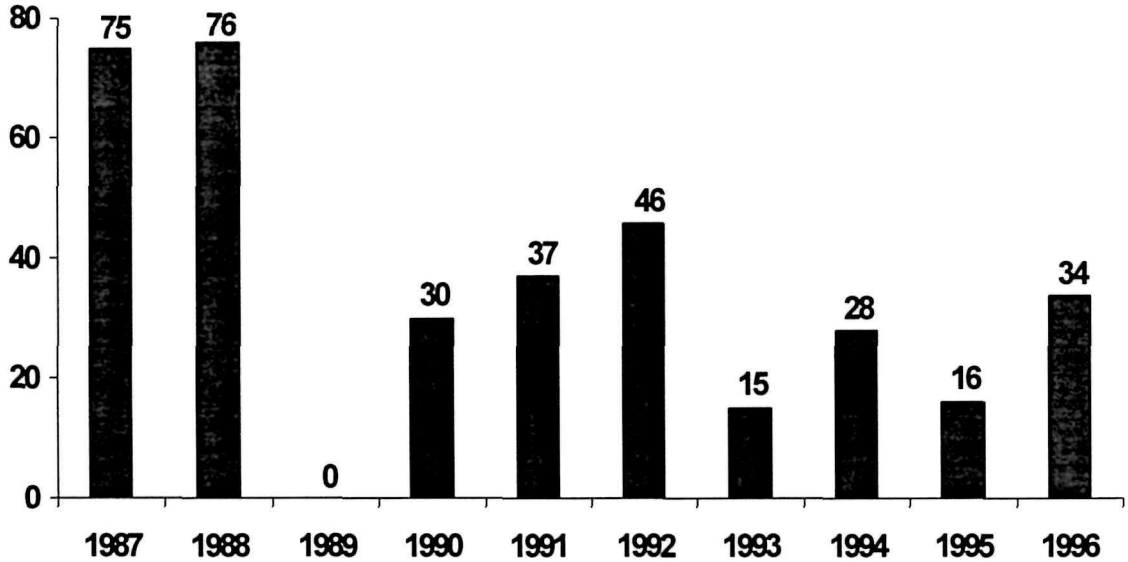


Number of Acres

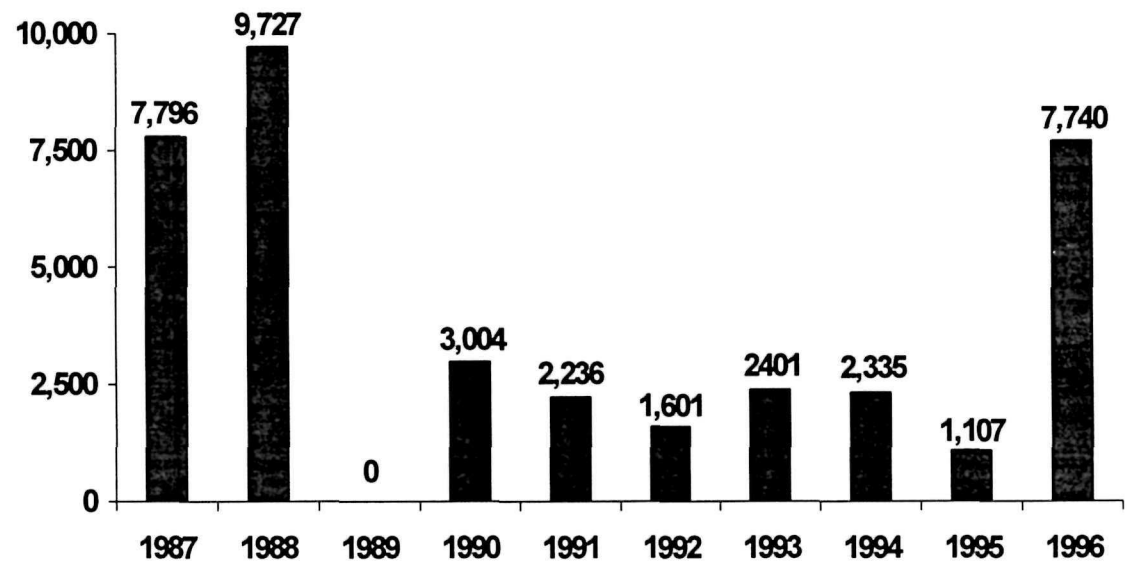


PACIFIC WEST FIELD AREA
PRESCRIBED NATURAL FIRES, 1987-1996

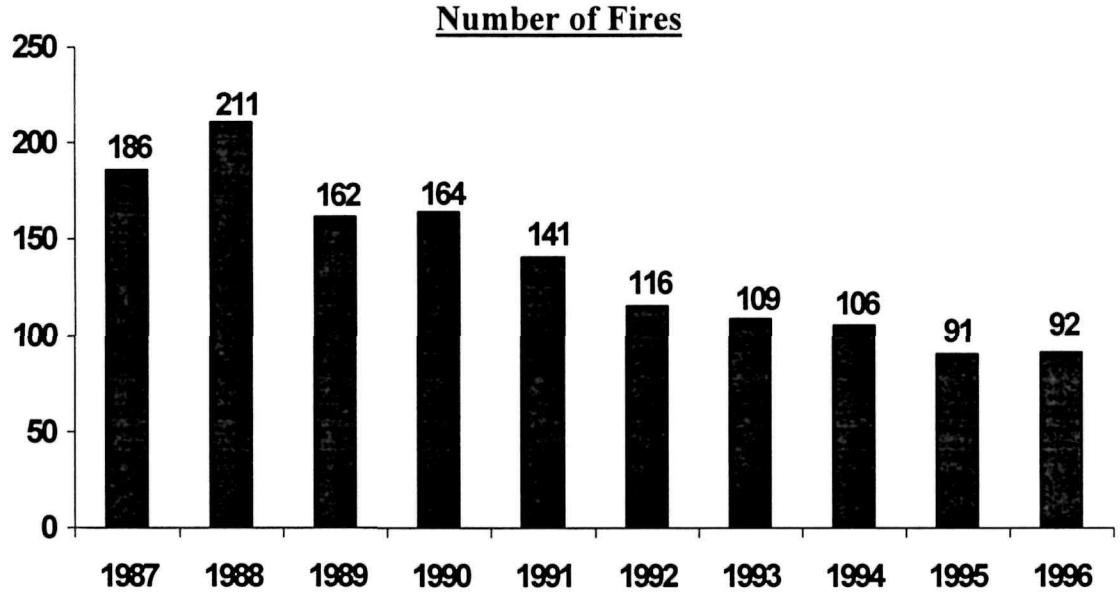
Number of Fires

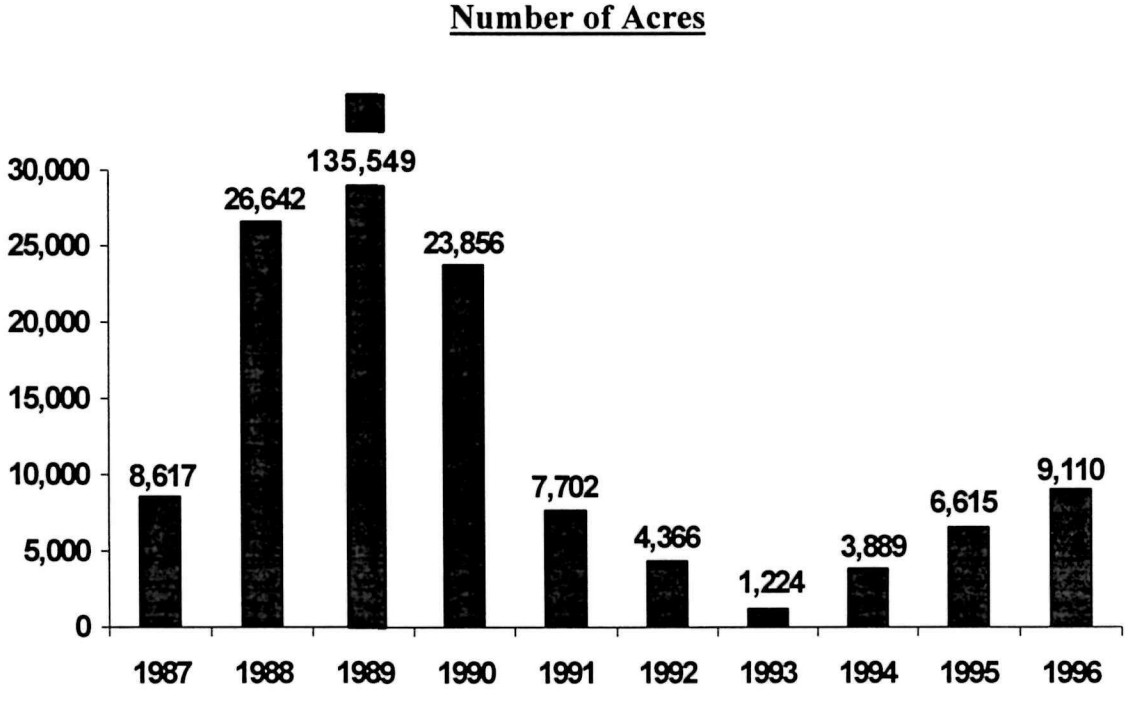


Number of Acres

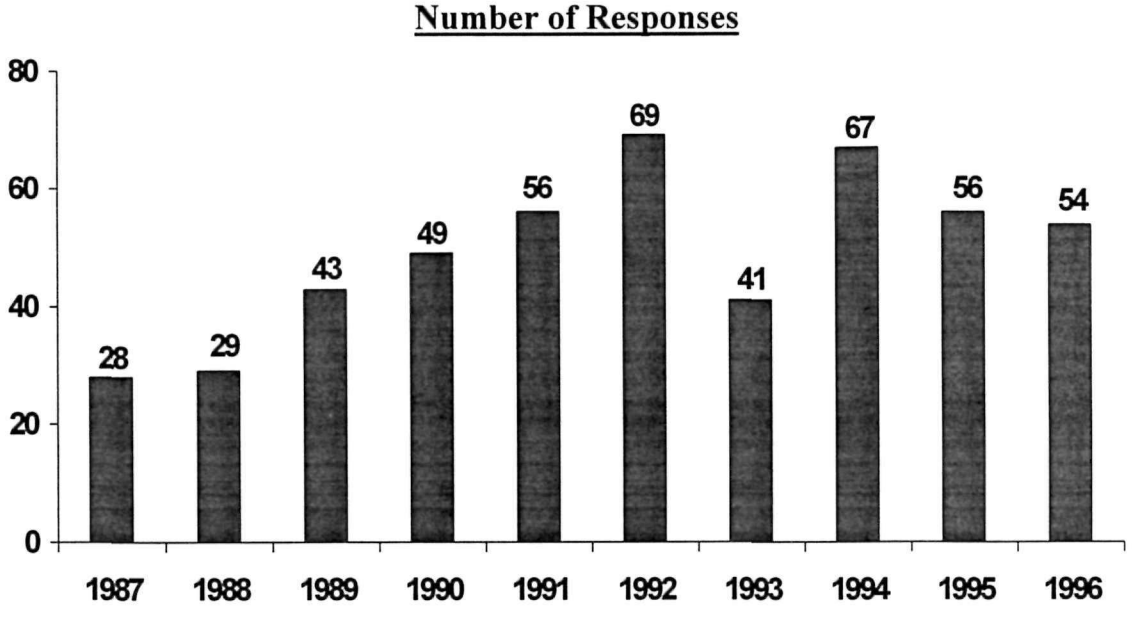


SOUTHEAST FIELD AREA
WILDFIRES, 1987-1996



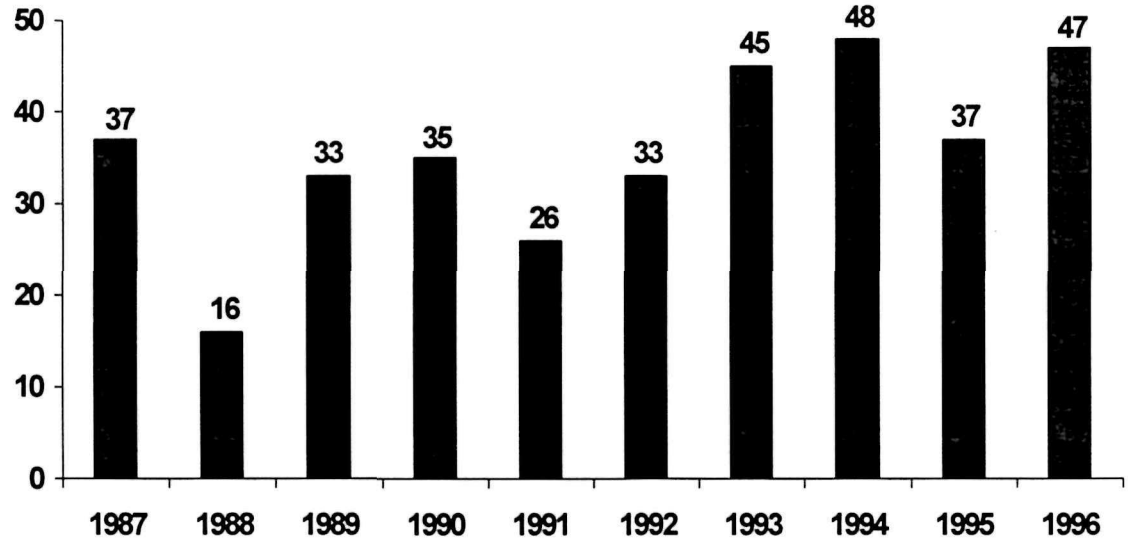


SOUTHEAST FIELD AREA
MUTUAL AID RESPONSES, 1987-1996

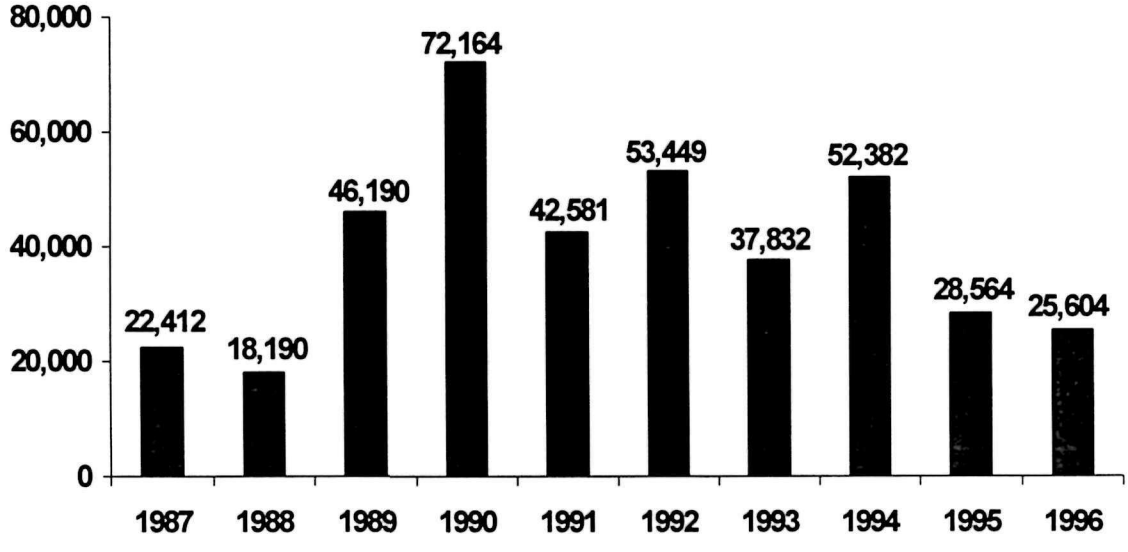


SOUTHEAST FIELD AREA
MANAGEMENT IGNITED PRESCRIBED FIRES, 1987-1996

Number of Fires

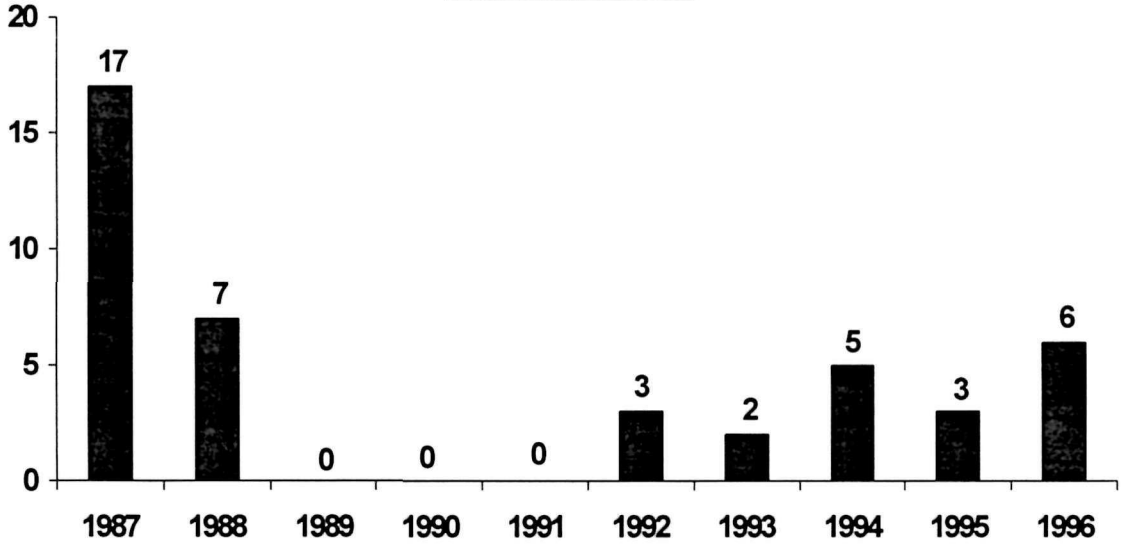


Number of Acres



SOUTHEAST FIELD AREA
PRESCRIBED NATURAL FIRES, 1987-1996

Number of Fires



Number of Acres