

U.S. Fish and Wildlife Service Fire Activity Report



1998

U.S. FISH & WILDLIFE SERVICE

ANNUAL FIRE ACTIVITY REPORT

1998

*Prepared by
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TABLE OF CONTENTS

1998 Fire Statistics

National Fire Summary	1
Regional Fire Summary	4
Wildfires	20
By Cause	21
By Size Class	21
By State	22
10 - Day Period	24
Wildfire Occurrence Map	
Prescribed Burns	26
Burn Plan Objective	27
By State	28
Prescribed Burn Occurrence Map	

1994 - 1998 Statistics

Region 1.	31
Region 2.	33
Region 3.	35
Region 4.	37
Region 5.	39
Region 6.	41
Region 7.	43

Regions 1-7 45

5-Year Average 49

False Alarms 49

Support Action 49

1989 - 1998 Statistics

Wildfires..... 50

Prescribed Burns..... 51

Department of Interior

Wildfires..... 52

Prescribed Burns..... 53



NATIONAL

The 1998 fire season saw some tremendous increases in prescribed fire activity in the Refuge System thanks to the new funding source. The 9263 account provides funding for operations and personnel in the form of new positions and extended tours of duty for existing less than full-time positions. FY99 will be the first full season of burning opportunities with most if not all positions filled.



April in 14 years. All of Abilene's monthly precipitation fell on April 26. In Florida, the streak of consecutive months with above average rainfall was broken as evidenced in Tampa, where they received only 36% of normal monthly rainfall. Large fire activity in April increased in the southern and eastern areas; however, few resources were requested through the National Interagency Coordination Center.

The increased burning activity by all Federal bureaus has raised concerns within the State air quality regulator community, as should be expected. This new level of interest has caused several refuges to become involved with their State air regulators in development of smoke management plans.

In early May, hot temperatures arrived in southern Texas and soon were common across the South, with high pressure dominating over the lower Mississippi Valley. Rainfall totals were generally less than 25% of normal from the southern Rockies across to Florida. Smoke from fires in Mexico and central America blanketed southern States, reducing visibility to less than one mile in some cases. In contrast, monthly rainfall topped 200% in much of the Pacific Northwest. Alaska continued above normal temperatures during the month.

The 1998 emergency fire operations saw direct affects from the El Nino. In a general sense, the continental United States saw warmth in the North and wet conditions in the Southeast. Many southern States experienced a period of extensive precipitation, which was then followed by an equally significant dry period in the Spring. For example, in December, Waco, Texas, received 8 inches of rain in one 24-hour period while Tampa, Florida, received an inch of rain on 7 different days.

Alberta, Canada was also experiencing major fire activity, where the Virginia Hills fire consumed more than 391,000 acres, causing the evacuation of the community of Swan Hills twice. The Mitsue Lake fire burned over 119,000 acres, also necessitating evacuations in the Mitsue Lake area. Thirty-four crews were mobilized to Canada. Miscellaneous overhead, supplies, equipment and an infrared aircraft were mobilized to Mexico. Additional equipment and supply requests were also filled for central American countries.

Dry conditions were noted by mid-March from New Mexico to southern Georgia and into Florida. April saw dry conditions increasing in Texas, where little or no rain fell during the month. Midland and San Antonio had the driest

June continued the hot and dry conditions in the south. Monthly rainfall of less than 25% of normal on the southern plains and in parts of eastern Texas and Florida was noted. By the second week of June, initial attack forces in Florida were fully committed and escaped fires were burning out of control throughout the northern half of Florida. Fire activity continued to escalate throughout the month in Florida, with several homes destroyed and numerous evacuations. Massive mobilization of all types of resources was occurring to Florida, as well as prepositioning of resources to Texas.

July continued the persistent drought in the Southeast. Record-high temperatures were reached in Florida and Texas. Severe fire activity in Florida persisted into July with numerous structures destroyed and evacuations, including an entire county. Some of the most significant fires that burned in Florida are: Flagler/St. Johns - 94,656 acres, Volusia Complex - 111,130 acres, Orlando Complex - 83,503 acres, Perry complex - 20,400 acres, Suwanee Complex - 36,508 acres, Jacksonville II - 16,865 acres and the Waccasassa Complex - 12,416 acres. As the month progressed, Florida finally saw some relief with the arrival of seasonal, wet thunderstorms. Large fire activity increased in Texas and Oklahoma through the month. Emphasis on maintaining vigorous initial attack resulted in most of the fires being contained within one to two burning periods.

Tropical Storm Charlie dumped significant rainfall in southern Texas, but areas in Texas away from this moisture continued the sixth month of the

drought. In August, drier than normal weather was common in the west, with record high temperatures experienced in most western States. Cool, wet conditions brought an end to the fire season in Alaska. Large fire activity in Texas and Oklahoma continued well into August, with new fires in the west mainly occurring in the Northwest geographic area. The Northern Rockies also saw large fire activity during the month. Teams managing fires for resource benefit were working in Idaho and Montana. Fire activity had again increased in Alberta, Canada, in August and eight crews were mobilized to assist with the Agnes Lake (83,500 acres) and Legal (41,700 acres) fires.

Southern California fire activity increased in September. Fire activity in the Northern Rockies escalated and numerous fires pushed by high winds escaped initial attack. By September 11th favorable weather aided suppression efforts and most of the large fires were contained in the Northern Rockies and Eastern Great Basin. Northern California also experienced increased activity. October brought typical fire activity to southern California and Virginia while Texas and New Mexico saw short duration, wind driven fires. Hurricane Georges resulted in incident management teams mobilizing to southern States and the Caribbean. During Thanksgiving week, the Stoney Lick fire resulted in the National Forests in Virginia mobilizing a type II team and crews. The second week of December a Type II Incident Management Team was mobilized to the Cheaha Wilderness fire on the National Forests in Alabama.

Generally, 1998 was a year of new

records in international mobilization and favorable timing of fire activity occurring in the United States. At no time was there a significant shortage of resources with geographic areas in competition

with each other. Agencies made effective use of preparedness funding and prepositioned resources to improve success.



REGION



Wildland fire occurrence was down this year and was very slow in developing. Late spring rains and above-average snow depths kept live fuel moisture high throughout much of the traditional fire season. There were a total of 36 wildland fires for 11,679 acres. The fire season got started early with out-of-Region assignments to Florida, Texas and New Mexico. At one point, the Region had 45 folks committed to these areas and only overhead with untrained/unrefreshed crews remained.

There were two significant wildland fires this year. One occurred at Klamath Basin NWRC. Ironically, the fire was started by a mower cutting grass for a fence survey crew so that the catalytic converters on their vehicles wouldn't start the tall grass on fire. Barbed wire got tangled in the mower and sparked, causing the fire. The second fire was at Hopper Mountain NWR in California, which burned over 1,200 acres. This fire came onto the refuge from adjoining lands - the second year in a row that scenario has happened.

The new funding authority in the 9263 subactivity has enhanced the numbers of personnel and length of duty at major stations. Late staffing approval (4/98) slowed accomplishments some, but the program jumped into high gear to tackle the huge backlog of burning/treatment that needs to be done. The Region had 129 prescribed fires for 35,791 acres. Mechanical/chemical pre-treatments of hazard fuels were required on several refuges due to heavy fuel concentrations.

Personnel changes have been moderate in the Region, but significant just the same. Eric Hagen left Columbia NWRC for the BLM in Salmon, Idaho. His replacement is scheduled to be in position in early 1999. Joette Borzik left her FMO position at San Diego NWRC to become the Service Fire Training



Specialist in Boise. Her interim replacement, Bill Molumby, is familiar with the San Diego area fire situation, having worked for the Forest Service nearby. Five new prescribed fire specialists were staffed to facilitate the prescribed burn program in the Region. These PFS positions will greatly enhance the use of prescribed fire within the zones by focusing their efforts exclusively in that arena.

Air quality issues are increasingly important in the Region. Both Idaho and Nevada are in the process of writing smoke management plans. The central valley of California has tightened restrictions on burning as well. The Service is represented in each of these endeavors. Increased coordination will be necessary to continue the burn program, especially when members of the interagency community are all trying to burn at the same time.

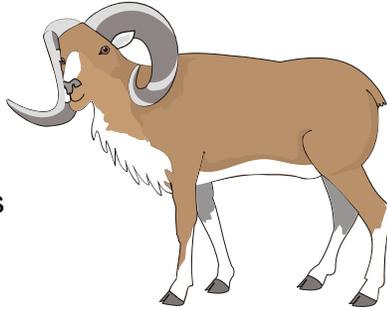
Interagency cooperation is at an all-time high within the Region. Fire crews assisted on 84 support actions during 1998. The single most important accomplishment on an interagency basis was the signing of the Master Cooperative Fire Protection Agreement for the Pacific Northwest. It was 2 years in the making.

Wildland Fire Suppression Operations

100 wildland fires
15,123 acres burned

Oklahoma Stations:

Wichita Mountains Wildlife Refuge: The Refuge responded to 18 wildfire incidents in 1998. These fires ranged in size from 0.1 to 2,307.5 acres. Quick response to fire reports and effective initial attack kept 83% of the fires less than 10 acres in size.



WMWR provided seven people for interagency fire assignments. Duties performed were Strike Team Leader - Crew, Strike Team Leader - Engine, Crew Boss, Engine Boss, and Firefighter. A total of 130 staff days was spent providing interagency support to wildfire suppression.

Texas Stations:

Texas goes from wildfires to floods.

Daily Fire Activity Briefings:

6/27/98 Prognosis - Situation reports for the Texas Refuges show VERY HIGH to EXTREME Fire Danger Rating. The extended drier and hotter conditions than normal triggered approved emergency preparedness funding for the movement of additional firefighting resources.

8/9/98 Prognosis: After a rainfall from isolated systems, 0.8 inches, the heat has continued to dry out the area and elevate the fire danger to near previous levels. Weather for the Hill Country is forecasted to continue with afternoon

temperatures at, or above, 100 degrees. Relative humidities will fall into the mid 20s in the 1600-1800 hour bracket. Initial attack in the area continues with fires reported daily with cooperators in the Refuge area. Efforts continue to support Texas State and FEMA prepositioning of resources. Two Type I Helicopters, a Type II Helicopter, a Type III Helicopter, and two Type I Hand Crews, are currently staged at Balcones Canyonlands NWR as part of the TFS and FEMA strategies.

9/9/98 Prognosis: Tropical depression in Gulf is expected to turn into a tropical storm by the end of the day. This poses a significant threat to the Gulf Coast with increased winds and high potential for thunderstorms.

National, Geographic, and Local Cooperation/Coordination: The Anahuac and McFaddin Fire Management Program sent a member of the fire staff to the 5-month detail with the Southern Interagency Hotshot Crew program, the National Type II Helitack Program for 3 weeks, and detailed engine crew personnel to support Bitter Lake NWR.

New Mexico Stations:

Refuges in the State of New Mexico had 5 wildfire incidents for a total of 1,205 acres burned. A wind-driven, lightning-caused fire on Sevilleta NWR was controlled at 1,200 acres. A Type III Incident Management Team, 2 Type II crews, and 5 engines were assigned to the incident.

Arizona Stations:

Buenos Aires NWR: 1998 was a very low year for wildfires on the Refuge. We had three, one human-caused and two lightning starts. The human-caused 6.5-acre fire on the Clark unit was started by a successful bidder cutting up scrap metal for removal. The fire crew had been notified that cutting torch work would occur on a certain piece of heavy equipment, so a 20-foot black line was burnt around it. The wind that day carried sparks across the black line into some heavy grass. The two lightning starts were 0.1-acre spots that were rained out around the time the engines arrived.

Lower Colorado River Refuge Complex: The South Dike Incident began on Sunday, July 5, 1998. The initial attack was unsuccessful; additional resources were ordered and operated for one burning period as an extended attack operation. The extended attack under the ICT3 was also unsuccessful and on the evening of July 6, the Northern Arizona Type II Incident Management Team was ordered to the incident.

7/7/98 News Release: [Wildfire Rages Along Colorado River](#)

Mohave Valley, Arizona. Two days ago, firefighters began attacking the "South Dike Fire" on Havasu National Wildlife Refuge, 6 miles south of Needles, on the Arizona side of the Colorado River. High temperatures, heavy fuels and gusty winds hindered suppression efforts. Flames more than 50 feet high raced over the hills, until the blaze consumed over 2,200 acres of significant wildlife habitat by 5:00 a.m. this morning. This area is a very important nesting spot for the endangered Southwestern Willow Flycatcher. The fire is burning near the

River in heavy salt cedar, arrowhead weed and mesquite in an area that is difficult to reach. So far, over 140 firefighters and support personnel have been sent to the fire. Four bulldozers, 3 helicopters, and 2 air tankers will be helping today's efforts. No evacuations have been ordered and local homes are not yet threatened. However, since this fire has been burning so intensely and has covered ground quickly, firefighters are watching the fire's progress very closely.

Prescribed Fire Operations

Region 2 applies fire to meet specific burn objectives.

**1998 On-the Ground Results:
114 prescribed burns
57,972 acres**

Oklahoma Stations:

Wichita Mountains Wildlife Refuge: During 1998, we completed four prescribed burns on WMWR. The Big 4 (Type 2), Cedar Mountain #1 (Type 2), Cedar Mountain #2 (Type 2), and Quanah Creek (Type 1) units totaled 7,018 acres. To complete these controlled burns, additional personnel from Balcones Canyonlands NWR, Washita NWR, Pocosin Lakes NWR, and firefighters from the Comanche Tribe were used.

The Oklahoma Prescribed Fire District (including Washita, Optima, Salt Plains, Deep Fork, Tishomingo, Hagerman, Little River, Little Sandy, Sequoyah, and Oklahoma Bat Cave National Wildlife Refuges and Tishomingo Hatchery) receives assistance from WMWR fire staff. The primary goals of the District include returning fire as a natural element of resource management and ensuring safety of all personnel involved in fire activities. During 1998, the

District completed 17 prescribed burns on 1,641 total acres.

Texas Stations:

Texas Refuges burned 77 units by prescription for a combined total of 25,531 acres. The Balcones Canyonlands prescribed burn module was instrumental in the level of burn day operations support provided to Refuges in Texas. Rx Fire Specialists are on board, or soon to be.

Mexico Stations:

May 1998 Fish & Wildlife News: **Rx: Fire----Interagency Effort Gets the Job Done.**

More than 100 firefighters conducted a highly successful prescribed burn this March on Bitter Lake NWR in southeastern New Mexico. Carried out on about 10,000 acres of grassland and upland shrub habitat in the Salt Creek Wilderness, the burn was a routine exercise designed to maintain the

“brush-free” character of the native perennial grasslands by halting the invasion of mesquite and controlling the spread of exotic salt cedar. The burn would not have taken place, however, had it not been for an unprecedented cooperative effort involving several federal agencies and a local firefighting team. Personnel from Dexter National Fish Hatchery and Technology Center, the U.S. Forest Service, the National Park Service, the Bureau of Indian Affairs, the Bureau of Land Management and the Town of Berrendo Volunteer Fire Department assisted eight Service fire management teams from four southwestern states. See the rest of the story in the May 1998 Fish & Wildlife News.

Arizona Stations:

Buenos Aires NWR: Burning at Buenos Aires began on May 18th and continued through June 1st, with 10 units being treated. The target number of acres was 12,939. Sixty-six percent, or 8,504 acres, were successfully burned.

REGION



For Region 3, 1998 was the best year in the last 20 for the use of prescribed fire, and Minnesota refuges and Wetland Management Districts led the way. An excellent spring burning season, combined with the new funding authority for prescribed burning, allowed many field stations to exceed by two or three times the normal acreage treated for hazard fuel reduction and habitat management. Almost 52,000 acres of agency lands were treated in Minnesota alone. Agassiz NWR won the prize with nearly 13,000 acres.



The new funding authority allows managers to think in ways never before possible. As an example, FWS personnel were detailed for a 21-day period to augment station personnel in the execution of burns. The Regional Office paid travel, per diem and salary for the detailed crew members. This kind of detail allows receiving stations to benefit from practicing prescribed fire and getting task books signed off in new fuel types.

A Success Story

Detroit Lakes Wetland Management District, in west central Minnesota, was the beneficiary of such an arrangement this year. Three highly qualified fire personnel from Region 4 were hosted by the District. With additional help, the District was able to double the "historic high" burned acreage with 8,924 acres

treated. One of the most remarkable aspects of this accomplishment was that it was not done on 2 or 3 large units, but rather in 36 individual burn units on Wetland Management Areas with over 91 miles of perimeter. Biological objectives of wood brush reduction and cool season grass reduction were successfully met.

Monitoring, especially of first order fire effects, continues to be a high priority of the Region. A standardized protocol is being developed and near completion to offer to stations without a current monitoring strategy. It is based on the revised and greatly improved version of the National Park Service Fire Monitoring Handbook.

Training in the Region is primarily directed toward qualifying personnel in prescribed burn jobs, up to and including Prescribed Burn Boss II. Several stations have at least one staff person qualified at the FWS Prescribed Burn Boss III level.

Fire personnel from the Region assisted with suppression assignments in Florida, Texas and Arizona.

REGION



Region 4 had 147 wildfires covering 23,066 agency acres in 1998; 31,076 (96%) acres were burned in 34 (18%) fires. The Honey Scrub fire was the largest and burned 4,876 acres at Okefenokee Refuge in Georgia. A National Type I Team was used on the Honey Scrub fire, a first for the Region. Significant presuppression assistance for Florida refuges was received from other Regions, including several details of FMOs to St. Marks to fill behind John Fort after he went to the Prescribed Fire Training Center.

The assistance provided was greatly appreciated. Some assistance was provided to Region 2 early in the season.

In spite of the wildfires, there were 318 prescribed fires conducted involving 89,325 agency acres. This area is about 65% of the 1998 planned acreage. The primary reason for not getting more acreage completed was the length and severity of the '98 fire season. The correlation between prescribed fire acres burned and the amount of wildfire mobilization seems to hold as it has since 1990.

The fire season started in January, and there were still detailers working in the Coordination Center during the Christmas holiday. Refuge firefighters worked on interagency fires in the geographic area until after Thanksgiving. The action gaining the

most press was of course in Florida, although suppression action in Texas lasted longer, running into the early part of October. Drought conditions are still with us and the 1999 spring season in the southeast could look a lot like 1998. As of the end of the year, drought indices in south Georgia and north Florida were running in the 600s, compared to a normal of around 300.

Assistance was provided on 35 different fires by local units, in addition to the support provided to both Florida and Texas State. 26 of the

support actions took place in Florida and Georgia. Positions provided ranged from Type II Operations Section Chief to Air Operations Branch Director to Engine Operators and firefighters.

In all-risk activities we provided some assistance during the flooding in the Lower Mississippi Valley in February and March. After the Florida fires in late summer we provided assistance in Puerto Rico, Florida and Mississippi after Hurricane Georges. Damage repairs in the Region funded by Congress totaled \$19+ million. From drought to flood was the name of the game in parts of the Region.

For fires we supplied 91 individuals; filled 141 assignment requests; contributed 1,776 staff days (6.81 FTEs); supplied 33 pieces of equipment for 671 use-days.



For FEMA we supplied 3 individuals; filled 3 assignment requests; contributed 16 staff days.

Ray Farinetti retired in September, leaving a position open at Merritt Island which is yet to be filled. John Fort is now Director of the Prescribed Fire Training Center in Tallahassee. This is an interagency operation, with FWS providing the Director and the Forest Service providing most of the rest of the support. Bob Eaton has taken John's place as FMO at St. Marks; he comes to

us from the Forest Service in Tennessee.

Three of our seven FMOs are now on Regional type 1 or 2 teams, with two more on the trainee list. In addition, two other individuals have expressed an interest in working towards team assignments. Tony Wilder (Mississippi Sandhill Crane) is now qualified as an OSC1 on the Regional overhead teams. He is also carded as an OSC2 for a Park Service Fire Use Team.



REGION

1998 was a year of contrasting weather patterns in the eastern U.S., and Region 5 was no exception. The El Nino influence brought heavy precipitation and unusually warm weather during the early months, which resulted in an early and vigorous green-up. This narrowed the window on our April-May spring burn season and affected the number of proposed prescribed burns which were actually accomplished. This period of abundant moisture was followed by prolonged drought during the summer and fall months, with the most extreme KBDI values occurring in the eastern mid-Atlantic states.



In spite of adverse weather conditions, refuges managed to increase the number of acres treated with prescribed fire by 55% over the 1993-1997 average. With Fire Management Plans completed, prescribed burning was introduced to the land for the first time at Montezuma, Rachel Carson, Great Bay, and Ninigret. Long Island refuges expanded burning treatments to include pitch pine and mixed oak woodlands. Great Dismal Swamp conducted the largest single prescribed burn since refuge establishment, encompassing 1,360 acres of pocosin-pond pine fuels in Virginia and North Carolina. What appeared to be a near textbook, relatively problem-free burn one day became the top local news story the next morning due to significant downrange smoke impacts in the Norfolk-Portsmouth metro area. Following extensive mop-up to eliminate the problem, refuge staff met with RFMC Carter to conduct a thorough

post-burn critique and recommend changes for the 1999 burn program.

Cooperative prescribed burning efforts were particularly noteworthy in Maryland and New York. Blackwater and Maryland DNR provided mutual assistance in burning their adjacent marshes and initiating burn evaluation studies. Staff at Montezuma provided assistance to The Nature Conservancy and U.S. Forest Service in western New York. Long Island refuges have formed the Long Island Prescribed Fire Cooperators together with The Nature Conservancy, Fire Island National Seashore, Suffolk County Parks Department, and New York State Forest Rangers. The Cooperators met several times in 1998 to coordinate fire training needs and prescribed burn resources.

Outreach and education efforts intended to inform the public of the beneficial uses of fire took a major leap forward in 1998. Thanks to Region 2, a quantity of prescribed fire informational brochures was distributed to refuges and put to good use. Moosehorn, Sunkhaze Meadows, and Blackwater were among several refuges which included presentations on prescribed burning as part of National Wildlife Refuge Week. Long Island refuges developed a portable display on "Wildfire and Prescribed Fire on Long Island." The display has been used at refuge events, fire training sessions, the Long Island Pine Barrens Research Forum, the National Wildlife Refuge Conference in Colorado, and at a meeting of the local chapter of the Sierra Club.

Blackwater experienced the most wildfires of any Region 5 refuge, with 12 fires totaling 524 acres. Severe drought conditions in Maryland during the summer and fall prevented refuge staff from participating in interagency fire assignments with the exception of two hand crew assignments in Florida. Emergency preparedness funds were used to bring fire crew personnel back into service. Refuge personnel assisted Maryland DNR Forestry employees in responding to several wildfires in the local area.

Other assists included emergency preparedness engine crew details from Maine refuges to McFadden, Florida Panther, and Bitter Lake refuges; hand crew assignments from Great Dismal Swamp to Florida fires, and from Maine and Long Island refuges to the Northern Rockies Region and the Challenge Fire near Glacier National Park; an engine boss assignment from Sunhaze Meadows to the state of Texas, and an assist from Moosehorn to the Maine Forest Service. FMO Dave Brownlie of Great Dismal Swamp was particularly active, completing a Helicopter Manager detail in Florida, a Support Dispatcher assignment at the Southern Area Coordination Center in August, a Situation Unit Leader assignment in Puerto Rico following Hurricane Georges as part of the Southern Area Type I IMT, and finally as Sit Unit Leader and interim Plans Chief on the Stony Lick Fire in Virginia in November.

FMO Brownlie served as course coordinator/lead instructor for S-130/190 and I-100, put on jointly with Virginia Department of Forestry and Virginia Department of Conservation and Recreation. RFMC Carter and FMOs Brownlie and Vollick presented S-290

Intermediate Fire Behavior and S-131 Advanced Firefighter to an interagency audience at NCTC in March.

Region 5, represented by FMO Brownlie, continued participation on the Virginia Multi-agency Coordinating Group. Besides dealing with an above average wildfire activity level within Virginia, this group focused on finalizing movement of the Virginia Interagency Coordination Center (VICC) from Luray to Charlottesville. A VICC Center Manager was selected following a lengthy, nationwide recruiting effort. Region 5 is committed to a 10% share of the projected operating expenses for VICC under the current approved agreement.

Fire Management Plans completed and approved in 1998 included Moosehorn and Great Dismal Swamp. At the close of 1998, new plans were being developed for Blackwater, Long Island, Iroquois, Forsythe, Cape May, Back Bay, James River/Presquile, and Chincoteague. RFMC Carter and FMOs Vollick and Brownlie provided a large amount of time and effort toward completion of these FMPs.

On the equipment front, a major new development was the acquisition of five military excess M548 tracked, LGP munitions carriers from Fort Campbell, Kentucky. Two were assigned to Great Dismal Swamp, one to Moosehorn, one to Blackwater, and one to Pocasin Lakes in Region 4 for use as tracked, off-road Type 5 "engines" and ignition units. All were in near-new condition, and listed value when new was \$220,000 each. All machines were outfitted with brush guards, personnel compartment enclosures, and 500-gallon slip-on pumpers. The M548 is

popular in the Southeast coastal plain, the Lake States and Maine, where fire in peat wetlands is common.

The DOI-funded research study, "Use of Prescribed Fire for Management of Old Fields and Grasslands in the Northeast," was awarded to Dr. Rich Malecki of the New York Cooperative Research Unit at Cornell University and undertaken by grad student Laura Mitchell. Laura completed the first year of this study, which is examining the effect of various prescribed fire and mechanical fuels

treatments in retarding woody succession. Experimental treatments were conducted at Iroquois and Montezuma Refuges, as well as Nature Conservancy and Forest Service lands.

RFMC Carter continued to serve on the FIREBASE development group, which met periodically in Boise. Carter also served as FWS representative on the Joint Fire Science Plan Governing Board, which oversees allocation of DOI and Forest Service fire research funding.

REGION

Refuges in Region 6 had a very productive year establishing new benchmarks for the number of prescribed fires and acres burned. The new prescribed fire funding authority and the Fire Management Zone concept has provided many refuges an opportunity to complete prescribed fire projects which they were unable to accomplish in the past due to insufficient staffing and support.

All refuges in the Region continued the process of revising and updating their Fire Management Plans (FMP). To date 13 plans have been completed and the remaining 15 are in various stages of development or review.



The Region continues to place a high priority on getting the necessary training and experience required to meet NWCG and Service standards for all of its employees involved in fire management activities. A total of 199 students completed 30 training courses. Two individuals attended the Florida Prescribed Fire Training Academy and one participated in a 21-day helitack detail in Colorado. Others were detailed to refuges in and out of Region to gain wildfire and prescribed experience, and complete Position Taskbooks.

Members of the Regional fire staff conducted station reviews at 11 refuges. The Region's fire program has benefitted immensely from these one-on-one station reviews, and refuge personnel thought they should be used as a model for other programs.

Hallie Locklear was hired as the Regional

Fire Program Assistant and reported for duty in February. Hallie came to us from the National Park Service with a very extensive background in fire management.

Nebraska/Kansas Zone

The highlight of the year for the Nebraska/Kansas fire management zone was the increase in prescribed burning that took place this year. The number of acres burned in the zone in 1998 was almost two and a half times more than the acres burned in 1997, and three and a half times higher than what was burned in 1996. These burns were accomplished in spite of unusually warm spring weather, which caused an early green-up and compressed the burning season.

The formation of a dedicated prescribed burn crew based out of the Kirwin NWR to provide assistance not only to the refuge, but to a number of other refuges in R-6, and other FWS Regions and agencies contributed to the success.

Interagency cooperation continued to improve this year as personnel were exchanged with NPS, USFS, and BIA to conduct burns. Joint training was held with several Federal agencies and for the first time, a basic firefighter course was co-hosted with The Nature Conservancy in Nebraska.

Other highlights included development of an operating plan with the National Weather Service to obtain spot weather forecasts, and the construction of fire facilities (i.e., fire cache/equipment storage buildings) at Ft. Niobrara and Kirwin NWRs.

Three additional career-seasonal range tech. positions were filled in the zone this year at Crescent Lake, Ft. Niobrara/Valentine, and Flint Hills NWRs. These dedicated fire positions have added to the increasing professionalism of the program in zone and Region. However, the zone lost considerable expertise when Morgan Beveridge left his position as FMO at Quivira NWR to take a job with the U.S. Forest Service.

In response to requests for the FWS to conduct prescribed burns on private lands through the Private Lands Program, Morgan Beveridge compiled a guidance document for Kansas refuges to clarify support by State and local agencies for prescribed burning on non-Federal lands. This document will serve as a model for other summaries of these services in the Mountain-Prairie Region.

North Dakota/South Dakota Zone

1998 was a very productive year in the North Dakota/South Dakota zone. Numerous records were set in prescribed fire accomplishments, interagency suppression assistance and ND Dispatch Center operations. All this was accomplished without serious incident or injury, the real testament to the quality and dedication of our field staff and their level of professionalism.

During the calendar year, the zone conducted a record 170 prescribed burns totaling 22,494 acres. This

represents a 32% increase in acres and 70% increase in numbers of burns over 1997, the previous record year.

Several refuges significantly increased prescribed burn operations during the year, with the Huron District in South Dakota and Long Lake NWR in North Dakota showing

the greatest improvement. Arrowwood, J. Clark, Devils Lake and Tewaukon Refuges also showed impressive increases in burn planning and accomplishment. Des Lacs NWR Complex once again took the honors for the highest total acres burned in Region 6.

The zone experienced a total of 33 wildfires that burned 2,083 acres during the year. Several stations also assisted local cooperators with suppression activities. One extended attack fire occurred adjacent to J. Clark Salyer NWR.

The North Dakota Dispatch Center (NDC) located at J. Clark Salyer NWR experienced a busy year. In 1998, NDC staff processed a total of 240 people, 52 engines, 6 initial attack modules, 6 crews, 72 overhead, and a variety of miscellaneous resources to 30 different incidents in 9 States. The Dispatch Center office addition project was completed by Thanksgiving, and will be fully operational for the 1999 season. Zone FMO Brian McManus was elected to a 2-year term as chairman of the North Dakota Fire Council and ND Zone representative to the Northern Rockies Coordinating Group (NRCCG). Des Lacs FMO Dave Walker was selected to be the ND Zone representative to the NRCCG Fire Use Committee, and also continued in the role of FWS and NDC representative to the High Plains Fire Council.

Several new fire management positions were approved and filled in 1998 including a permanent dispatcher, Shannon Swanson, and Assistant FMO, Steve Schumacher at J. Clark Salyer NWR; a FMO position at Devils Lake WMD (Gary Lindsay will report in January 1999). Additional career seasonal range technician positions were added at Huron WMD and Des Lacs NWR Complex.

Montana/Wyoming Zone

1998 proved to be a very busy year for fire management activities for the Zone. Modest increases in the use of prescribed fire continues in the Zone. Twelve (12) prescribed fires were ignited and 727 acres were treated within the Zone. Prescribed fire was used for the first time in many years on the National Bison Range. This was a true interagency effort as the Forest Service, Salish Kootenai Tribe and the Service jointly planned and conducted the burns. The Bison Range staff is also thinning areas of the Refuge where burning wasn't feasible.

The zone experienced an average wildfire season. Twenty-six (26) wildfires burned 8,255 acres within the Zone. Most of this acreage was on the Charles M. Russell NWR (CMR). A Type II Incident Management Team was activated to suppress the Herman Ridge fire.

In June, 5 firefighters and Zone FMO Mike Granger were detailed to St. Marks NWR in Florida. During their stay they suppressed several wildfires and conducted 2 prescribed fires.

Two new Career Seasonal Range Tech/Firefighters were hired. Frank Rice is

stationed at Medicine Lake NWR and Craig Crenshaw at Charles M. Russell NWR. Both individuals are valuable assets to the Zone's fire program. Zone FMO Mike Granger was selected to the Northern Rockies Type II Incident Management Team as a Division Supervisor.

Colorado/Utah Zone

1998 was a productive year for fire planning and preparation for future fire management work in the zone. Browns Park NWR led the way with completion of 4 prescribed burns for 205 acres, and assisted the Bureau of Land Management on 3 prescribed burns for 105 acres. Although Browns Park had no on-refuge fires, they assisted the Bureau of Land Management with initial attack on 5 incidents. Fish Springs NWR completed 4 prescribed burns for 461 acres and Rocky Mountain Arsenal completed 2 burns for 84.5 acres.

Personnel from around the Region assisted the zone in completing prescribed burn plans for future burn activity in the zone.

Seven out of eight Refuges in the zone have submitted draft fire management plans. Completion date for the zone is early 1999.

REGION

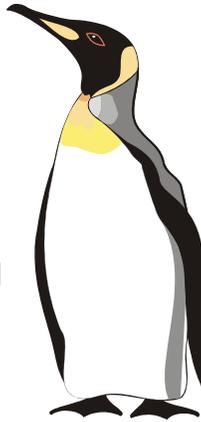


Alaska is known as a land of extremes, and the 1998 fire season was no exception. Despite a milder than “normal” winter with less snowpack than “normal” in many areas, an earlier than “normal” breakup, and with El Nino supposedly in retreat, 1998 fire activity in Alaska ended up being very BELOW “normal.”

While fire activity in Alaska overall was on the low end of the scale, wildland fire activity on National Wildlife Refuges in Alaska was almost non-existent. Subsequent to 1980, when ANILCA set aside 54 million of the 77 million acres currently in the National Wildlife Refuge System in Alaska, the annual average of wildland fires occurring on Alaska Refuges for that period is 48 fires for 277,000 acres. In 1998, 10 fires on 4 Alaska refuges burned 55 acres. 1998 was the first year in which prescribed fire acres burned exceeded wildland fire acres burned on Alaska Refuges. The lowest recorded annual acreage burned prior to 1998 was 4,081 acres in 1983 (an El Nino year). Fire activity was minimal because there were no extended dry periods, rainfall was frequent, and lightning was for the most part of the average wet variety. In fact, Visual Greenness Images for Alaska derived from AVHRR satellite data depicted the Yukon Flats Refuge as a sea of blue for most of the summer (blue was the color corresponding to 100% greenness).

The wildland fires that occurred on Alaska Refuges in 1998 were managed under the guidance of the Alaska Interagency Fire Management Plan.

That plan, originally an umbrella of 13 area plans written in the 1980s, was amended in 1998 as a consolidated document. Of the 10 fires that occurred on Alaska Refuges in 1998, 2 burned in limited response areas for 45 acres, 3 burned in modified response areas for 2 acres, 4 burned in full response areas for 8 acres, and one burned in a critical response area for 0.1 acres. The 2 fires in limited response received surveillance only. The other 7 fires received initial attack. There were no extended attack fires, and the longest duration fire was a 40-acre fire on Arctic Refuge that managed to smolder for approximately 2 weeks.



Region 7 FWS personnel participated on interagency responses to wildland fire incidents in Alaska, Texas, Montana and Canada. Positions filled included helicopter crewmember, helicopter manager, crewboss, engine boss, plastic sphere dispenser operator, and status/check-in recorder. The Tetlin Refuge FMO completed a detail to St. Marks Refuge in Florida as Acting FMO. Commitments to off-refuge wildland fire assignments and details totaled over 200 person-days for personnel from Region 7 in 1998.

Since the prescribed fire season in Alaska directly overlaps the wildland fire season, the moist weather experienced in 1998 did impact some prescribed burns that were planned. However, a host of prescribed fire and fuels management activities was accomplished. Region 7 personnel participated in a variety of on-refuge and

off-refuge prescribed fire assignments including prescribed fire burn boss 2, prescribed fire burn boss 3, ignition specialist, crewboss, plastic sphere dispenser operator, and ignition/holding crewmember positions. Three prescribed burns were initiated on Alaska Refuges totaling 1610 acres that included one burn for 740 acres on Yukon Flats Refuge, one burn for 370 acres on Tetlin Refuge, and one burn for 500 acres on Kenai Refuge. 500 acres of the total were accomplished for hazard reduction purposes and the rest were accomplished for other resource management purposes. Assistance by other agencies on refuge prescribed burns was provided by BLM, USFS and the State of Alaska. Refuge personnel provided assistance to USFS and the State of Alaska on 5 prescribed burns. The most notable was the 52,000 acre East Fork Prescribed Burn managed by the State of Alaska that was aerially ignited over a 2-day period. Tetlin Refuge provided the ignition specialist for that burn. It was a good experience to demonstrate truly landscape-scale fire use. While on detail to St. Marks Refuge in R-4 as FMO, the Tetlin Refuge FMO participated on 5 prescribed burns at 2 refuges as ignition specialist or crewboss.

There were several hazard reduction projects that were initiated in 1998. As was mentioned earlier, 500 acres were burned on Kenai Refuge for hazard reduction purposes. Beetle-killed hazard trees were removed from five recreational sites on Kenai Refuge. Cutting and piling of beetle-killed and green spruce was accomplished along 7 miles of the Funny River Road on Kenai Refuge in the wildland-urban interface, which will be burned after it cures in 1999. Kanuti Refuge provided support

for mechanical hazardous fuels reduction near the village of Allakaket. Hazardous fuels assessment was initiated on Yukon Flats Refuge for interface areas on the Refuge near villages.

FWS personnel from Region 7 participated as instructors in Intermediate Fire Behavior (S-290) and Prescribed Fire Planning and Implementation courses. The Kenai Refuge Manager continued to participate in development of a national interagency Fire Management Leadership for Local Agency Administrators course.

Fire history, fuels treatment, and fuels inventory and mapping data were collected or refined at several Alaska refuges in 1998, including Innoko, Kanuti, Kenai, Selawik and Yukon Flats Refuges. Project oversight for the IFCC-funded Wildland Fire Impacts on Caribou Study initiated by USGS-BRD in 1998 was provided by the Regional Office. Fire effects and fire behavior related fieldwork included a fire-furbearer investigation at Koyukuk Refuge, pre-rx burn monitoring plots at Kenai Refuge, post-fire consumption and fuels data collection at Innoko, Kanuti, Kenai and Tetlin Refuges, fuel moisture monitoring at Kenai, Tetlin and Yukon Flats Refuges, post-fire water quality sampling at Innoko and Kanuti Refuges, and an evaluation of fuels treatment techniques at Kenai Refuge.

Participation on national and geographic area committees and working groups included the NWCG Wildland Fire Education Working Team and Alaska GACG Committees on Firefighter Safety and Health, Fire Education, Air Quality, Research and Applications

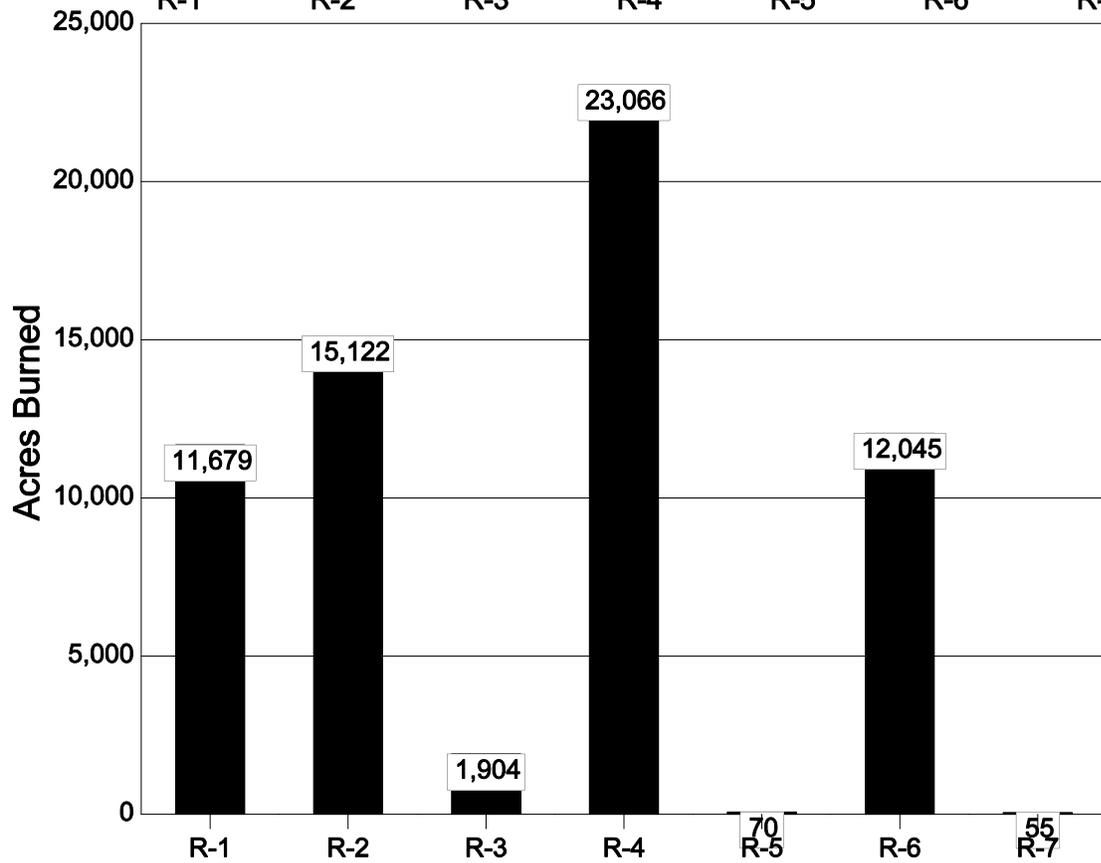
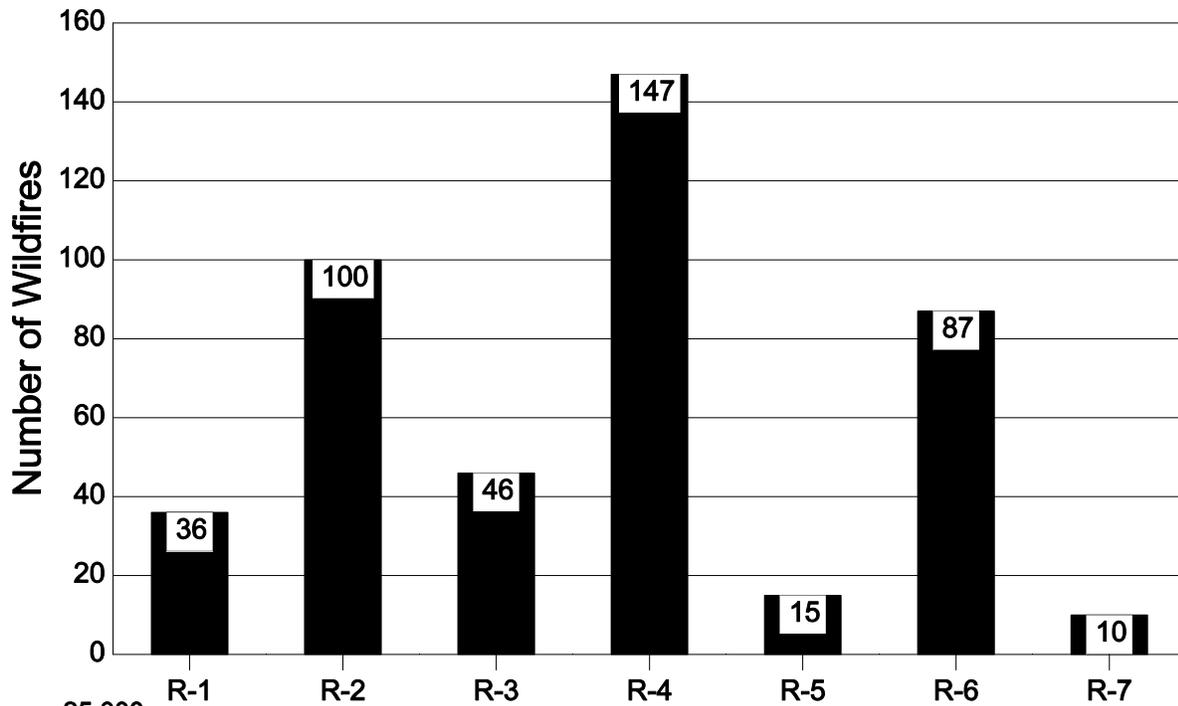
Development, and Training. Representatives from R-7 participated in the Joint Fire Science Plan Stakeholders Meeting and FWS Fire Occurrence Task Group. The Kenai Refuge staff spent a considerable amount of time participating in Spruce Bark Beetle Task Force initiatives that significantly involved fire management considerations.

Fire program outreach and education continued to be an important focus in the Region. Teacher workshops and classroom presentations on the Role of Fire Curriculum, and other Environmental Education Workshops and Science Camps in which fire was a major topic were held by Innoko, Kanuti, Kenai, Koyukuk, Tetlin and Yukon Flats Refuge staff. A Fire in the Forest Carnival highlighting fire management was held in the community of Tok by Tetlin Refuge staff. Fire management topics including defensible space, cabin protection, and fire management planning were incorporated in newsletters distributed by Yukon Flats and Yukon Delta Refuges.

The Role of Fire on National Wildlife Refuges in Alaska display was incorporated into refuge and regional office open house events, and was also exhibited at the Alaska Public Lands Information Center and Alaska State Fair. Support was provided by the Region for an interagency fire prevention coordinator, including activities organized by the coordinator such as a Fire Management Workshop for News Media, a Statewide Fire Prevention and Education Workshop, and development of interagency fire education materials.

In summary, despite a slow year of wildland fire occurrence in 1998, the fire management program in Region 7 was productive, responsive and most importantly, safe.

FWS WILDFIRES - 1998



WILDFIRES BY CAUSE 1998

CAUSE	# FIRES	# ACRES
Lightning	134	33,947.9
Campfire	31	85.0
Smoking	20	152.8
Fire Use	68	7,189.3
Incendiary	76	8,066.5
Equipment Use	46	3,924.8
Railroads	5	327.4
Juveniles	10	3,671.5
Miscellaneous	51	6,576.1
TOTAL	441	63,941.3



WILDFIRES BY SIZE CLASS 1998

SIZE	# FIRES	# ACRES
A (0 - .2)	108	11.8
B (.3 - 9.9)	171	482.8
C (10 - 99.9)	92	3,155.9
D (100 - 299.9)	28	4,737.5
E (300 - 999.9)	26	14,620.3
F (1000 - 4999.9)	15	34,433.0
G (5000 +)	1	6,500.0
TOTAL	441	63,941.3

WILDFIRES

By State

1998

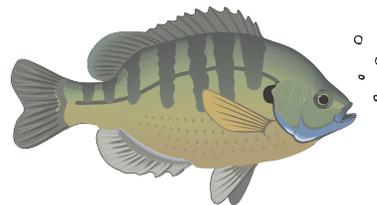
STATE	# FIRES	# FWS ACRES
Alabama	2	4.0
Alaska	10	55.4
Arizona	5	2,211.7
Arkansas	7	271.9
California	11	3,171.8
Colorado	0	0.0
Connecticut	0	0.0
Delaware	0	0.0
Florida	55	10,172.8
Georgia	17	5,208.7
Hawaii	0	0.0
Idaho	2	432.5
Illinois	9	73.1
Indiana	0	0.0
Iowa	0	0.0
Kansas	19	1,185.0
Kentucky	0	0.0
Louisiana	40	6,352.7
Maine	5	5.3
Maryland	6	33.4
Massachusetts	0	0.0
Michigan	3	5.0
Minnesota	33	1,822.7
Mississippi	14	548.4
Missouri	1	3.0
Montana	26	8,255.9
Nebraska	5	471.5
Nevada	5	9.5
New Mexico	7	1,221.2
New Jersey	0	0.0
New York	1	.2
New Hampshire	0	0.0
North Carolina	7	126.0
North Dakota	32	2,088.6
Ohio	0	0.0
Oklahoma	19	2,935.4
Oregon	6	425.4

Pennsylvania	1	.8
Puerto Rico	1	1.0
Rhode Island	0	0.0
South Carolina	4	380.2
South Dakota	3	42.1
Tennessee	0	0.0
Texas	69	8,754.7
Utah	0	0.0
Vermont	0	0.0
Virgin Islands	0	0.0
Virginia	2	30.1
Washington	12	7,639.7
West Virginia	0	0.0
Wisconsin	0	0.0
Wyoming	2	1.6

TOTAL

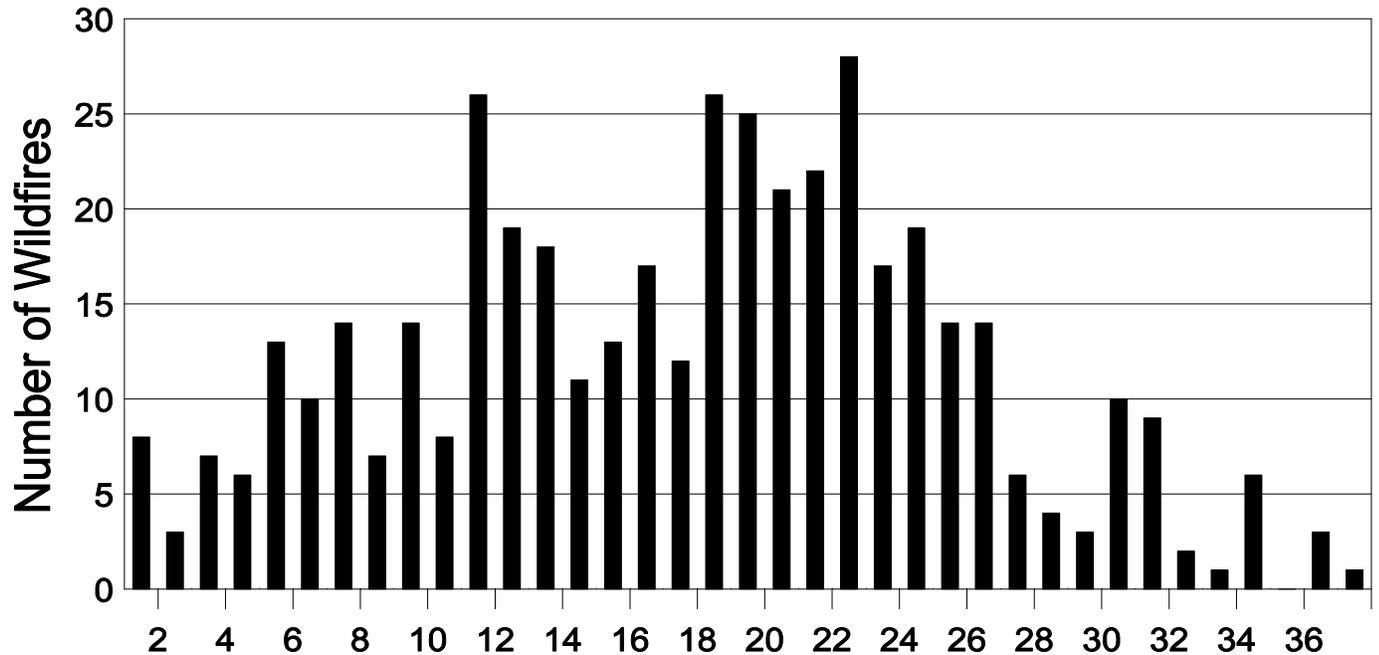
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WILDFIRES - 1998

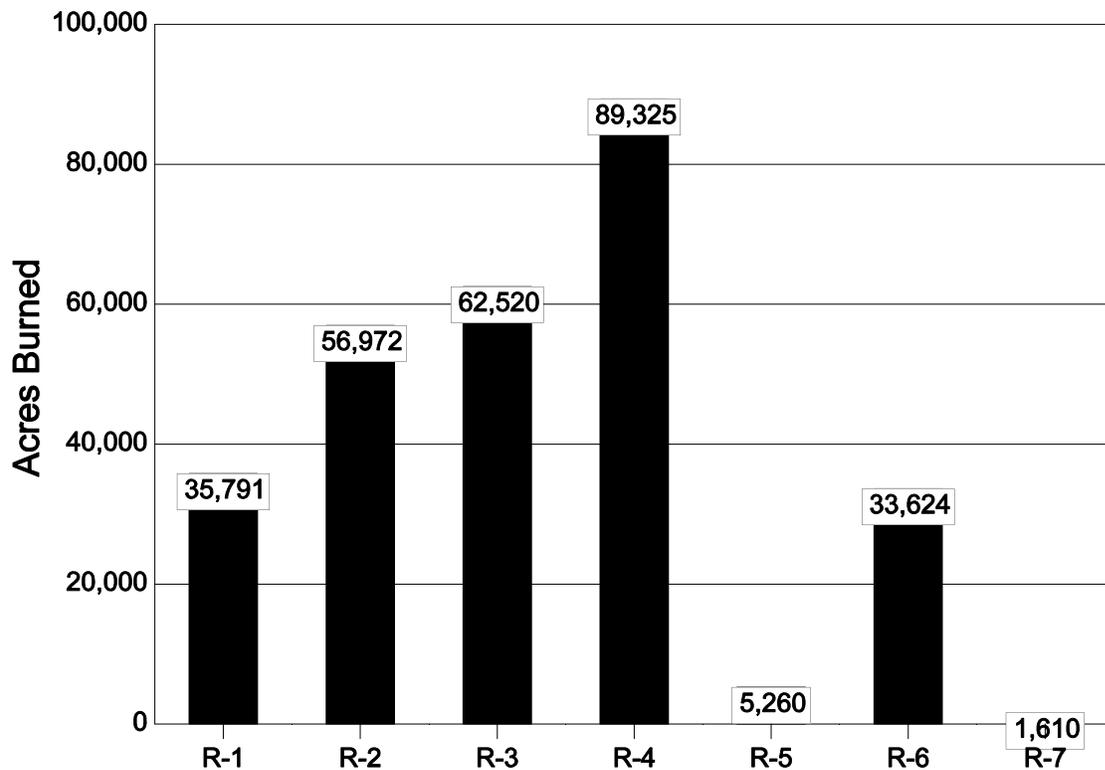
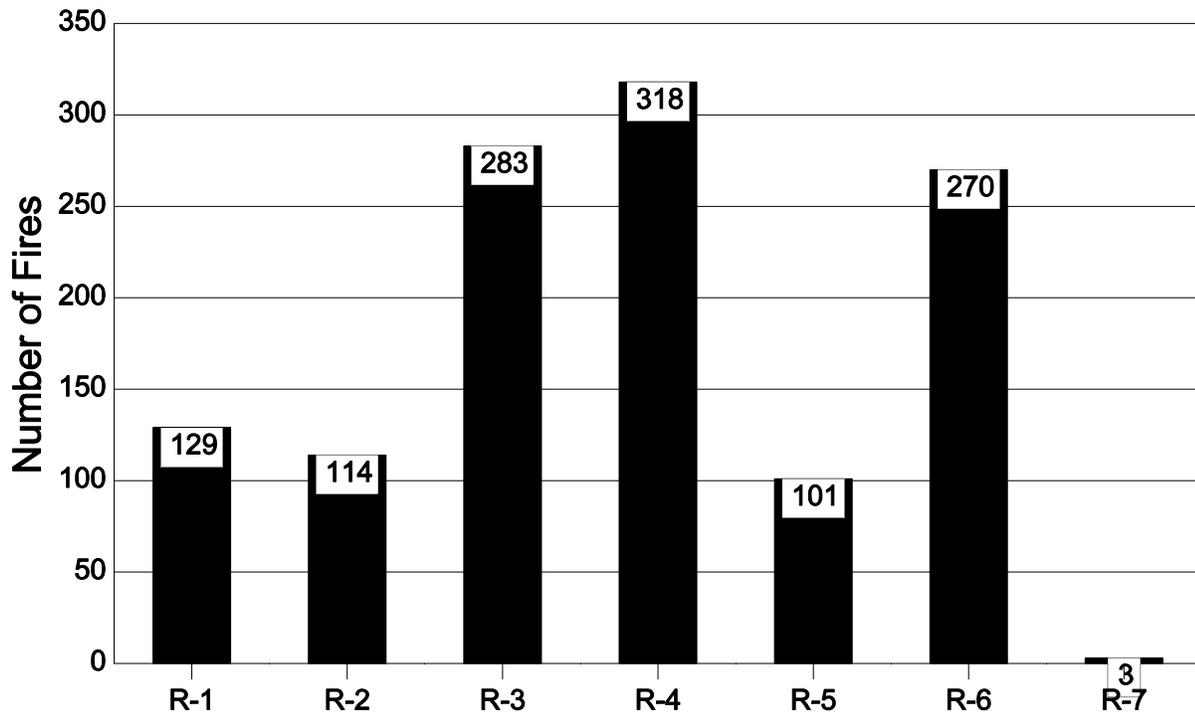
10 - Day Period



<u>PERIOD</u>	<u>DATES</u>	<u>PERIOD</u>	<u>DATES</u>
1	Jan 01 - Jan 10	21	July 20- July 29
2	Jan 11 - Jan 20	22	July 30 - Aug 08
3	Jan 21 - Jan 30	23	Aug 09 - Aug 18
4	Jan 31 - Feb 09	24	Aug 19 - Aug 28
5	Feb 10 - Feb 19	25	Aug 29 - Sep 07
6	Feb 20 - Mar 01	26	Sep 08 - Sep 17
7	Mar 02 - Mar 11	27	Sep 18 - Sep 27
8	Mar 12 - Mar 21	28	Sep 28 - Oct 07
9	Mar 22 - Mar 31	29	Oct 08 - Oct 17
10	Apr 01 - Apr 10	30	Oct 18 - Oct 27
11	Apr 11 - Apr 20	31	Oct 28 - Nov 06
12	Apr 21 - Apr 30	32	Nov 07 - Nov 16
13	May 01 - May 10	33	Nov 17 - Nov 26
14	May 11 - May 20	34	Nov 27 - Dec 06
15	May 21 - May 30	35	Dec 07 - Dec 16
16	May 31 - June 09	36	Dec 17 - Dec 27
17	June 10 - June 19	37	Dec 27 - Dec 31 (3 days)
18	June 20 - June 29		
19	June 30 - July 09		
20	July 10 - July 19		

FWS

PRESCRIBED FIRES - 1998



PRESCRIBED FIRES

Burn Plan Objective

1998

OBJECTIVE	# FIRES	# FWS ACRES
Cultural Scene Maintenance		
Historical Scene Maintenance	4	1,085.0
Other Cultural Site Maintenance	4	164.5
Natural Systems		
Exotic or Undesirable Species Control	137	11,579.3
Habitat Maintenance	574	132,359.1
Research	71	3,033.9
Hazard Reduction		
Fuel Reduction - Activity Fuels	26	6,380.0
Fuel Reduction - Natural Fuels	274	92,340.2
Real Property Protection	1	30.0
Maintenance		
Debris Removal	50	3,109.8
Vista Maintenance	1	1.5
Right-of-way Maintenance	1	12.0
Silvicultural		
Seed Bed Preparation	17	2,285.0
Vegetative Type Manipulation	14	9,918.0
Insect & Disease Control		
Not Identified	44	23,802.6
TOTAL	1,218	286,100.9



Prescribed Fires By State 1998

STATE	# FIRES	# FWS ACRES
Alabama	3	52.0
Alaska	3	1,610.0
Arizona	19	9,045.5
Arkansas	8	2,264.0
California	39	9,029.3
Colorado	6	474.0
Delaware	1	8.0
Florida	102	24,045.5
Georgia	59	7,421.0
Hawaii	7	26.5
Idaho	5	1,164.0
Illinois	7	307.2
Indiana	16	4,150.0
Iowa	12	822.7
Kansas	52	9,352.0
Louisiana	27	27,852.3
Maine	21	210.7
Maryland	42	3,149.0
Michigan	3	50.0
Minnesota	190	51,814.2
Mississippi	45	9,514.7
Missouri	11	575.0
Montana	13	783.3
Nebraska	37	2,424.3
Nevada	15	3,429.0
New Mexico	5	9,911.0
New York	10	287.5
New Hampshire	6	56.0
North Carolina	2	1,617.0
North Dakota	147	18,903.7
Oklahoma	17	7,992.0
Oregon	43	15,942.6
Pennsylvania	7	90.3
Rhode Island	4	40.2
South Carolina	71	16,508.5
South Dakota	21	1,550.0
Tennessee	1	49.8
Texas	73	31,023.5

Utah	3	238.0
Virginia	10	1,418.0
Washington	20	6,199.1
Wisconsin	35	4,699.5

TOTAL

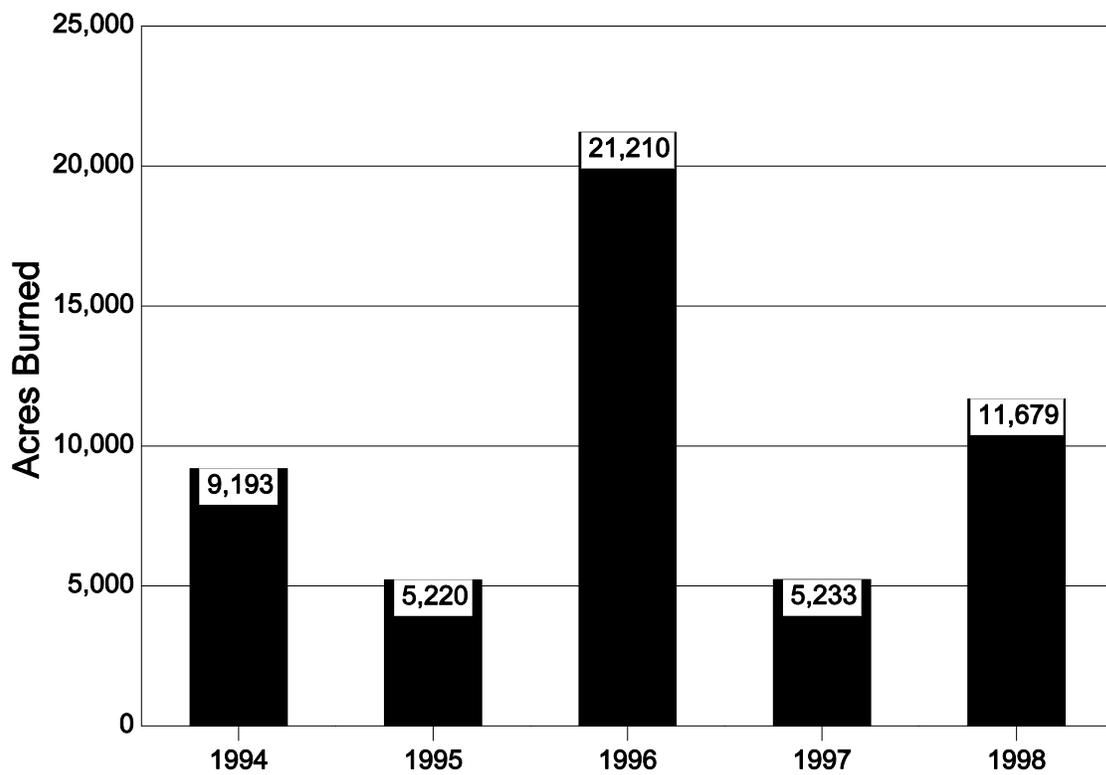
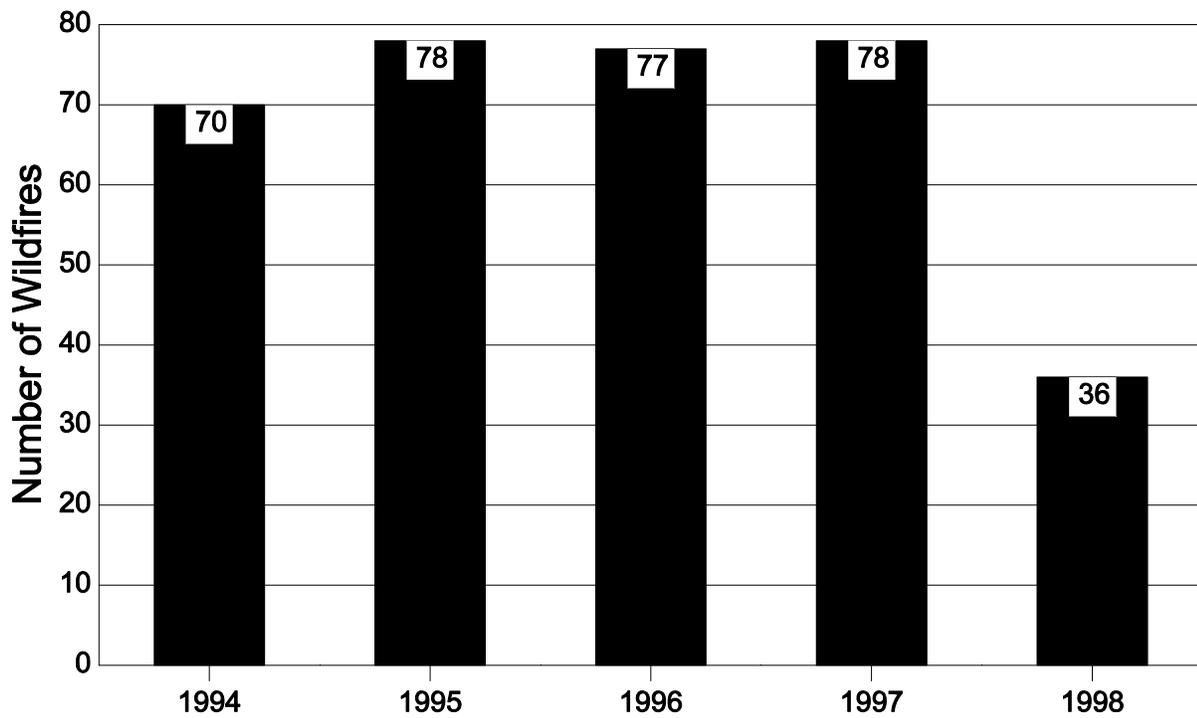
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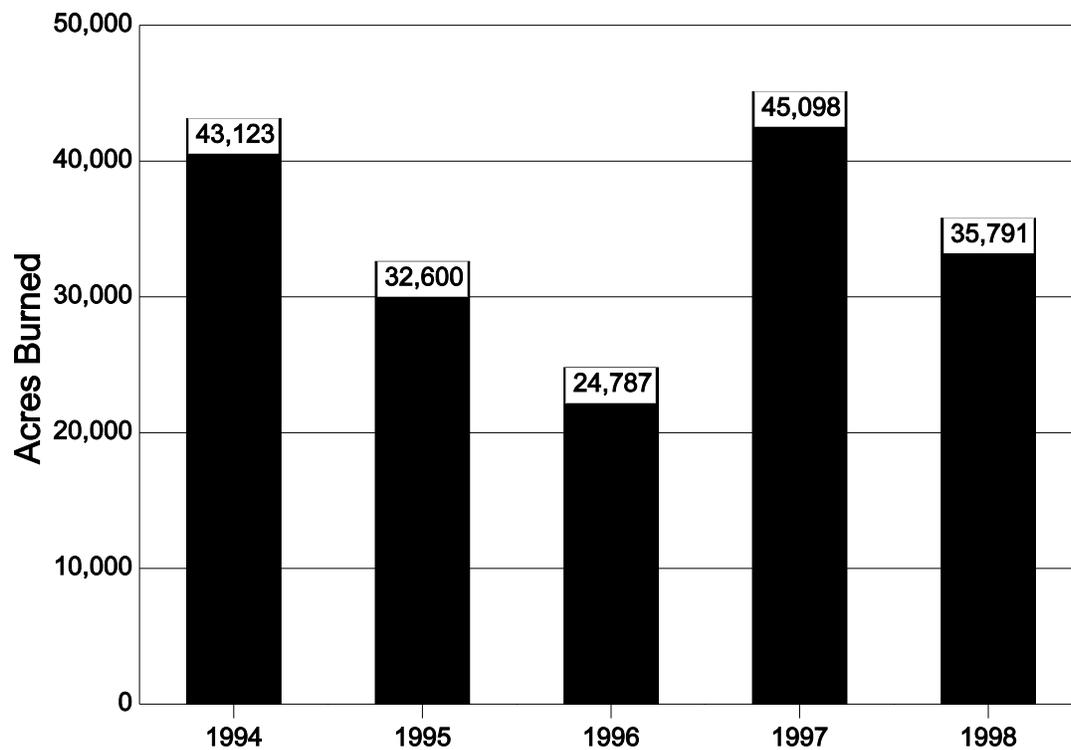
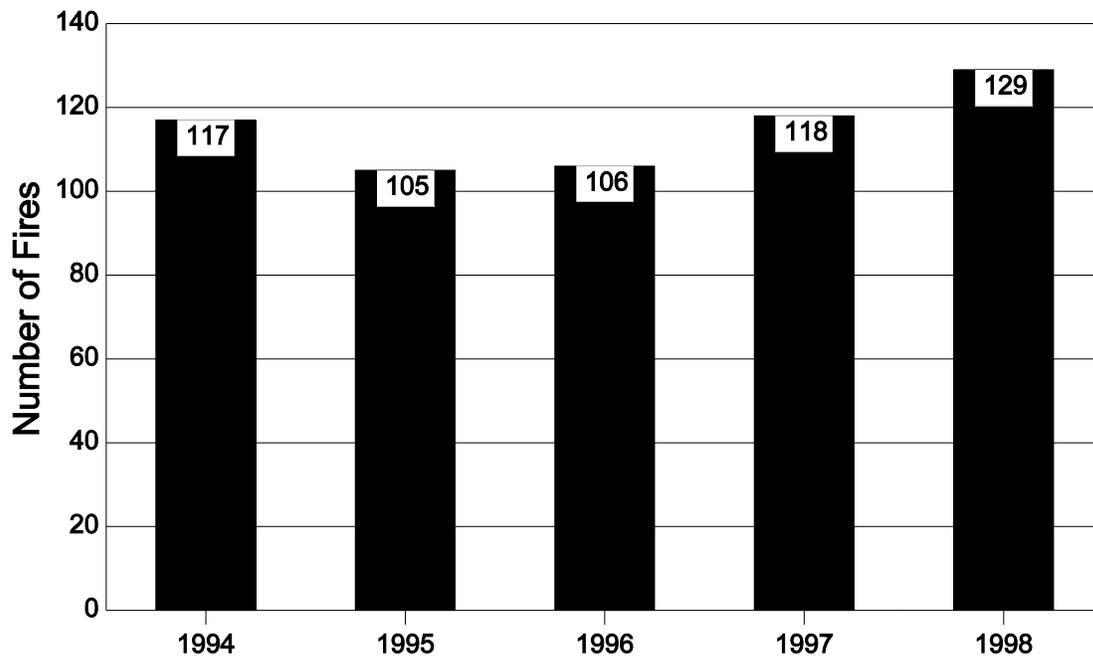
REGION 1

WILDFIRES 1994 - 1998



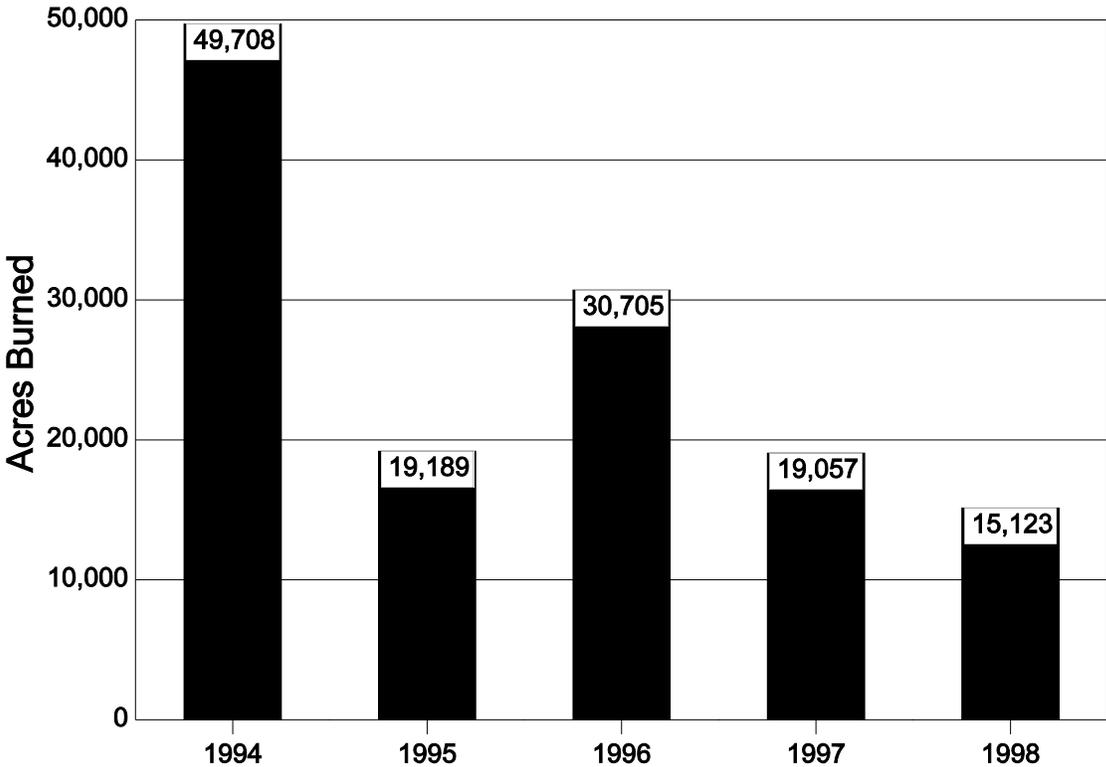
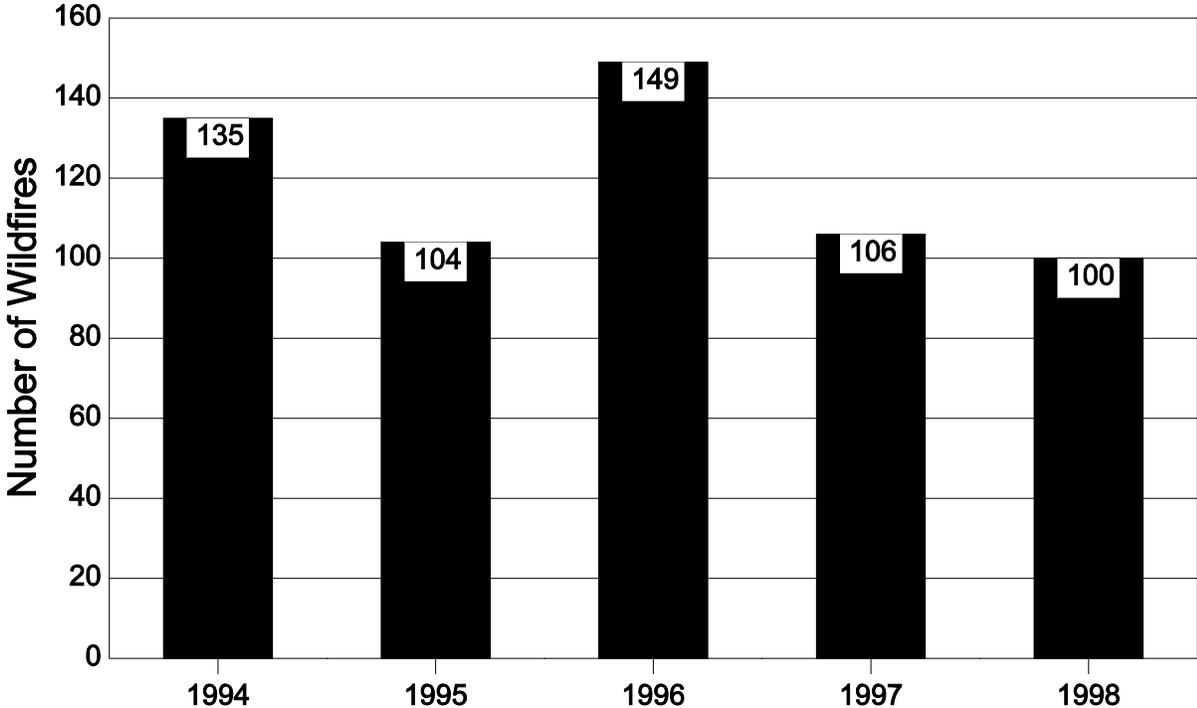
REGION 1

PRESCRIBED FIRES 1994 - 1998



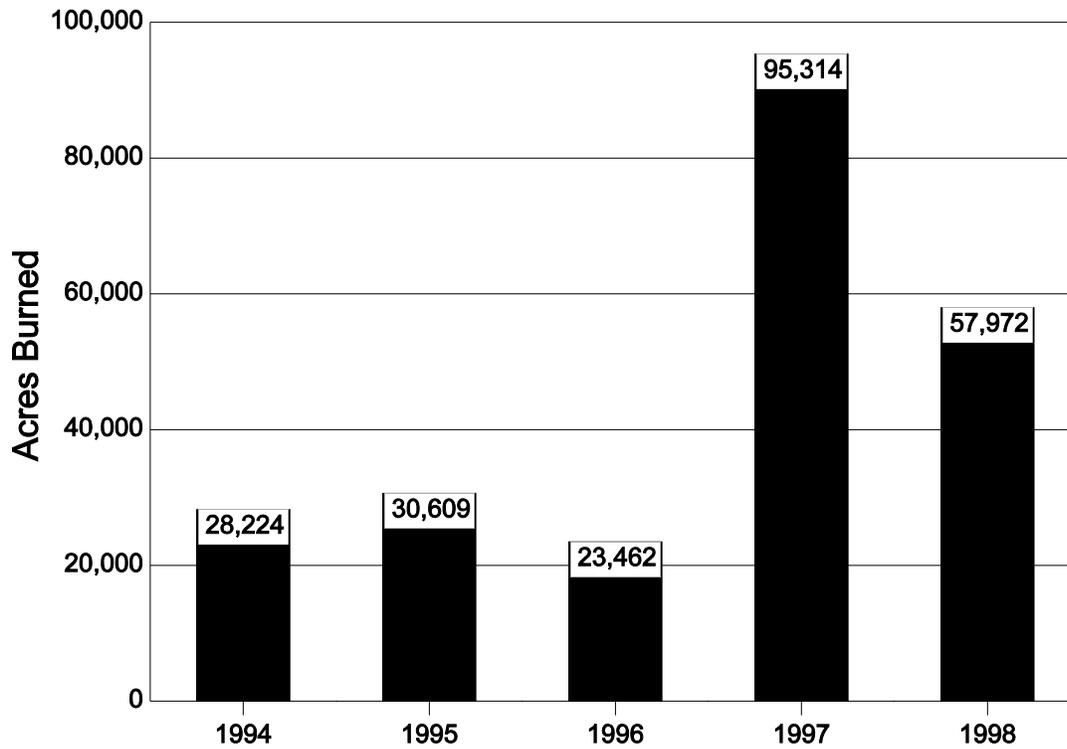
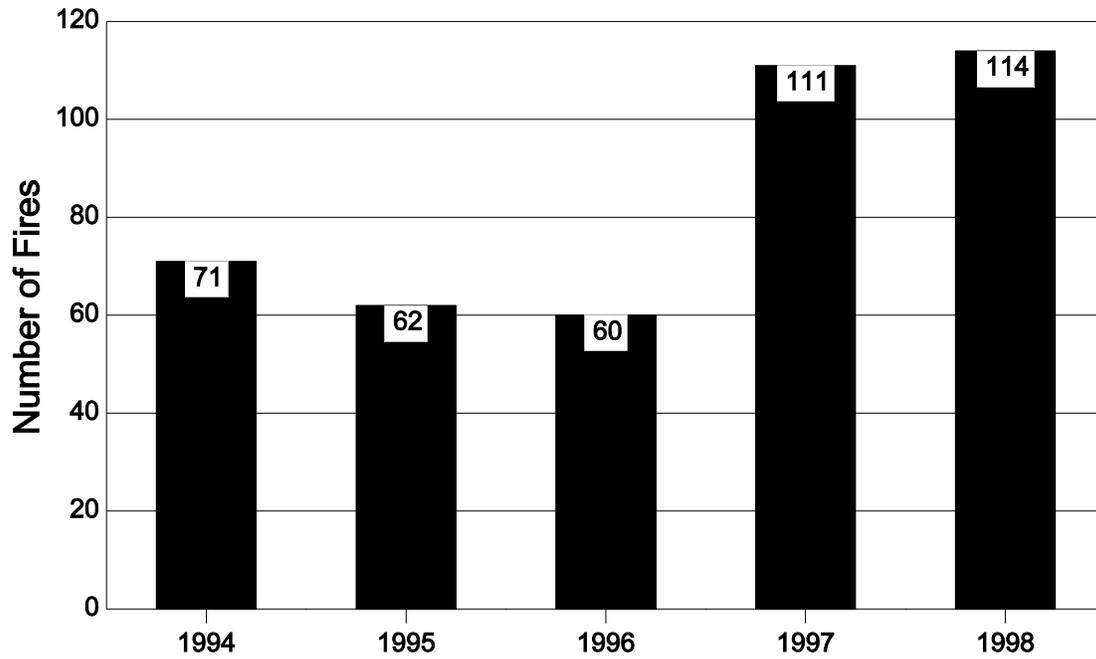
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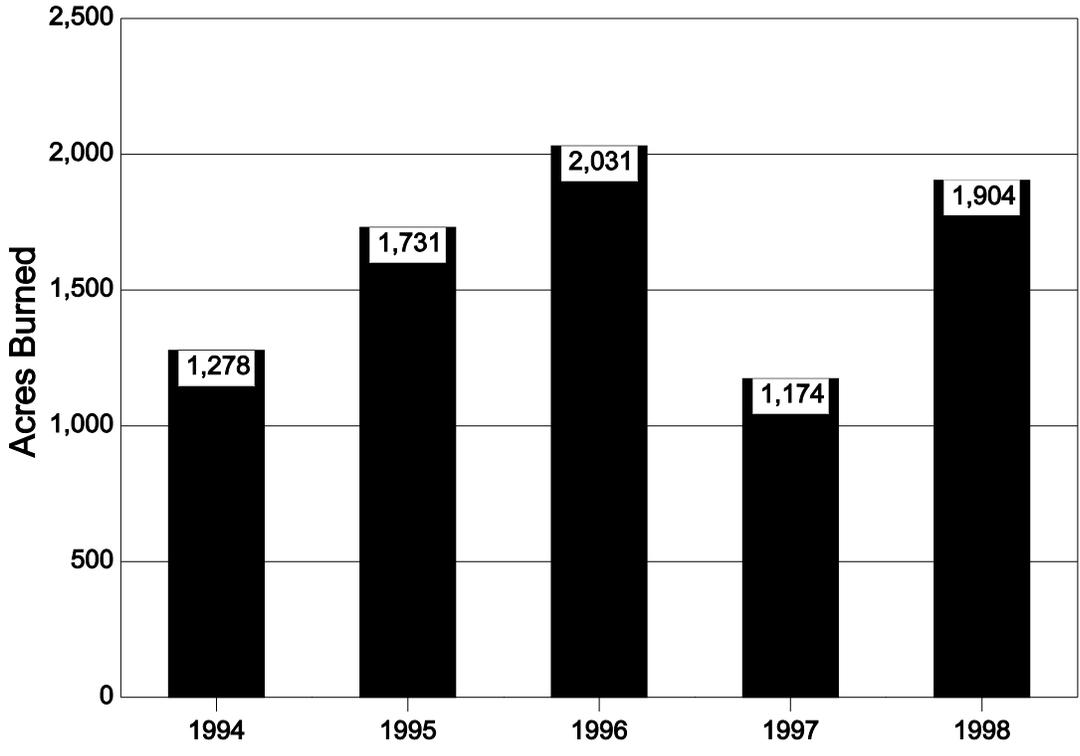
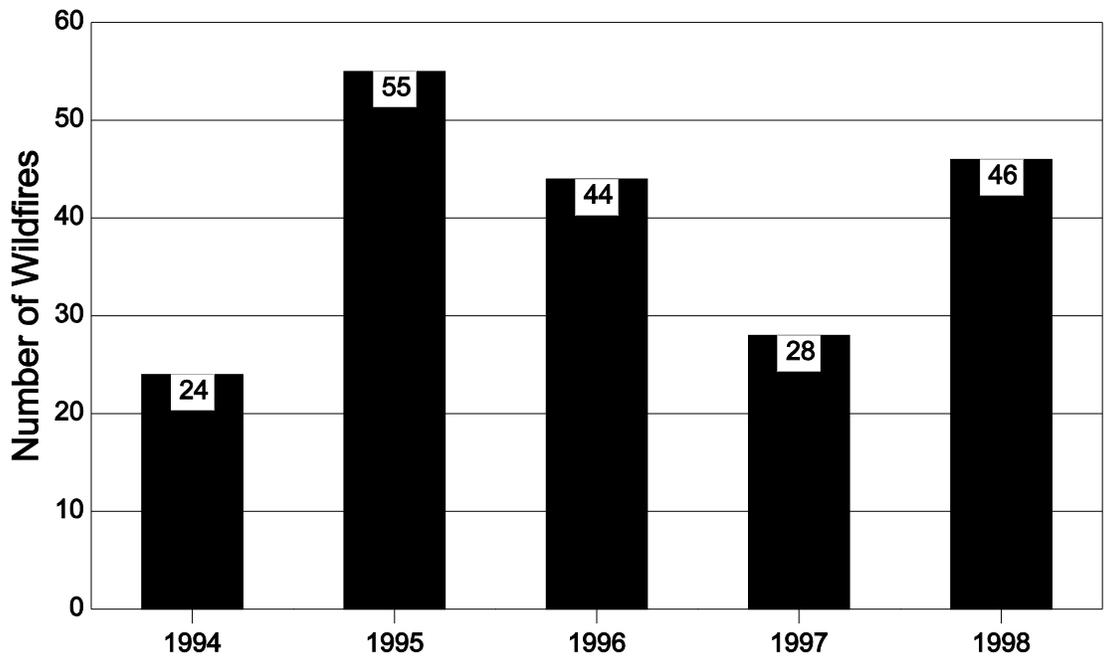
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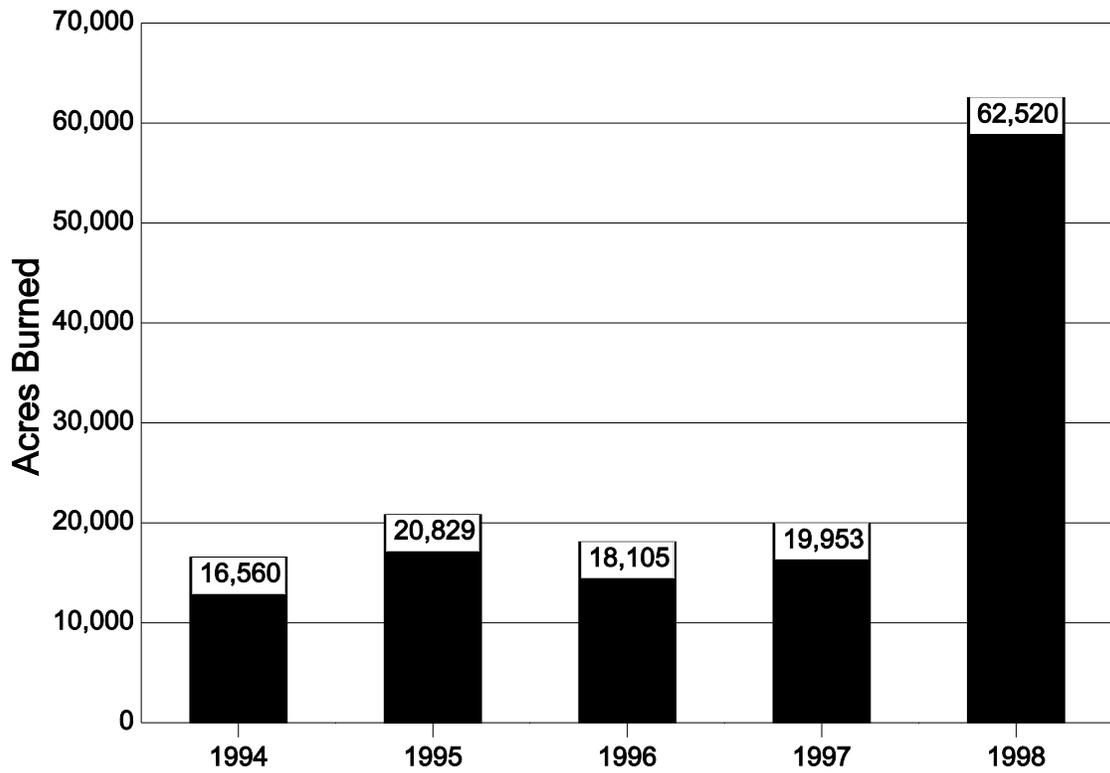
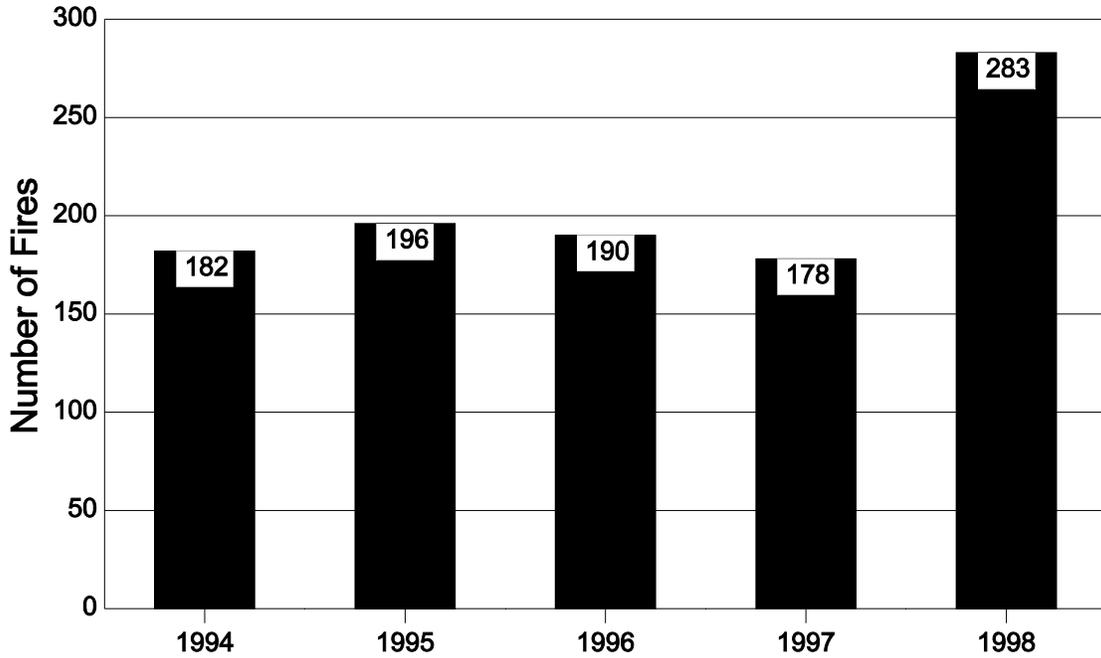
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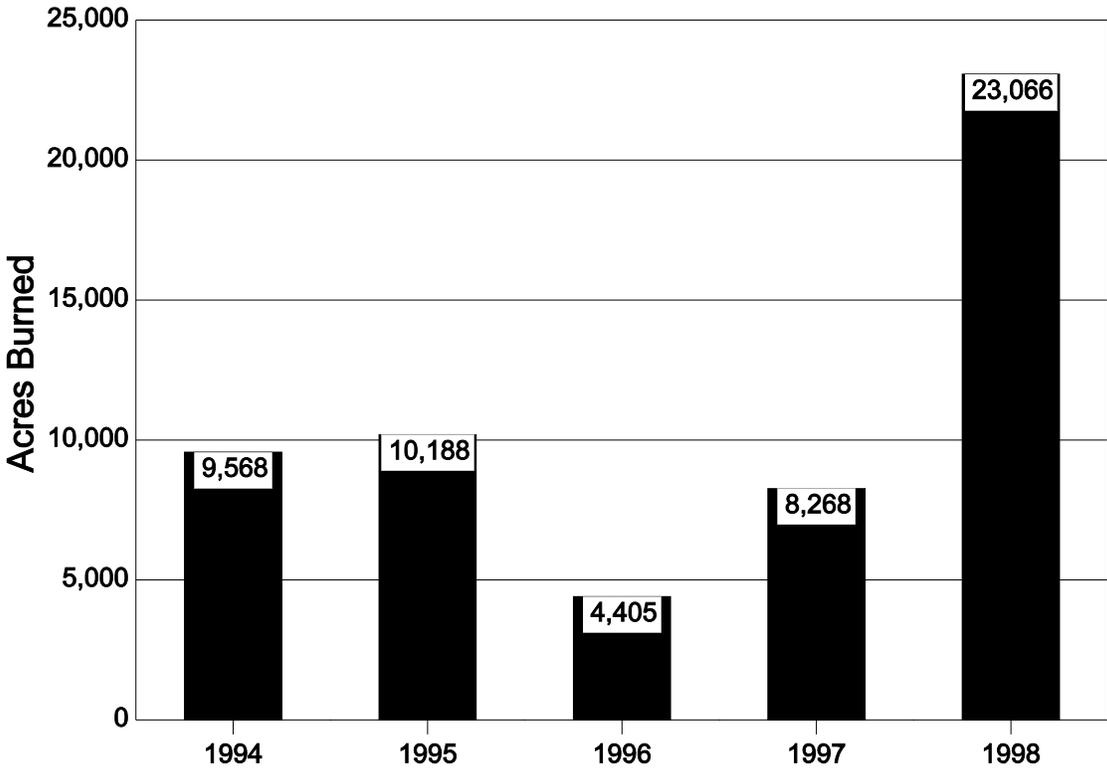
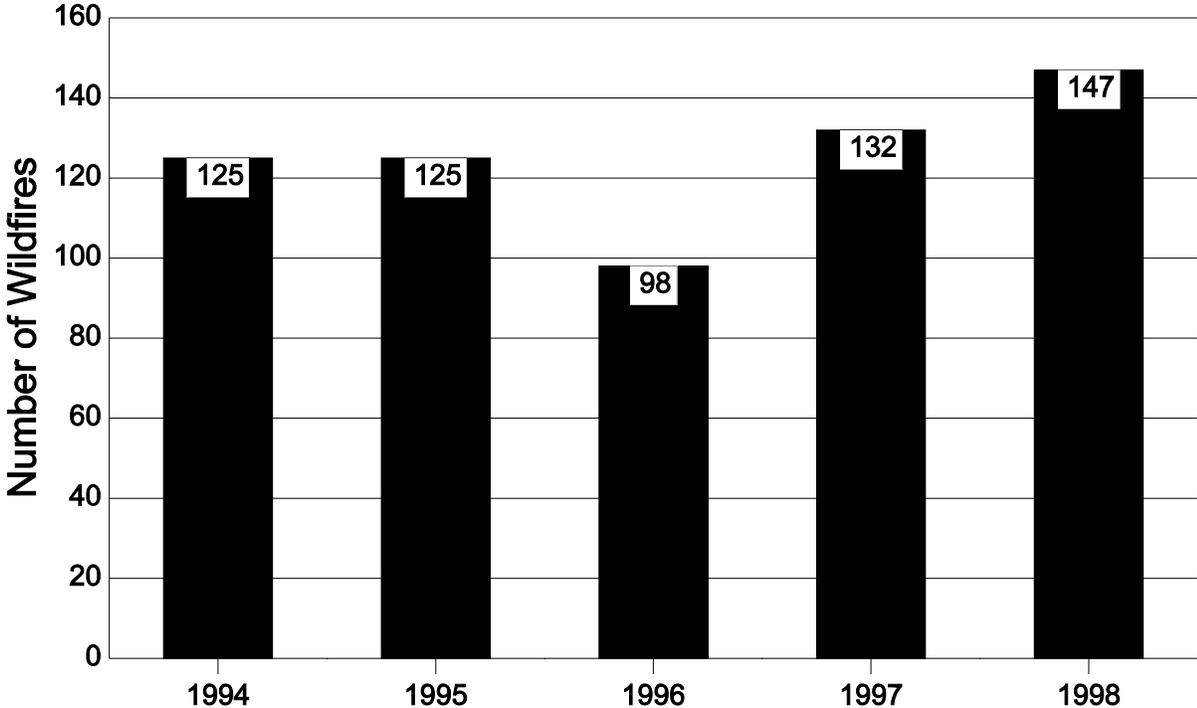
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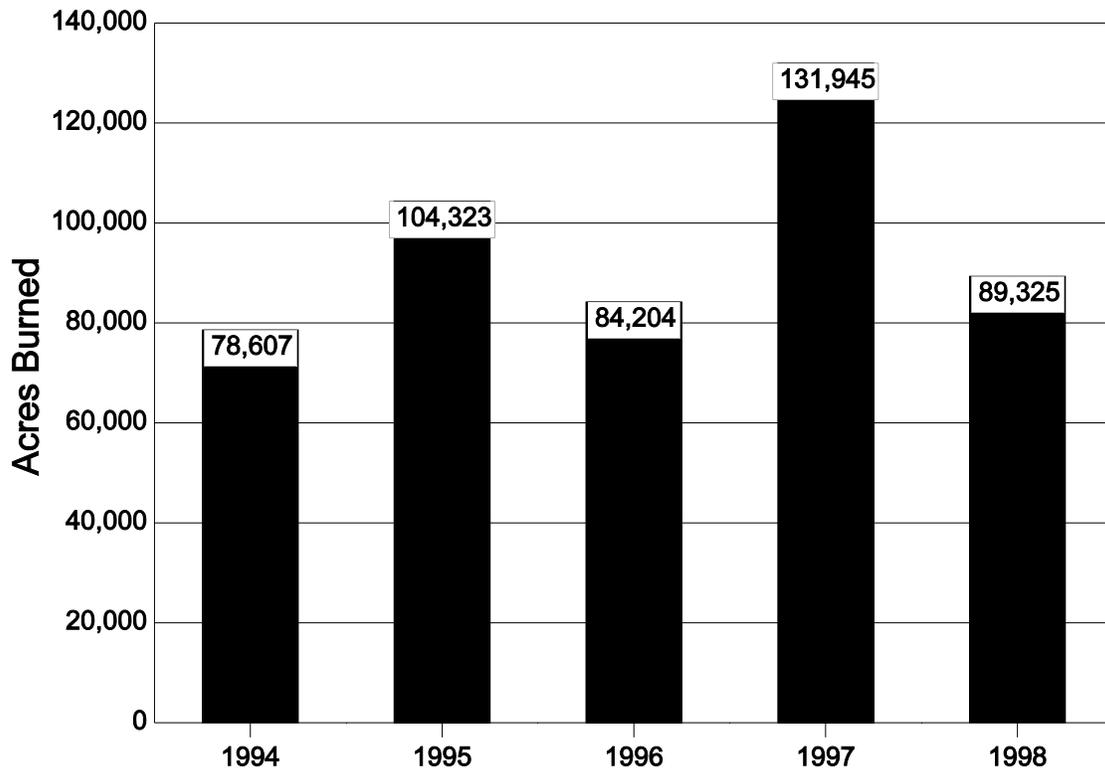
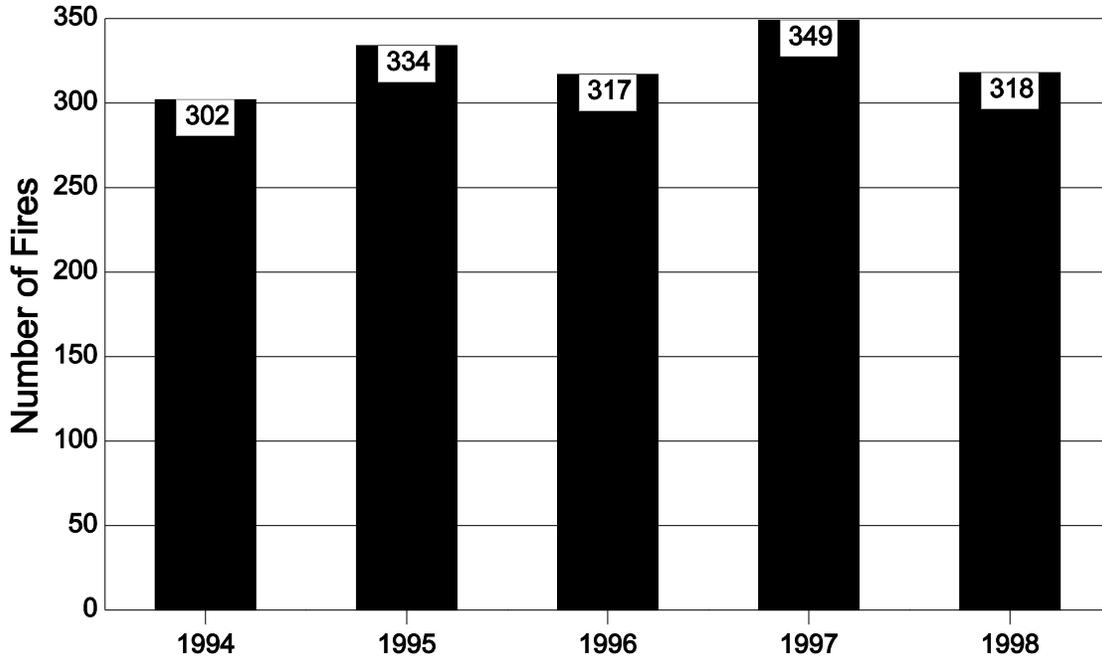
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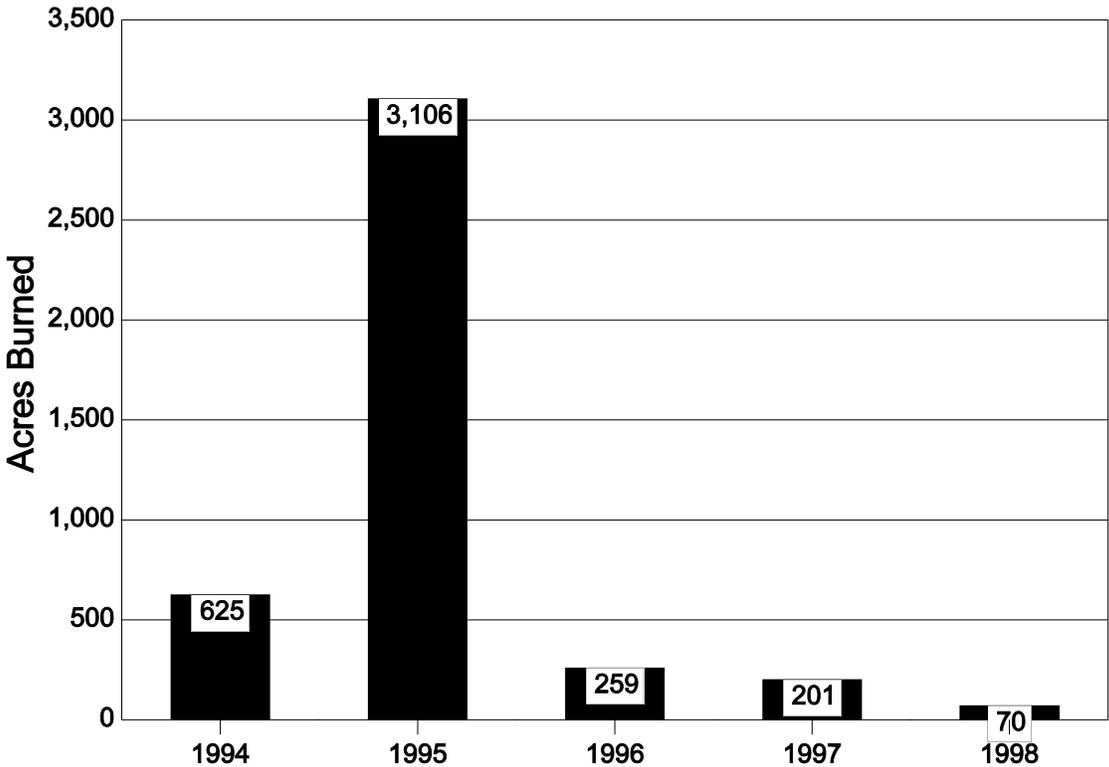
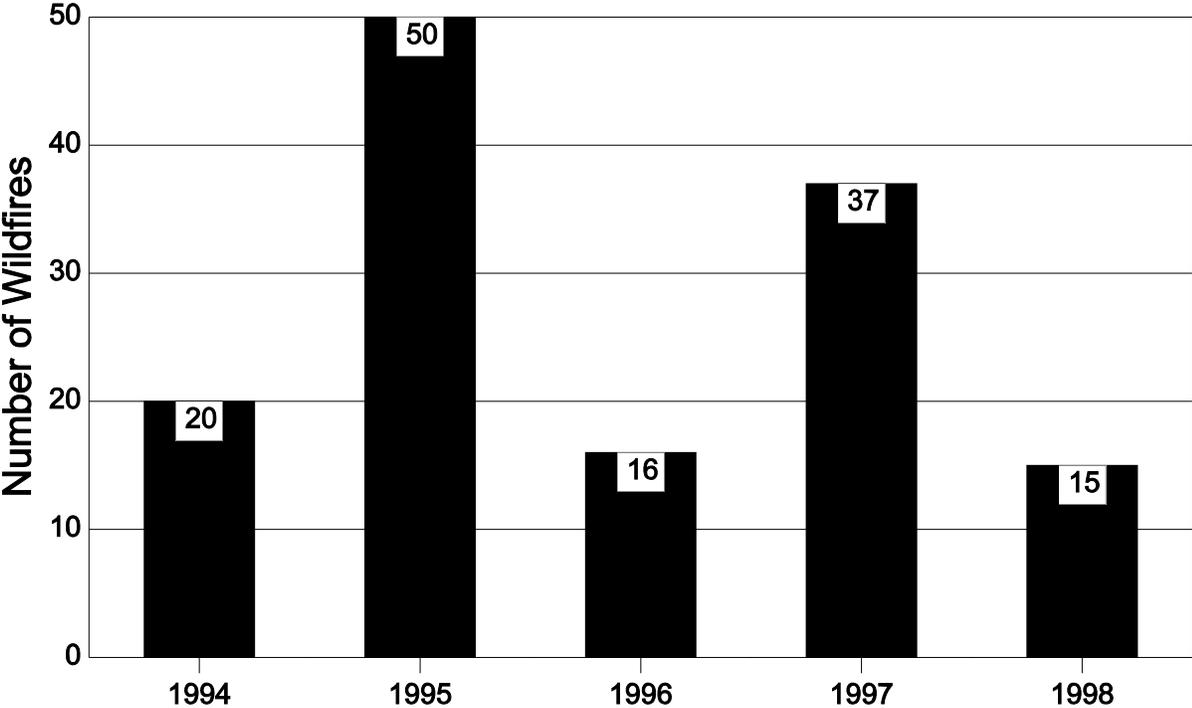
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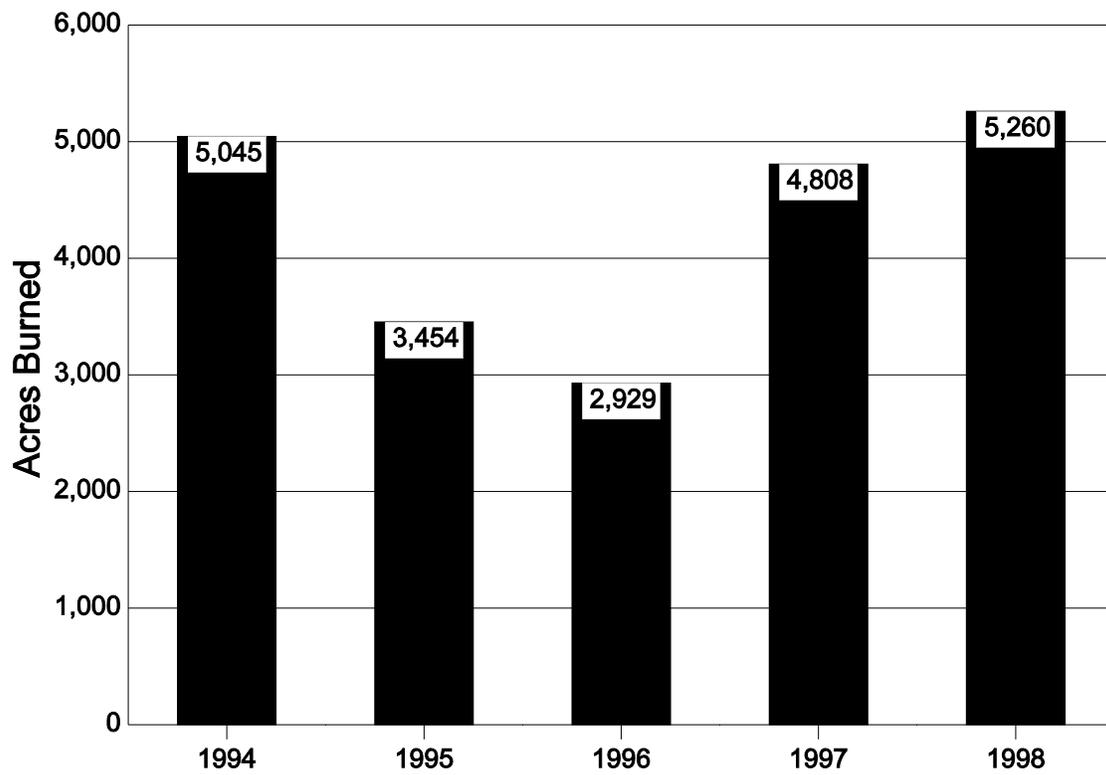
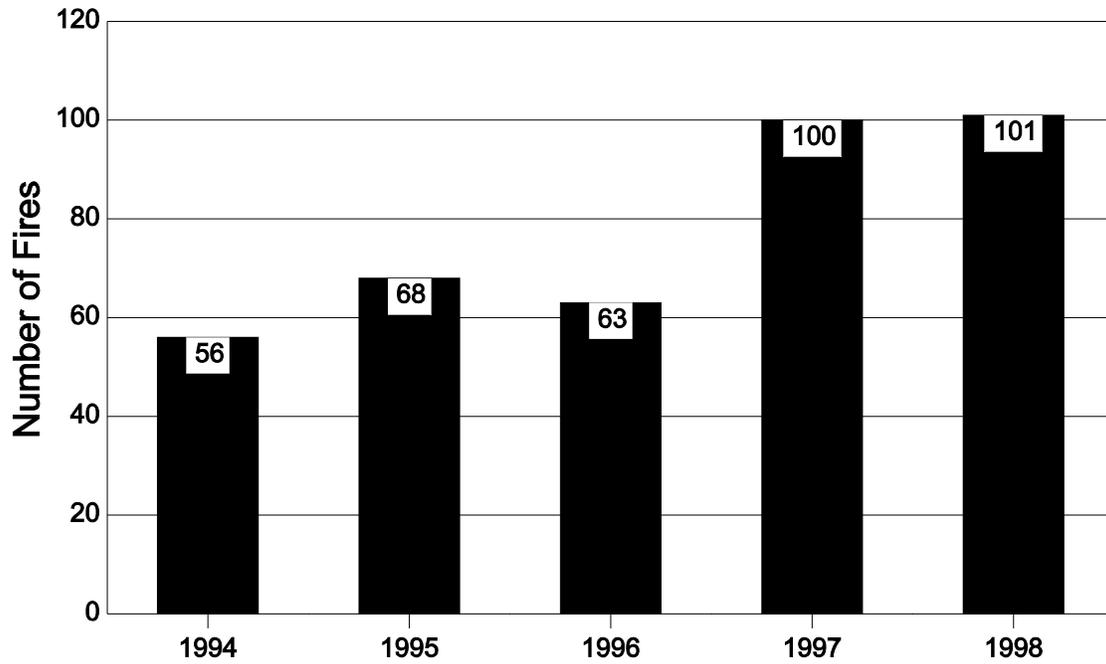
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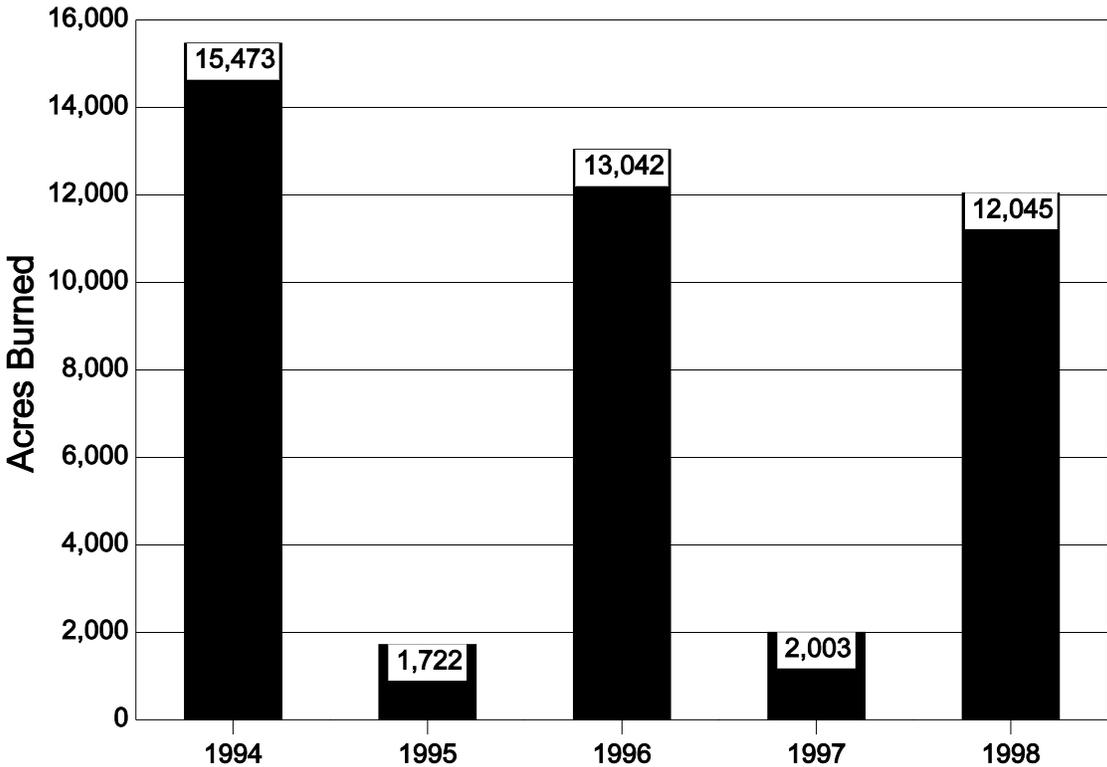
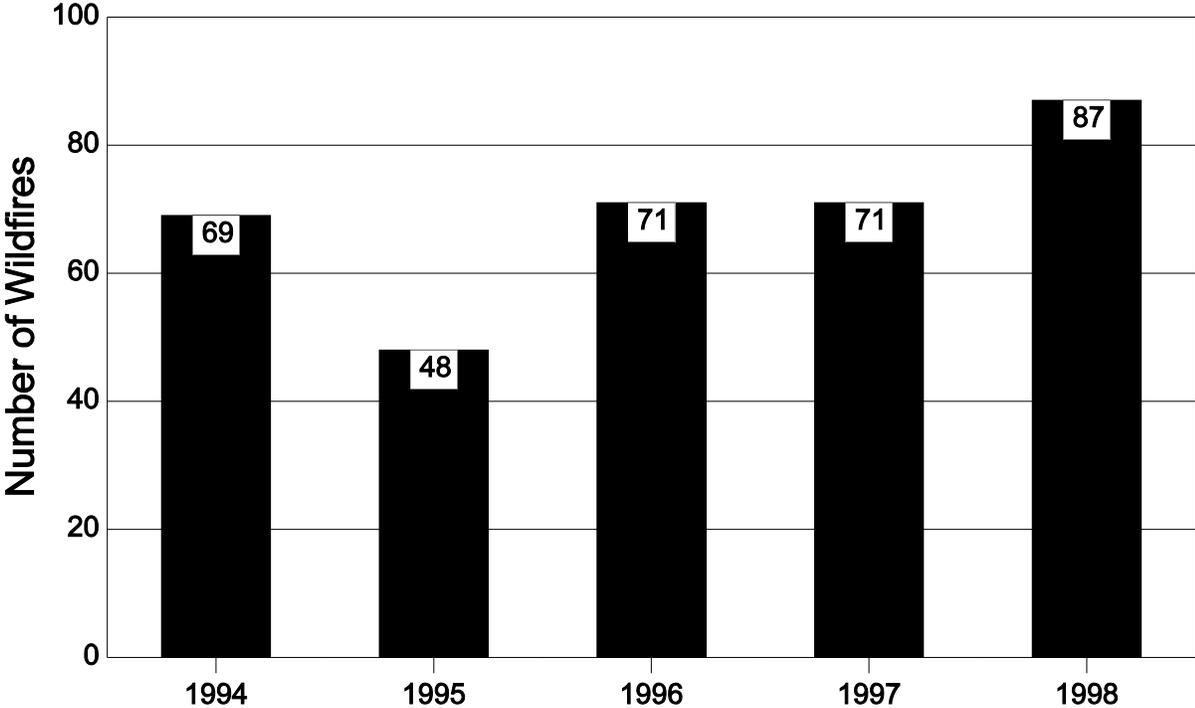
REGION 5

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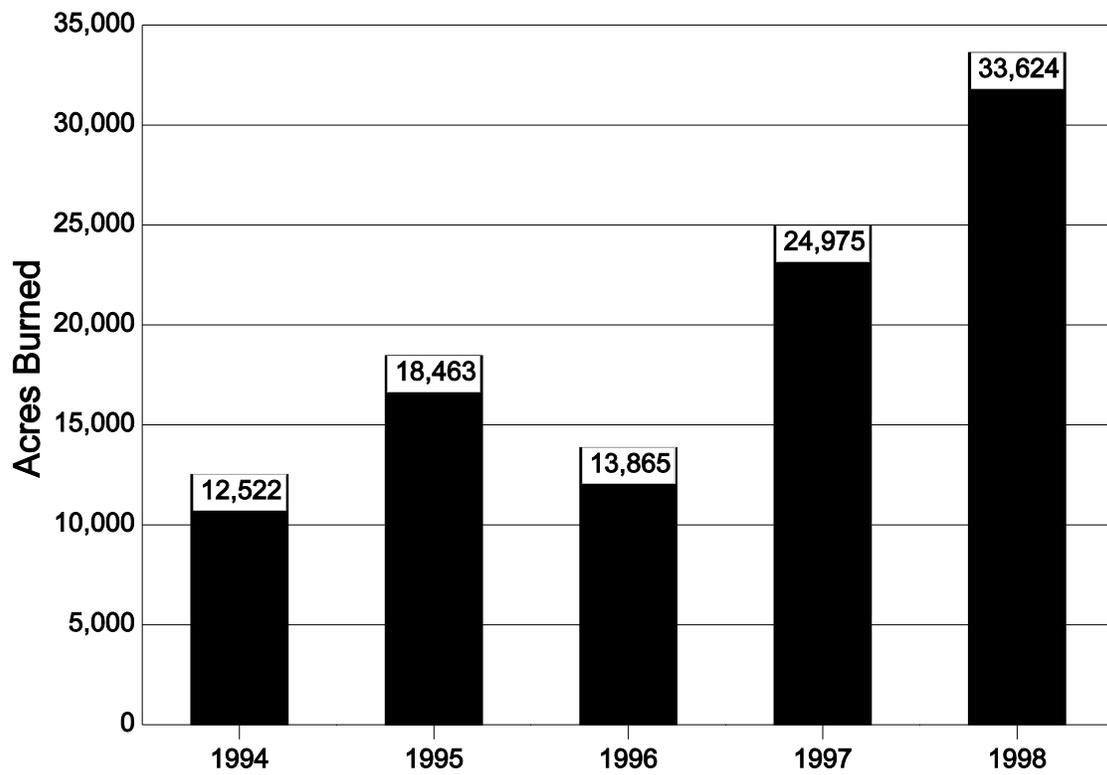
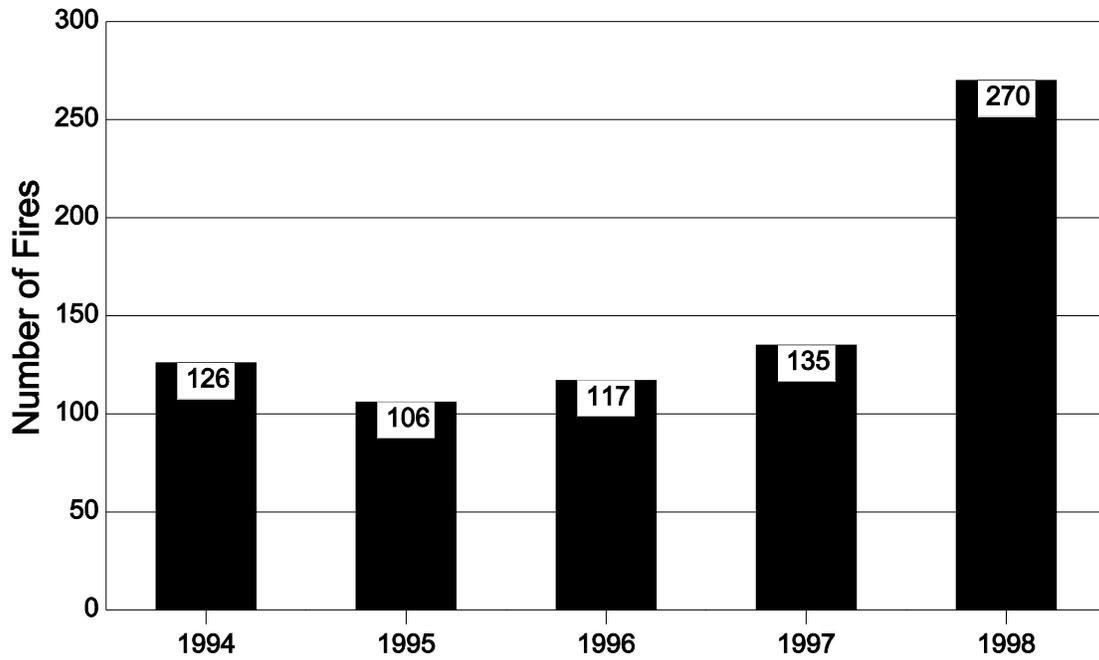
REGION 6

WILDFIRES 1994 - 1998



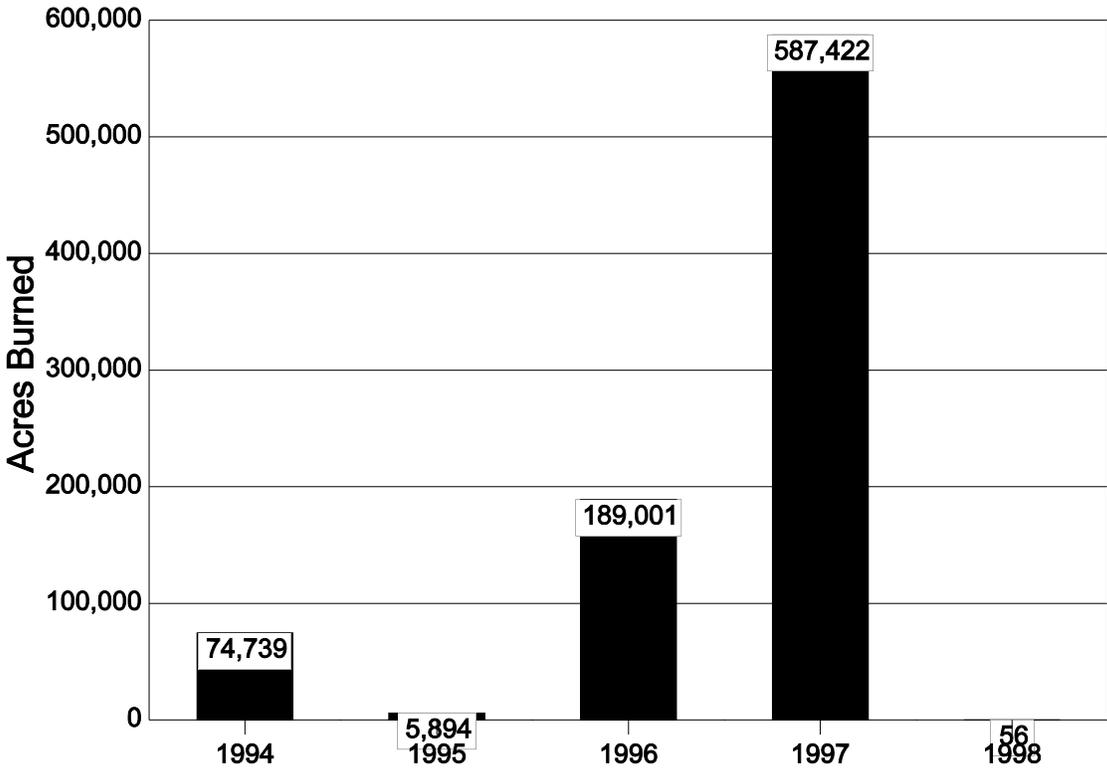
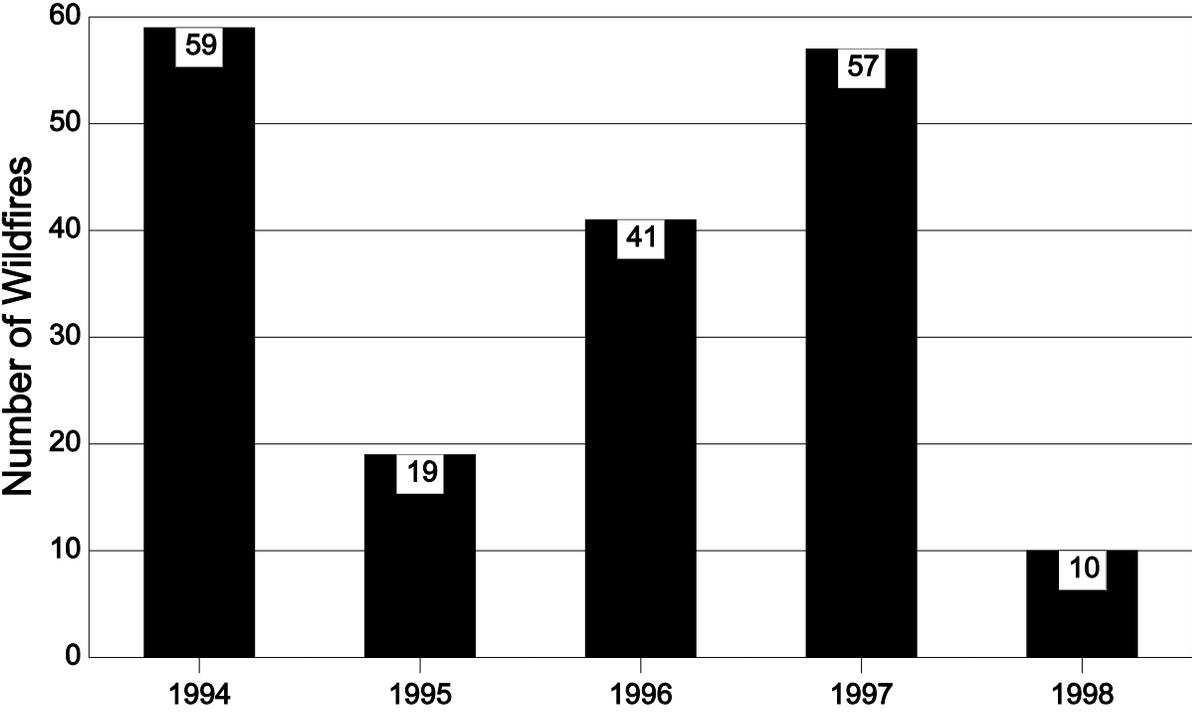
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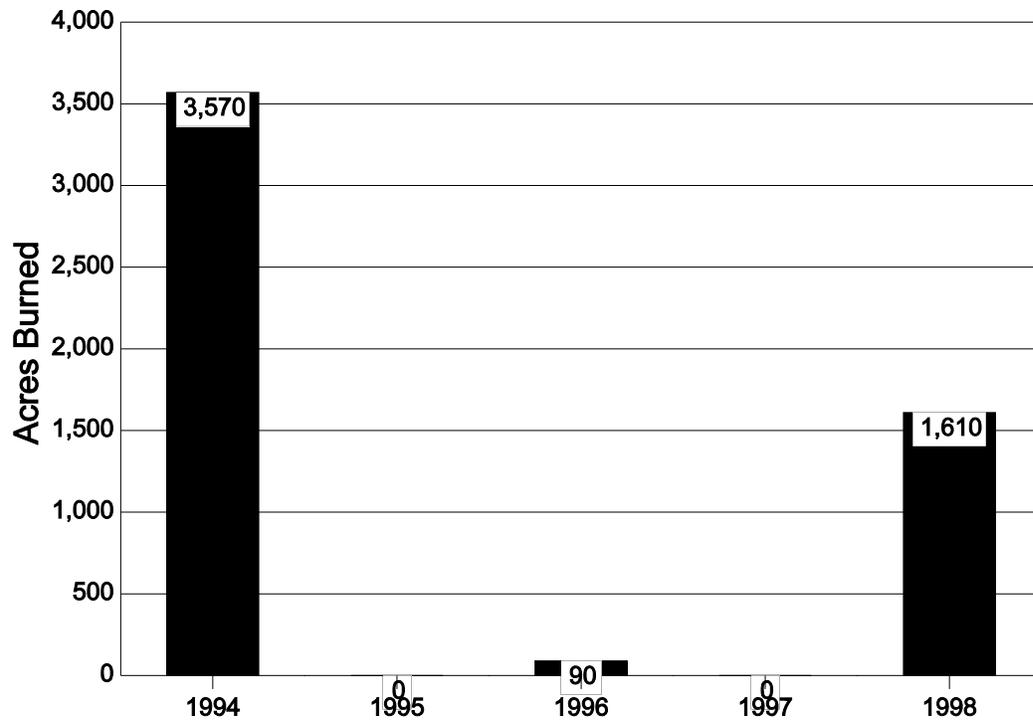
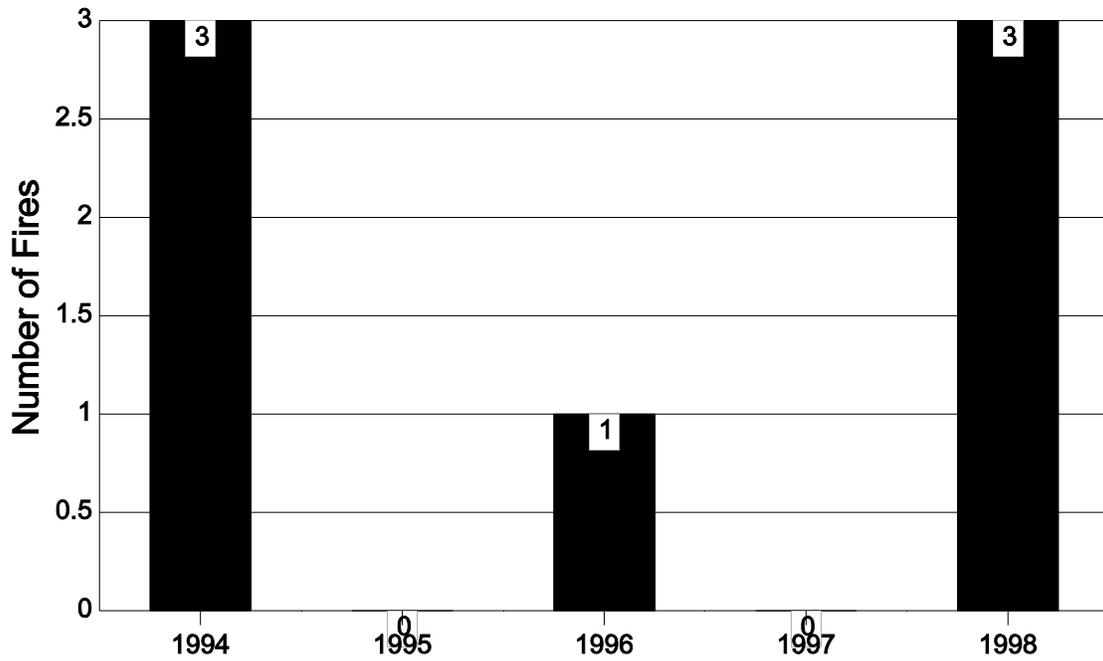
REGION 7

WILDFIRES 1994 - 1998



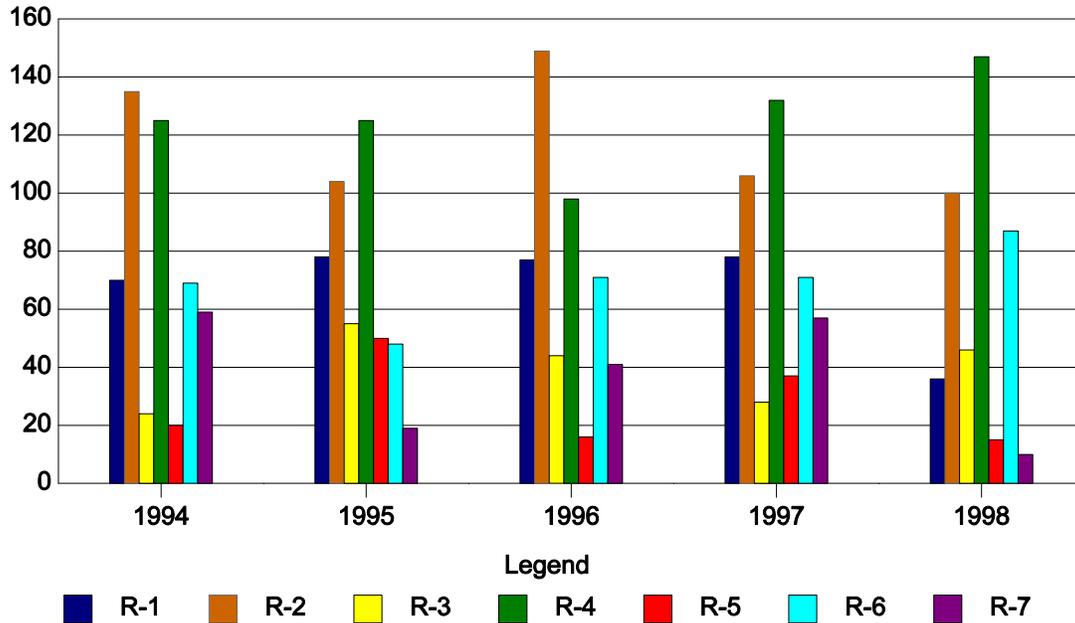
REGION 7

PRESCRIBED FIRES 1994 - 1998

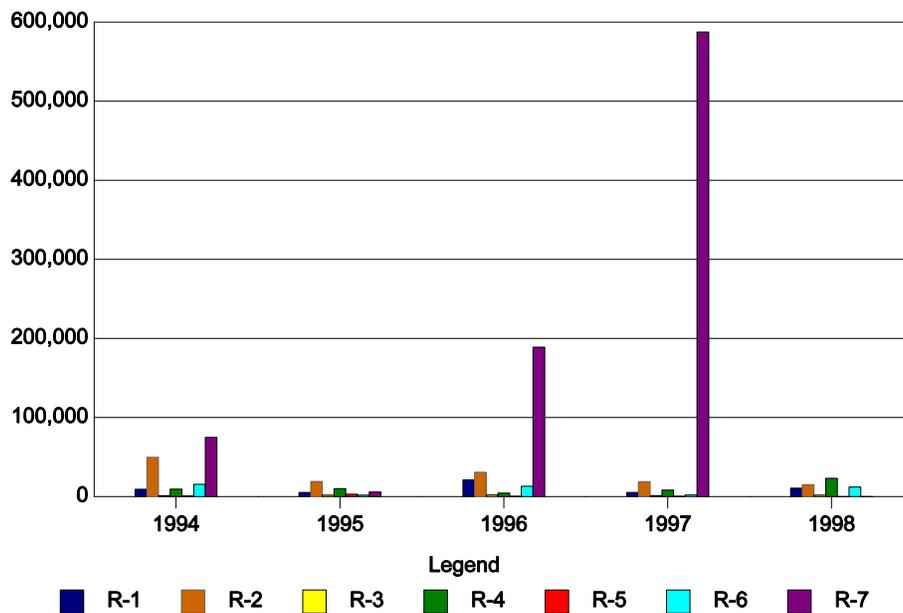


WILDFIRES 1994 - 1998

Number of Wildfires

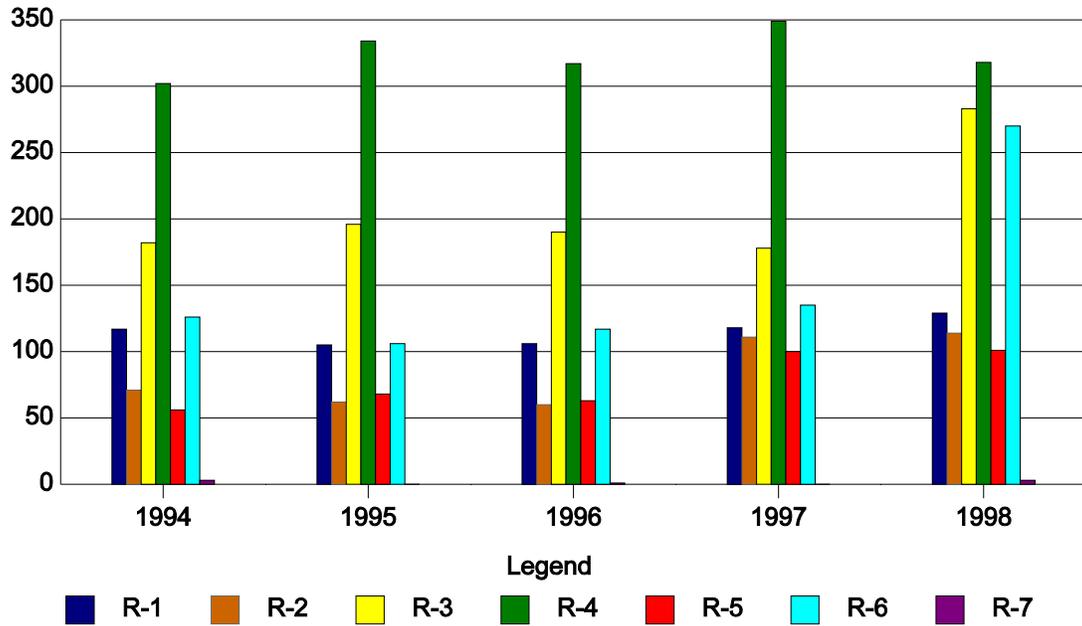


Number of Acres Burned

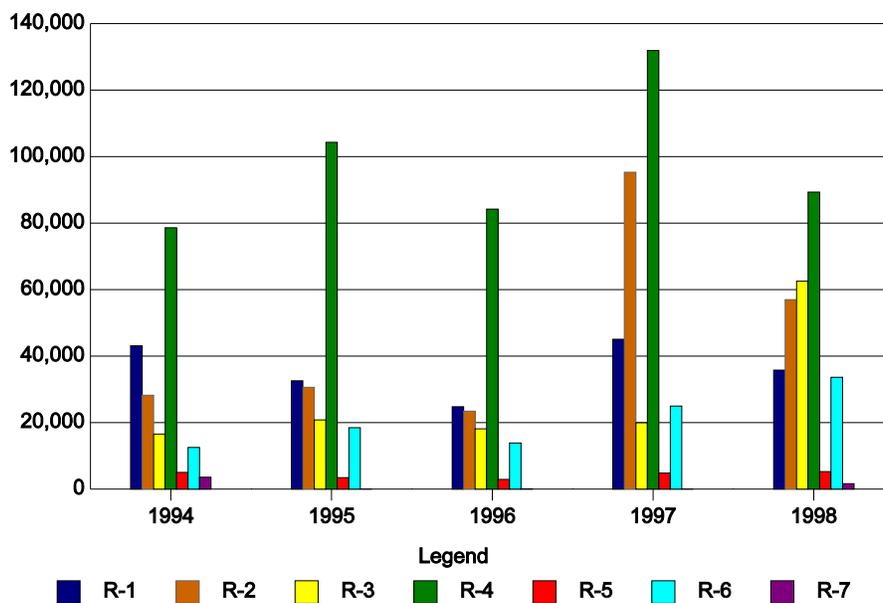


PRESCRIBED BURNS 1994 - 1998

Number of Burns

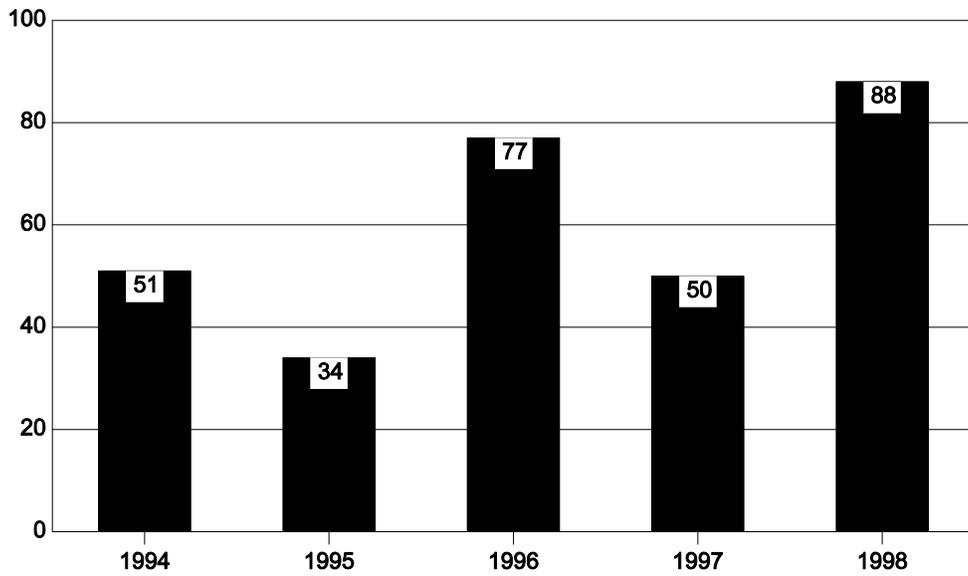


Number of Acres Burned

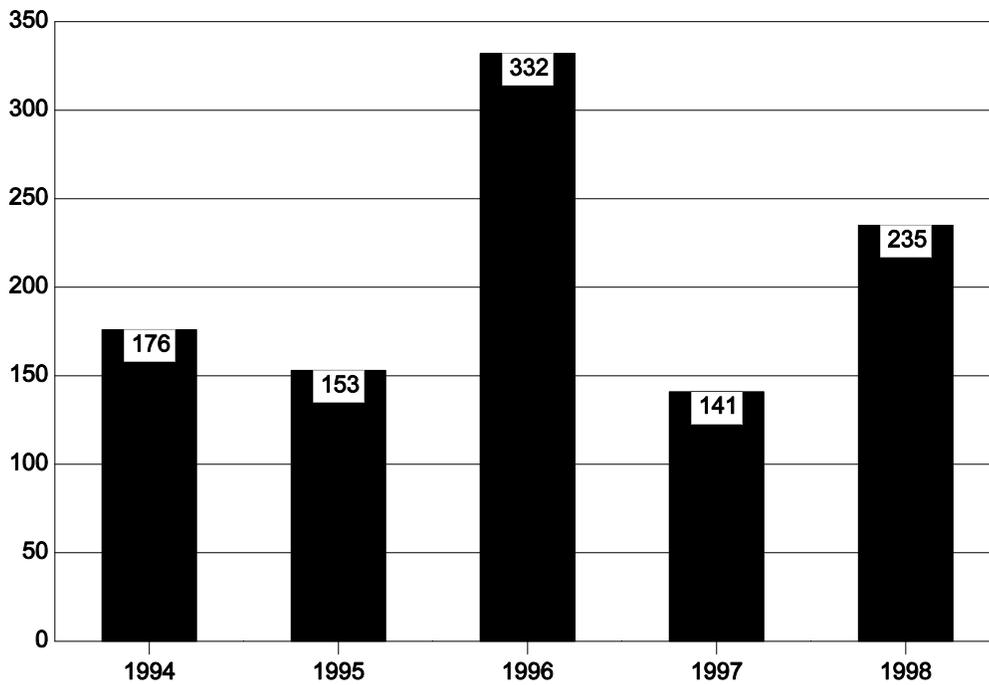


REGIONS 1 - 7

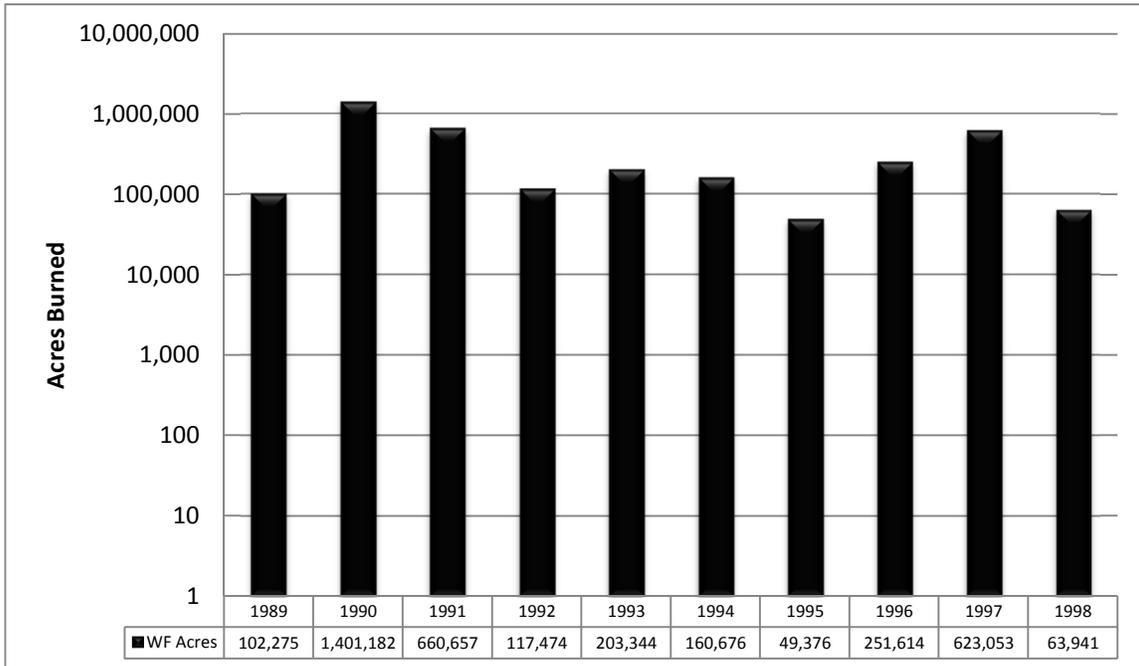
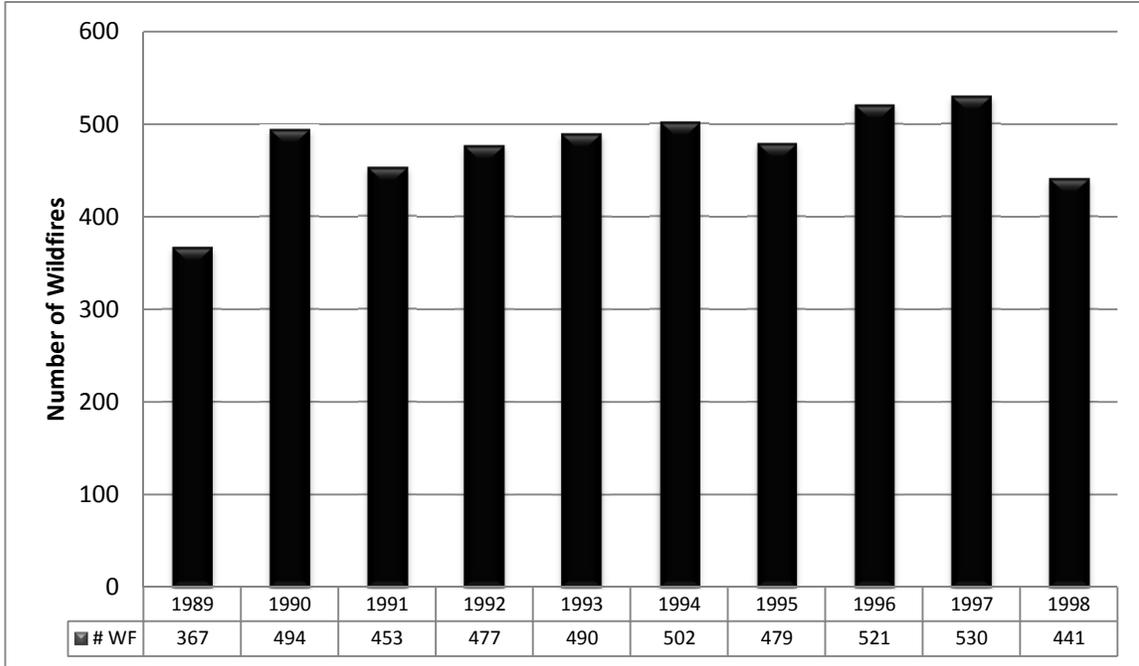
FALSE ALARMS 1994 - 1998



SUPPORT ACTIONS

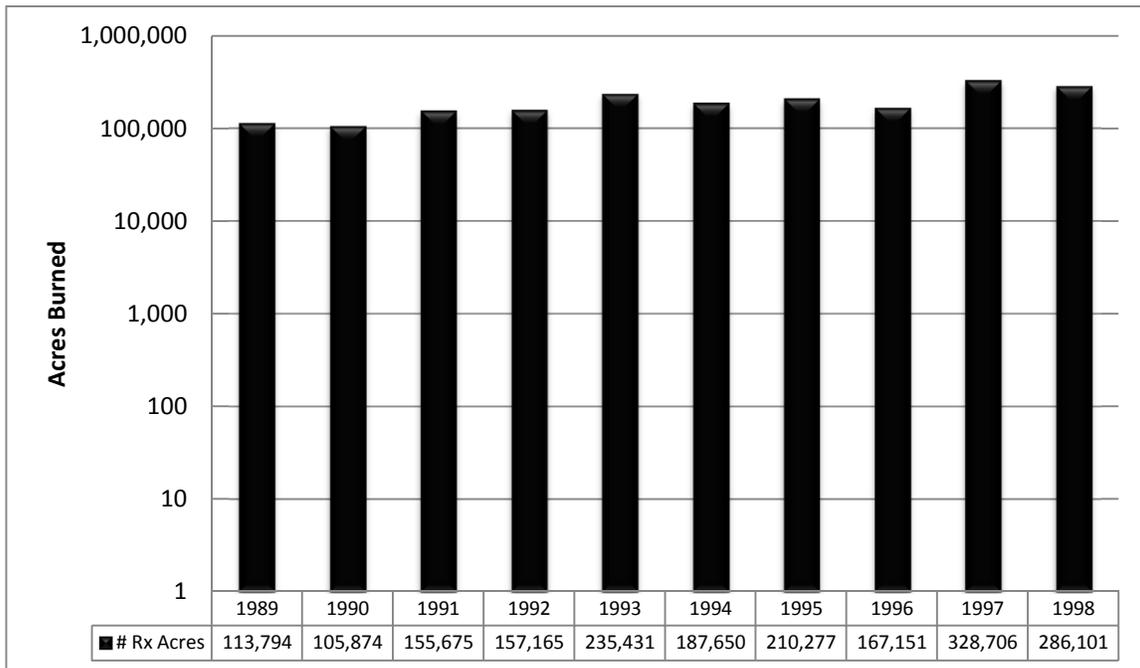
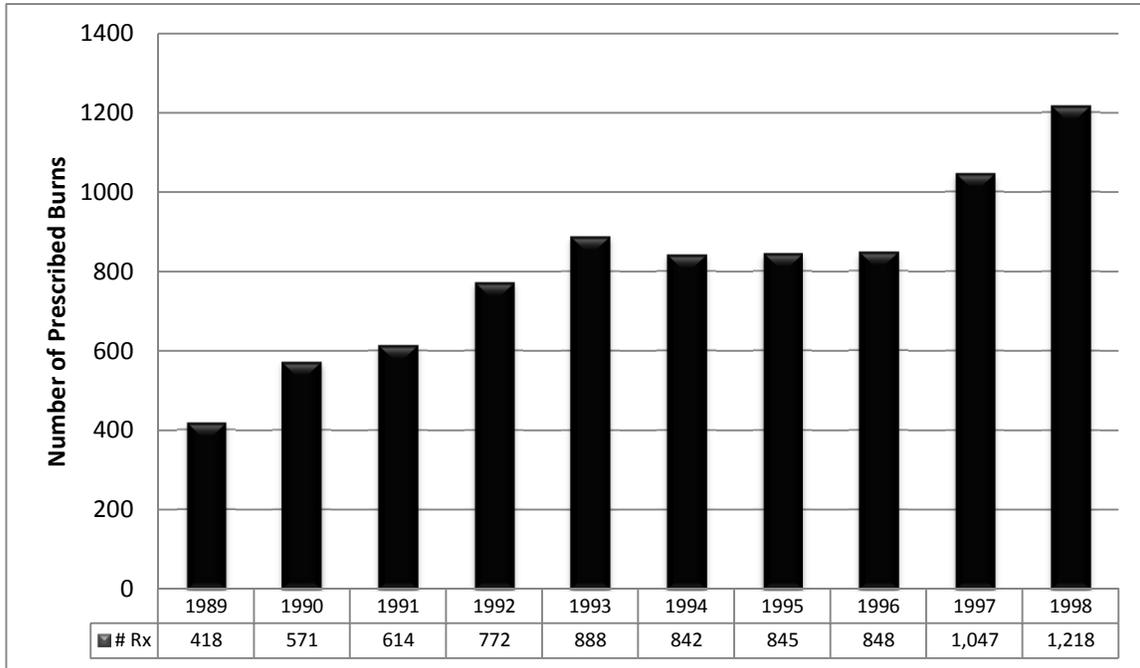


WILDFIRES 1989 - 1998



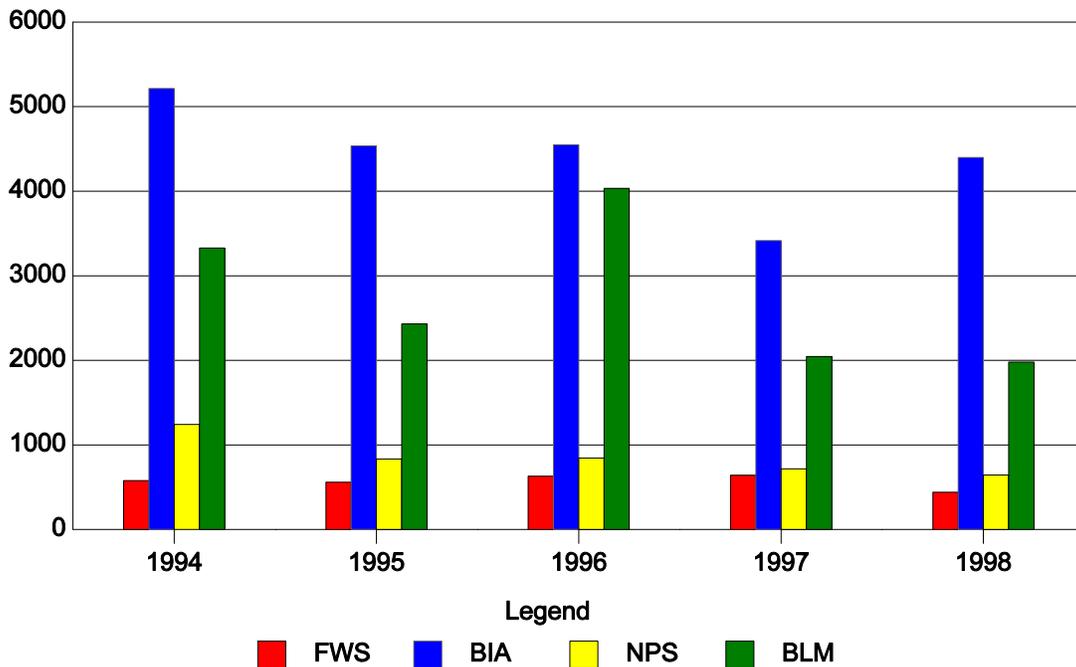
PRESCRIBED BURNS

1989 - 1998

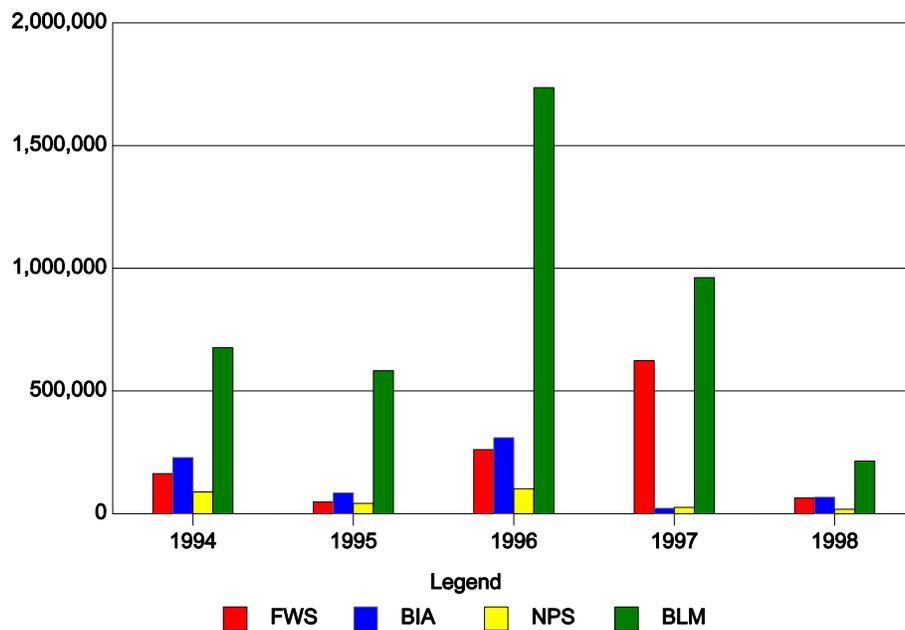


DEPARTMENT OF INTERIOR 1994 - 1998

Number of Wildfires

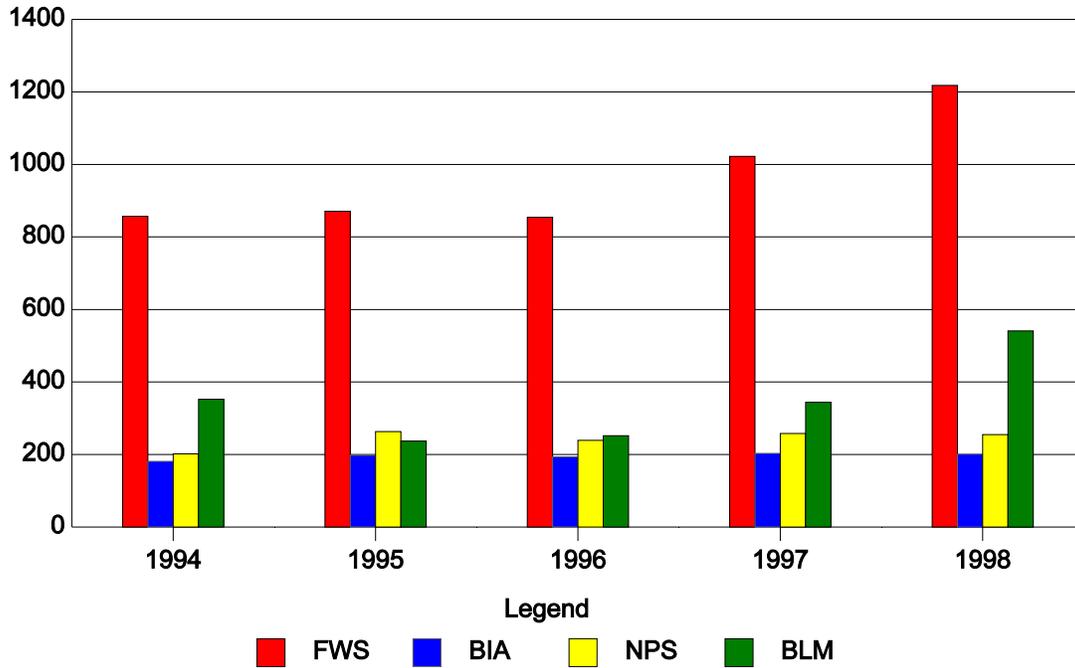


Number of Acres Burned



DEPARTMENT OF INTERIOR 1994 - 1998

Number of Prescribed Fires



Number of Acres Burned

