

# U.S. Fish and Wildlife Service Fire Activity Report



1997

# TABLE OF CONTENTS

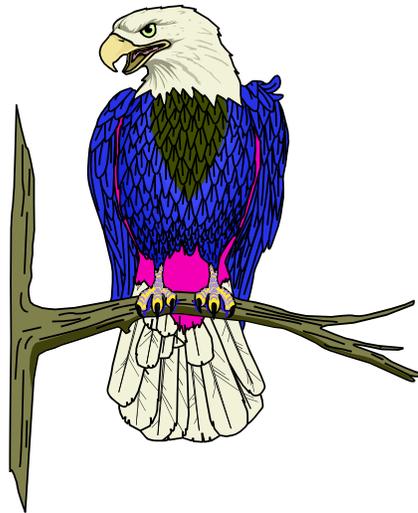
## 1997 Fire Statistics

Regional Map .....	i
National Fire Summary .....	1
Regional Fire Summary .....	2
Wildfires .....	18
By Cause .....	19
By Size Class .....	19
By State .....	20
10 - Day Period .....	22
Wildfire Occurrence Map .....	
Prescribed Burns .....	24
Burn Plan Objective .....	25
By State .....	26
Prescribed Burn Occurrence Map .....	

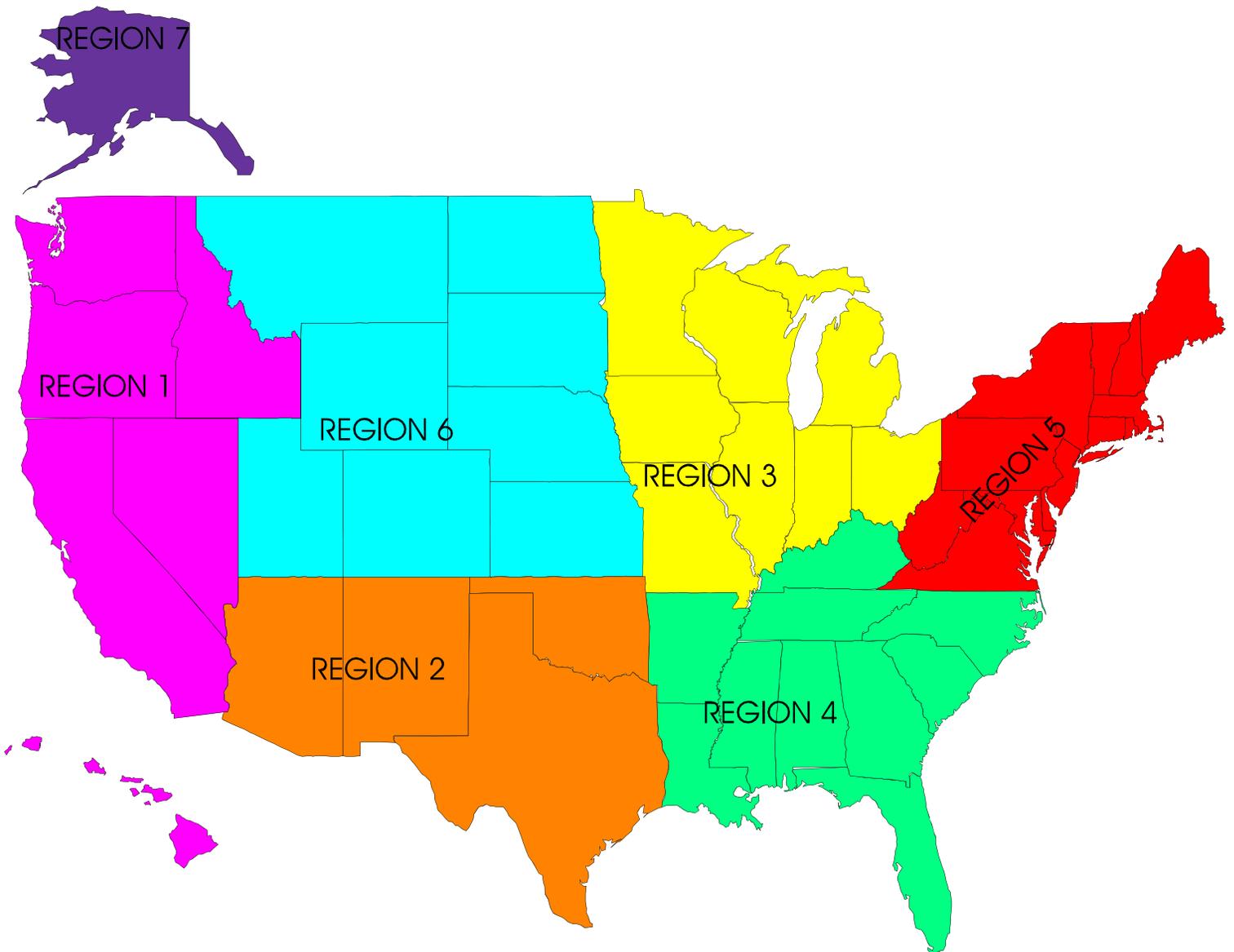
## 1993 - 1997 Statistics

Region 1 .....	29
Region 2 .....	31
Region 3 .....	33
Region 4 .....	35
Region 5 .....	37
Region 6 .....	39
Region 7 .....	41

Regions 1-7 .....	43
5-Year Average .....	45
False Alarms .....	47
Support Action .....	47
<b>1988 - 1997 Statistics</b>	
Wildfires .....	48
Prescribed Burns .....	49
<b>Department of Interior</b>	
Wildfires .....	50
Prescribed Burns .....	51



# U.S. FISH & WILDLIFE SERVICE Regional Map



# NATIONAL

The 1997 wildland fire season was, for the most part, pretty low key for the Service. The exception was in Alaska, where they burned over 587,000 acres of the Service's total 623,358 wildfire acres. There were no major accidents or injuries reported for the 1997 fire season, which is of greater importance than acreage accomplishments for the Service. Safety continues to be high on everyone's operational screen.

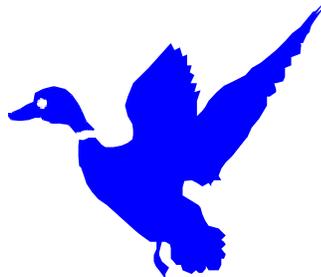
Major acreage accomplishments within the Service occurred in the prescribed fire subactivity. All Regions reported great success conducting prescribed fires due to a "cooperative" fire season, and by using some new strategies in supplying a work force to accomplish burning in several Regions. There were 991 prescribed burns conducted for 322,092 acres.

The national and Regional tables, along with the Regional narratives, provide the details of how and where. Not covered in the statistics are the dedication and professionalism that our employees exhibit in doing their jobs. This reputation continues to draw candidates from other bureaus to the Service and serves us well.

The Wildland Fire Management Program within the Service continues to grow, with an increase of 25 FTE above 1996 for a total of 273 FTE. Funding has increased from \$15,302,000 to \$15,660,000, which only includes Preparedness funding. The final work done by the Interior Fire Coordination Committee's Budget Team in 1997 in developing 1998 budget proposals has provided an opportunity for 1998 that should lead to significant increases in

overall support to the Service's Wildland Fire Management Program.

Carlos Mendiola retired after over 30 years of Federal service. Mike Benscoter has moved from the Training Specialist position to assume the Operations/Planning position vice-Mendiola. The Training Specialist position will be filled. Chris Garvin has filled the vacant Computer Programmer position.



Implementation of Fire Policy action items continues, with many items being completed. One significant item relates to enhanced safety through establishing qualification requirements for key fire management positions within all agencies' fire programs. The Service will adopt this nationally; new vacancies will be filled with qualified personnel, instead of filling the position and then hoping to train someone to "get the job done." Existing staffing will be reviewed against qualification requirements and where there are shortfalls, these will be made up or the individual reassigned. Accountability for this lies with Line Officers (Agency Administrators) at all levels.

As significant as the qualification requirements developed for fire positions is the development of required and recommended training for key Agency Administrators and staff positions. The intent is to ensure there is an understanding of responsibility and accountability for the Wildland Fire Management Programs in all agencies at various levels.

# REGION



In spite of the general “non-fire” year experienced by the interagency fire community in 1997, wildfire activity on refuges in the Region was fairly active. Southern California and east central Washington were the hot spots. Inter-refuge use of fire crews under the “Zone” concept continues to improve accomplishment of prescribed fires, and inter-regional sharing of fire crews continues to expand the experience base of Service fire personnel.

Regional fire staffing remained static until December when Eric Hagen transferred to a BLM fire position in Salmon, Idaho. Considerable dreaming and planning focused on the possibilities available through the new 9263 subactivity. Select staffing embellishments to improve service in support of the fire management Zones were identified, and are now in the recruiting process.

There were 119 wildfire starts on refuges in the Region, burning 11,253 refuge acres. Many of these fires were portions of much larger fires which burned onto or from other agency or private lands. Hopper Mountain NWR in southern California was overrun by a

fire burning in Los Padres National Forest. All but 19 of the 2,400 refuge acres were consumed, which included portions of condor rearing facilities in the area. Prompt action by rural fire department personnel saved most of the refuge management facilities. A

lightning strike on Columbia NWR quickly burned off the refuge onto private lands and consumed approximately 5,000 acres before it was controlled. Rehabilitation plans were completed and implemented on this and several other fires in the Region. Refuge fire crews also participated in 67 support actions on other agency

wildfires throughout the Region.

The “Zone” concept has greatly improved prescribed fire accomplishment in the Region. A total of 116 prescribed fires was completed for a total of 44,937 refuge acres burned. The largest of these was a 6,000-acre marsh burn on the Lower Klamath NWR in California. Refuge crews from Klamath Basin and Sheldon-Hart Complexes were able to exchange personnel resources with Florida Panther and St. Marks NWRs in Region 4 in support of prescribed fire activities in both Regions.



# REGION



## **Wildfire Suppression Operations:**

The 1997 wildfire season in Region 2 ended with 135 wildfire suppression incidents for a total of 18,457 agency acres burned. Human-caused fires (110) accounted for 12,237 acres burned, and lightning-caused fires (25) accounted for 6,220 acres burned.

### ***Oklahoma Stations:***

The Buoy Line fire burned 2,525 acres on Optima NWR on March 6, 1997. Including other agency lands, a total of 11,000 acres burned from this wildland fire. The fire started on private land adjacent to the refuge, with winds reported to be between 20 and 40 miles per hour.

Wichita Mountains WR responded to seven wildfire incidents on the refuge. The largest fire was controlled at 800 acres; four people were dispatched for eight interagency fire assignments.

### ***Texas Stations:***

The Texas Chenier Plain NWR Complex had a busy fire season in 1997. Fires occurred in all months except April. All three refuges in the Complex experienced wildfires, although the fires at Texas Point only threatened the refuge boundary. The Complex had 17 wildfires for a total of 11,608 acres burned. The addition of a Marshmaster

firefighting vehicle increased the Complex's firefighting capabilities. The Complex provided wildfire support to the State of Texas, the City of Port Arthur, and Sabine NWR.

The Tiocono fire burned 335 acres on Lower Rio Grande Valley NWR, with an additional 100 acres on private land. The fire started on July 20, 1997, on private land in a wildland/urban interface area, threatening several homes. Upon arrival of county and refuge initial attack resources, the fire was approximately 100 acres in size with rates of spread up to 25 chains per hour and flame lengths of 8 to 25 feet. Due to heavy fuels, high winds and access constraints, a local Type III team was activated.

Additional resources were ordered from Lufkin Zone, including a Type III helicopter and additional light engines. The fire was contained the following day, and required extensive mop-up operations for another six shifts before being declared out.

### ***New Mexico Stations:***

Refuges in the State of New Mexico had nine wildfire incidents for a total of 295 acres burned. A lightning-caused fire on Las Vegas NWR was controlled at 80 acres by New Mexico State Forestry Division and five volunteer fire department engines.

### ***Arizona Stations:***



Buenos Aires NWR suppressed 15 fires totaling 1,520 acres, and provided resources on seven incidents to assist interagency cooperators within the Southeast Arizona Zone. The Willow fire on Imperial NWR burned 200 acres in size and was started near the Martinez Lake Community. The refuge fire boat and BLM fire boat were utilized to prevent the fire from jumping to the west bank of the river, while several light engines and a dozer worked the right flank to prevent fire spread toward refuge headquarters. Cibola NWR had a 150-acre fire that was initial attacked by the Imperial engine crew with support from two BLM engines.

### **Prescribed Fire Operations:**

The 1997 prescribed fire season in Region 2 was very active and productive. A total of 119 burns was conducted for 96,027 acres burned. The Balcones Canyonlands prescribed burn module was instrumental in the level of burn day operations support provided to refuges in Texas.

### ***Oklahoma Stations:***

Wichita Mountains WR conducted two prescribed burns on the refuge. The Elk Mountain (moderate complexity) and Comanche Lake (high complexity) units totaled 7,401 acres. Additional personnel from Balcones Canyonlands NWR and Texas Cheiner Plain Refuge Complex were used to complete the burns. Salt Plains NWR treated six management units with prescribed fire in 1997. In November and December, 1,340 acres were burned. The fire crew at Wichita Mountains WR provided assistance to conduct these burns. The refuge outfitted a bunkhouse to facilitate the fire crew. This helped logistically and saved funds. An AFMO from Wichita Mountains WR was assigned to coordinate and assist with prescribed

fire activities at Salt Plains NWR.

### ***Texas Stations:***

Anahuac and McFaddin NWRs burned 14 units by prescription for a combined total of 35,805 acres. The 8,520-acre Wild Cow Bayou unit on McFaddin NWR was burned by aerial ignition using the ping-pong ball system. The refuges provided resource support for prescribed fires at Wichita Mountains, Matagorda Island, and Sabine Refuges. Aransas, Attwater Prairie Chicken, Brazoria, Balcones Canyonlands, and San Bernard Refuges prescribed burned an additional 70 units in Texas for a combined 29,766 acres.

### ***New Mexico Stations:***

Bitter Lake NWR burned three units for a total of 1,705 acres. The 1,435-acre St. Francis burn unit involved aerial ignition with a helitorch. Many outside resources which included personnel from the county volunteer fire departments, NPS, BLM, and BIA were needed and used to accomplish this burn.

### ***Arizona Stations:***

Buenos Aires NWR burned 15 units under prescription in 1977, totaling 20,700 acres. This is the most acres and highest number of units burned in 1 year in the history of this refuge. Forty-five volunteers from rural and urban fire departments participated on the burns for familiarization and training. Imperial NWR burned one unit for 200 acres.

### **Fire Management Program**

#### **Highlights:**

The Region's FTE allocation has nearly doubled in the past 2 years. This has provided a significant boost for the fire program in terms of fire protection and

fire use workload accomplishments. The addition of Fire Program Technician positions at three stations this year has provided the administrative and technical support needed to develop an effective fire management program.

This year saw development of the Fire Management District assigned to the Wichita Mountains fire management staff. Included in the District are Washita, Optima, Salt Plains, Deep Fork, Tishomingo, Hagerman, Little River, Little Sandy, Sequoyah and Oklahoma Bat Cave National Wildlife Refuges, and Tishomingo Hatchery.

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. Administrative assistance provided to refuges within the district included training, FIREPRO inputs, prescription development, and general fire management. A total of 98 staff days was used working on district activities.

A Fire Prevention Order establishing fire restrictions for BLM administered public lands within the Yuma and Lake Havasu field offices in Arizona and California, and the Imperial, Cibola, Bill Williams, and Havasu National Wildlife Refuges was effective from May 21, 1997, until September 7, 1997. This fire prevention effort of establishing fire restrictions on public lands along the Lower Colorado River has been showing positive results since its inception during the 1996 fire season.



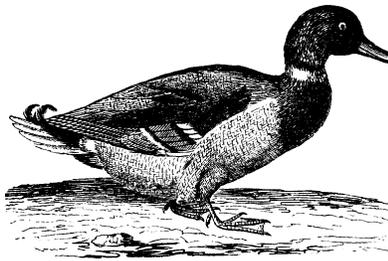
# REGION

As with most of the nation in 1997, it was a very slow fire year in Region 3. There were only six wildfires in the Region for 759 acres. Conditions were right in some parts of the upper Midwest, but ignition sources were absent.

It was business as usual in prescribed burning, with some field stations experiencing an increase of both number of burns and acres as compared to normal. One such field station was Detroit Lakes Wetland Management District, a part of the Minnesota Waterfowl and Wetland Management Complex. Five experienced firefighters were "borrowed" from Region 4 to augment the field station staff on a 21-day detail in which Region 3 paid travel, per diem, and salary for the period. The firefighters, including David Chisolm from S.E. Louisiana NWR Complex, Brian Winters from St. Marks NWR, and Dale ("Tater") Shiver from St. Vincent NWR all got experience with some "cold weather" burning, and made a significant contribution in dealing with a large backlog of approved but unburned acres. District Manager Rick Julian reports 4,014 acres were treated out of a planned 6,000 acres. Had the weather cooperated, the whole 6,000 would have been completed. Everyone expressed interest in returning - one even wanted to buy land. Their only complaint was that the palmetto was awfully short!

Region 3 also sent firefighters to other Regions to assist with prescribed

burning and some emergency presuppression. Three individuals were sent from northern refuges for a 3-week detail to Balcones Canyonlands NWR in Texas; one went from Necedah NWR to the Lower Colorado River NWR Complex, and one went from Horicon NWR to Kenai NWR in Alaska. This kind of experience is invaluable, and Region 3 anticipates more use of this type of detail with the increased emphasis on prescribed burning targets and assistance from the new prescribed fire funding authority.



Gary Swanson acted as course manager for an interagency session of RX-80 that was conducted at Itasca State Park in Minnesota.

There is increasing interest in the Park Service Fire Monitoring System by Minnesota DNR and the U.S. Forest Service.

Increased emphasis on monitoring at Region 3 field stations continues with the soon to be released Regional protocol for vegetation monitoring. It will be based on a revised Park Service Fire Monitoring Handbook in which greater use of statistical manipulation is possible. The Region has been involved with the FMH Steering Committee in adapting to Fish and Wildlife Service needs. No station will be required to change their monitoring strategy if they are using one that facilitates adaptive management and answers the manager's questions related to resource management objectives. If they are not, they will be asked to use the Regional Standardized Protocol.

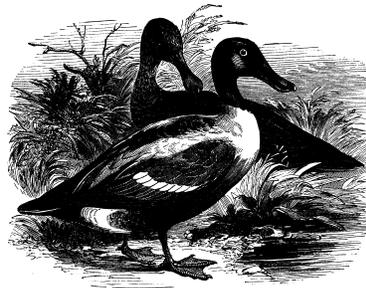
# REGION



## General

Region 4 had 153 wildfires covering 11,005 acres in 1997, an increase of 96% in acreage over 1996. 9,300 acres (84.5%) were burned in 23 fires (15%). The largest fire in the Region burned 2,000 acres (1,700 on refuge, 300 off) at Sabine Refuge in Louisiana. Besides wildfires, there were 352 prescribed fires conducted involving 132,024 acres.

This area is about 92% of the 1997 planned acreage. Wet weather along the Gulf Coast and in Florida were factors in not achieving 100% of our target. In reviewing numbers of acres prescribed burned since 1990, the correlation between acres burned and the amount of western mobilization remains strong.



Four stations burning over 10,000 acres each accounted for 55% of the Region's Rx acreage and 36.3% of the number of burns, as listed in the table below:

Sabine	7	25,444
Merritt Island	43	22,319
Carolina Sandhills	36	14,685
St. Marks	42	10,279
Totals	128	72,727

## Eastern Assist

Support was provided locally to other agencies on 23 fires in various parts of the Region, as shown in the following table:

Florida	7
North Carolina	10
Mississippi	5
Louisiana	1

Nineteen assignments were made outside of local refuge areas in the east. Even the weather front was quiet, with five firefighters assigned to cleanup resulting from hurricane Danny on the Gulf coast. That assignment was internal to the Service to assist at Bon Secour NWR. There were no assignments to FEMA during the year.

We supplied three firefighters to assist with prescribed fire in Region 3, and three were assigned from North Carolina to assist in presuppression at Great Dismal Swamp. One individual was assigned to the Washington Interagency Information Center for two 21-day periods.

## Western Assist

With the quiet season, only one security position was sent out west. The assignment was to California.

The mnemonics filled in 1997 are listed below:

AOBD            EDSD            FFT2    HECM  
                   HEMG            IOF3    OSC1    OSC2  
                   SEC1

For fires we supplied 13 individuals;  
 Filled 14 assignment requests;  
 Contributed 72 staff days (.17 FTEs);

For prescribed fire assistance we supplied 3 individuals and filled 3 assignment requests for 57 staff days (.22 FTEs). For fire presuppression we supplied 3 individuals and filled 3 assignment requests for 23 staff days (.09 FTEs);

For hurricane cleanup we supplied 5 individuals and filled 5 assignment requests for 23 staff days (.09 FTEs).

### **Miscellaneous**

Tony Wilder was carded as an OSC2 for PNF in 1996, in 1998 PNF is out (sorry, Tony). Five of our seven FMOs remain on Regional type 1 or 2 teams. We continued with cooperative assignments of resources for presuppression and prescribed fire to refuges in Regions 1 and 3. This is a real benefit to those involved.

We lost one employee to retirement during the year; Frank Cole, Fire Ecologist at Tall Timbers, retired in October. He will be missed in that position. At the same time we gained some depth in the western part of the Region with Chris Peterson coming to Sabine as FCO. We expect to lose Ray Farinetti (Merritt Island) and Ron Phernetton (Okefenokee) to retirement in 1998. This will be the first time we've had FMO slots open in the last 2 years.

The Region is cooperating with the Forest Service in setting up and managing a Prescribed Fire Training Center in Tallahassee, Florida. There are three sessions scheduled with personnel from different agencies and parts of the country attending. We are providing an FTE for the Center director with Forest Service funding. We expect that the operation will be fully functional and running smoothly by next winter's burning season. Experience is being gained on units of USFS, FWS, NPS, Florida Division of Forestry and Florida Parks. It is a win-win for everyone so far.

One Prescribed Fire Planning and Implementation course was held during the year, giving us the basic coverage for prescribed burning on most refuges. Only a few new employees or stragglers should require the training in the future.

# REGION



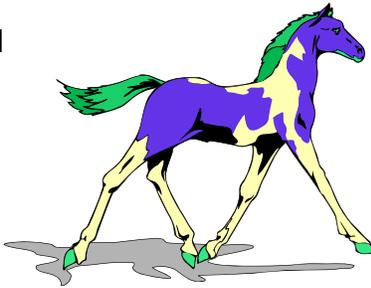
The 1997 winter prescribed burn season in coastal Maryland and Delaware was hampered by heavy rainfall and high tides. A total of 3,123 acres of marsh and 156 acres of woodland was burned at Blackwater and Bombay Hook, somewhat under the 5-year average. Further south in Virginia, Great Dismal Swamp prescribed burned a record high acreage between January and early May. During that period, refuge staff conducted 9 burns ranging from 14 to 640 acres each. The most notable burn occurred on May 7, when refuge staff (assisted by Blackwater and Pocosin Lakes, Region 4) executed two burns totaling 960 acres in volatile pocosin shrub-pond pine fuels using aerial ignition. A substantial increase in prescribed burning also occurred for New England refuges, with 22 individual burns totaling 295 acres. One interesting burn was conducted within the Concord, New Hampshire, city limits which was a milestone achievement, paving the way for future burning within the Concord Pine Barrens and establishment of critical Karner blue butterfly habitat.

Cooperative prescribed burning efforts continued in 1997. Great Dismal Swamp staff assisted The Nature Conservancy, Virginia Natural Heritage, and Virginia Department of Forestry in executing a 40-acre burn in one of the State's last remaining longleaf pine stands.

Severe drought conditions began developing throughout the Mid-Atlantic area by late May, setting the stage for an active wildfire season at Great

Dismal Swamp. A small, interior portion of the May 7 pocosin burn held residual peat fire during the ensuing 2 weeks, finally exceeded prescription limits for depth to water table, and threatened to become a smoke management problem. This 17-acre burn was declared a wildfire on May 23 and suppressed over the next 10 days. Dry lightning hit the North Carolina portion of the refuge on June 27-28, resulting in four new starts on the refuge and one on adjacent property. Refuge forces attacked the first and ultimately largest (30 acres), which occurred in pond pine-pocosin fuels. This fire required full mobilization of all refuge suppression resources and water handling equipment,

including a 3-week, high-volume pumping operation. Refuge forces also attacked four new starts detected on July 8 and 9. The North Carolina Forest Service made initial attack on three others, two of which were located on the refuge, under an existing cooperative agreement. Refuge staff were eventually able to assume management of these latter two refuge wildfires. Additional resources were ordered under Emergency Preparedness authority including three Type 6 engines, a Type III helicopter with bucket, helicopter crew and manager, and a water handling cache van from the Southern Area Cache in London, Kentucky. As is often the case, new initial attack activity subsided throughout the area once additional resources arrived. All resources provided invaluable assistance with extinguishing going fires, recovering and servicing equipment, and providing more frequent fire detection. The "Bust of 97" ended on July 18, when Tropical Storm Danny



drenched the area with several inches of rainfall.

Maryland drought conditions continued into August. A woodland fire in mid-August that burned less than an acre on Blackwater NWR, but 48 acres of adjoining commercial forest, occupied Maryland Forest Service and refuge personnel and equipment for 7 days. This fire was caused by a wrecker service truck towing a junk car down the highway, producing sparks which ignited 28 individual spots along a 4-mile stretch of road. The incident is still under investigation regarding cost recovery.

Northeastern coastal refuges from Long Island to Moosehorn experienced very dry conditions, while interior New England refuges were about normal for precipitation in 1997. At Moosehorn, step-up actions were initiated for a 3-day period in mid-August; fortunately, there were no ignitions during this period.

Training hosted by Region 5 stations in 1997 was limited to local S-130/190 sessions. Great Dismal Swamp FMO Dave Brownlie served on instructor cadres for several courses hosted by the National Park Service including S-211 Pumps, S-212 Saws, and RX-230 Ignition Specialist.

Several firefighters from Maine refuges participated in detail assignments again this year. Two went to Region 2 (Lower Colorado River Complex) under step-up actions during the Memorial Day holiday. Two participated in the Engine Training Detail with the Boise National Forest, and another assisted Great Dismal Swamp during summer step-up actions.

Fire Management Plans were completed and approved for Montezuma, Rhode

Island Complex, and Rachel Carson/Great Bay Complex. These are the first completed in Region 5 since the mid-1980s, using the guidance provided in the Service Fire Management Handbook. A timetable for completion of FMPs was approved by the ARD-Refuges and circulated to all refuges in the Region. FMPs for several large refuges were initiated in 1997, and will be completed in the near future.

New Type 6 engines were received by Moosehorn, Great Dismal Swamp, and Chincoteague. Maine refuges, which had always operated under low-band or no-band radio frequencies, finally received a single high-band frequency authorization from the National Telecommunications Manager in Denver which will permit common communications among inter-refuge prescribed burn and IA crews. Fifteen Transcript portable radios were purchased for six refuges, which will allow a minimum of two radios per refuge crew. The Transcripts are field-programmable, capable of narrow-band operations in the future, and at the time of purchase were the only portables on GSA contract.

RFMC Carter participated on the software development team for FIREBASE, the fire management budget and analysis system which will replace FIREPRO in the Fish and Wildlife Service. Meetings were held in Boise at the National Interagency Fire Center in July, September, November, and December.

# REGION



1997 was marked by diverse weather patterns in the Region. Most stations reported above normal rainfall during the typical fire season and saw an abnormally quiet wildfire season, as did much of the country. At the same time, parts of southern Nebraska and northern Kansas experienced one of the driest summers in this century. Refuges in the area were fortunate to have only a few wildfires, given the extreme drought conditions.

Fire activity included 70 wildfires for 2,003 acres, which was below the 5-year average for the Region. On the other hand, prescribed fire activity in the Region hit an all-time high of 137 management ignited prescribed fires totaling 25,019 acres.

1997 was another year of growth in the Region 6 fire management program. Fire management was enhanced by improved staffing and expertise throughout the Region. A Zone Fire Management Officer position was established for Colorado and Utah, stationed at the Interagency Dispatch Center in Craig, Colorado. Eight new career seasonal Engine Foreman positions were established across the Region.

In spite of the “slow” fire season nationwide, inter- and intra-Service cooperation in fire management was one of the highlights of the year. Because of it, a number of burns took place that would not have been completed otherwise. Personnel were shared among Zones and Regions to conduct prescribed fire planning, help conduct burns, assist with emergency

presuppression details, and participate in training details. Service personnel assisted the National Park Service with burns in several areas, received help from Forest Service personnel with prescribed burning and wildfire suppression, and conducted joint training at the local level. With Federal cooperators few and far between in many parts of the Region, such cooperation has not routinely taken place in the past. Hopefully, the interagency cooperation we experienced this year is an indicator of things to come.



1997 was the second year of a 3-year training program designed to bring station personnel to the level where there will be a core group at each refuge who can manage their fire program. This goal was all but

accomplished this year by offering two sessions of PFPI and S-205 Fire Operations in the Urban Interface, S-200 Initial Attack Incident Commander, several sessions of S-131 Advanced Firefighter, and an Engine Academy. In addition, several station employees attended training offered by the interagency community. As a result, most of the refuges now have trained, certified personnel on staff to conduct prescribed burns and respond to wildland fires. Carl Douhan was a member of the task group that developed S-131, and is currently involved in the development of RX-300 Prescribed Fire for Burn Bosses.

Special recognition and thanks go to Regional Prescribed Fire Specialist Carl Douhan for tackling tough issues and gray areas to create standardization in

many aspects of the Region's fire management policy, including prescribed fire burn plan elements, complexity rating, the burn plan review and approval process, qualifications (including a massive undertaking to update the Region's qualifications), physical fitness standards, and chainsaw qualifications.

The following highlights are reported by the four Zone Fire Management Officers stationed in Region 6.

#### Nebraska/Kansas Zone

Fire management was enhanced by improved staffing and expertise throughout the Zone. Two new career-seasonal fire crew supervisor positions were filled this summer by extremely capable individuals - Rich Sterry at Flint Hills and Bill Waln at Fort Niobrara/Valentine. They are already making their presence felt and are taking on a major part of the fire management responsibilities at their stations. Zone FMO Jim Kelton and Quivira FMO Morgan Beveridge went through their first burning season in the Zone. Their guidance and capabilities improved the quality and safety of all aspects of fire management at their respective stations and in the Zone.

FMO Morgan Beveridge spearheaded a particularly interesting program at Quivira NWR that holds promise for the future. He coordinated with the Hutchinson Community College fire science program to assist with the school on fire training, use students on refuge prescribed fires, and create a pool of Emergency Firefighters in the area. Through Morgan's efforts, these firefighters were formed into an EFF crew and sent to Colorado, where they saw action on several wildfires under the direction of FWS crew boss Tim Keller. The crew would have been used more

often if the fire season in the Rockies had been more severe.

A formal system of Fire Management Program Reviews for field stations within the Zone was continued. Kirwin, Quivira, Flint Hills, and Marais de Cygnes NWRs were reviewed by the Zone FMO, RFMC, and Quivira NWR FMO with generally very positive findings.

#### North Dakota/South Dakota Zone

There are numerous noteworthy accomplishments to report for the Dakotas' prescribed fire program. The largest burn accomplished was the 5,577-acre Wilderness Burn at Lostwood NWR. Lostwood is part of the Des Lacs NWR Complex, which completed the highest number of prescribed burns in the Region this year (25 for 11,521 acres) and was recognized with a Unit Citation Award for their outstanding efforts.

Refuge staff at Upper Souris NWR and J. Clark Salyer NWR responded to three large mutual-assist fires on adjoining private lands; the fires threatened refuge lands and were covered under mutual aid agreements. These three fires burned over 2,500 acres, and destroyed a large wooden bridge and one farmstead with a home, barns, pole sheds and numerous outbuildings. Refuge wildland fire expertise and assistance were greatly appreciated by our neighbors, and have fostered greater interagency cooperation than ever existed before. Working with our neighbors on these large fires also prompted the State Fire Marshal's office to join the North Dakota Interagency Fire Council, increasing the interagency effort in all aspects of fire management.

Several new career-seasonal Engine Foreman positions were created in the

Zone this year, greatly enhancing our professionalism in the fire management arena. Shannon Swanson was hired at Devils Lake WMD, Chase Marshall at J. Clark Salyer NWR, Don Lantz at Tewaukon, and Tom Eikenberry at Des Lacs.

The South Dakota fire management program took a large leap this year with the establishment of a district fire crew at Huron WMD. This crew saw a lot of action and traveled to numerous refuges in South Dakota to conduct prescribed burns, and was also detailed to Nebraska to assist with burn implementation. Along with helping to burn at Ft. Niobrara and Lake Andes NWRs, this crew also conducted the first burns ever on Huron WMD and helped re-establish a burn program at Madison WMD, which had not conducted a prescribed burn in over 10 years.

Prescribed burn crews from the Dakotas also assisted on a number of burns in Kansas. Several individuals were detailed to Region 1 to assist with burning programs.

J. Clark Salyer NWR continued performing as the interagency dispatch center for all fire agencies in North Dakota, compiling and submitting daily and weekly reports to Billings Interagency Dispatch Center throughout the year. Plans were completed for an office addition at J. Clark to house the Zone fire offices and interagency dispatch center, which should be completed during the summer of 1998.

J. Clark Salyer NWR also established the first interagency fire cache in North Dakota this year, using a building procured from excess property from Minot Air Force Base to house cache operations. The building was moved to the site, a foundation was poured, and the interior construction completed by the end of the year. Total cost of the

facility was under \$8,000, and interagency partners were quite impressed with its unveiling during the fall 1997 North Dakota Fire Council meeting sponsored by J. Clark in November.

### Colorado/Utah Zone

The Colorado/Utah Zone was formed based on the need for a greater level of fire management assistance for refuges in those States. A Zone Fire Management Officer position was established and filled by Lou Ballard in June 1997. Lou has proven to be a valuable addition to the Region 6 fire management team.

The year began with very dry weather throughout the Zone. Just when fire season was starting to pick up, the rains came and they didn't stop. Despite all this, some important highlights should be noted. Brown's Park NWR reported the only significant wildfire activity in the Zone. They also assisted the National Park Service and Bureau of Land Management, State of Utah, and a private landowner on nine wildfires. Brown's Park completed one prescribed burn for 220 acres.

Three other refuges in the Zone completed one prescribed burn each. Fish Springs burned 1,300 acres, Rocky Mountain Arsenal burned 18, and Alamosa/Monte Vista burned 20. The burn at Alamosa/Monte Vista was an interagency effort that was completed by prescribed burners from the Rio Grande National Forest. Continued interagency cooperation and partnering have yielded the small successes that have occurred in this Zone and will be built on in the future.

### Montana/Wyoming Zone

One permanent career seasonal engine foreman position was added to the

Zone. Joanna Roberts was selected and reported for duty in May. She is stationed at Sand Creek Substation, Charles M. Russell NWR.

Despite the wet year, Zone FMO Mike Granger was able to conduct several prescribed burns. Burns were conducted by Zone fire staff at Hailstone, National Elk, Medicine Lake, Lee Metcalf, and Benton Lake NWRs. Burns were also planned for the National Bison Range and Red Rocks NWRs, but never came into prescription.

Late into the summer, after most seasonal firefighters were back in school, Central and Eastern Montana entered into very high fire danger. Zone FMO Granger activated the Emergency Presuppression account, and

prepositioned an additional engine and crew at Sand Creek and Jordan for 1 week. He also had a Single Engine Air Tanker (SEAT) on standby at the Lewistown airport. On September 15, lightning ignited two fires on CMR. The Hubbard fire grew to 800 acres, and the Ice Cream fire was 120 acres before being controlled. The SEATs from Miles City and Lewistown were used extensively and very effectively on these two fires.

All in all, it was a very busy and productive year. Fire management in Region 6 made vast strides in professionalism, operational efficiency and safety, and the outlook for the future appears excellent.

# REGION



While the 1997 fire season may have been low key in most of the United States, such was not the case in Alaska. Approximately 95% of the acreage that burned as a result of wildland fires on National Wildlife Refuges in the United States in 1997 occurred on refuges in Alaska. The final tally on refuges in Alaska was 57 fires for over 587,000 acres. The first and last refuge fires of the season both occurred on islands - the first on Kodiak Island (Kodiak NWR) on April 16, and the last on Yukon Island (Alaska Maritime NWR) on August 16. Weather patterns resulted in abundant lightning storms through the summer, and many of the fires that occurred on refuges were lightning caused. Most of the lightning was wet in the eastern half of the State and dry in the western half; consequently, most of the fire activity and larger fires were in the western half of Alaska. Wildland fires occurred on 12 of the 16 National Wildlife Refuges in the Region. The most activity occurred on Innoko NWR, where nine fires burned over 545,985 acres on the refuge. Although the largest fires on Innoko NWR were over 300 miles from Anchorage, smoke from those fires did impact the Anchorage bowl in late June. Fires on Innoko NWR also significantly impacted non-fire refuge operations for most of July. Of the 57 fires that occurred on refuges in Alaska, 1 for 0.1 acres occurred in a critical response Zone, 17 for 4,328 acres occurred in full response Zones, 21 for 17,648 acres occurred in modified response Zones, and 19 for 565,655 occurred in limited response Zones. Most of the limited

response fires and several of the modified response fires received surveillance action only. None of the refuge fires in Alaska required a higher level of response than extended attack, although four refuge fires required preparation of Wildland Fire Situation Analyses. Rain in August finally put a damper on fires throughout the Region. On an interagency basis, almost 2 million acres burned in Alaska in 1997.



In 1997, R-7 FWS personnel filled interagency fire assignments in positions which included Incident Commander Type 4, Division Supervisor, Strike Team Leader-Crews, Firefighter, Helibase Manager, Helispot Manager, Helicopter Manager, Helicopter Crewman, and Fire Investigator. All of the assignments were in Alaska.

Two staffing changes occurred in 1997; both were vacancies of existing positions. The Tetlin NWR FMO position was filled in April by Bruce Miller, who transferred in from an NPS position at Everglades NP. The Kenai NWR AFMO position was filled in December by Doug Newbould, who transferred in from a USFS position at Chugach National Forest. Jon Krapfl from Horicon NWR in R-3 filled a detail to Kenai NWR in August while the AFMO position was vacant, and provided invaluable assistance to the refuge fire management staff.

R-7 FWS personnel participated as members on numerous interagency committees in 1997, including the

NWCG Wildland Fire Education Working Team, and Alaska GACG Committees including Firefighter Safety and Health, Prevention and Education, Research Development and Applications, Fire Weather and RAWS, Training and Qualifications, and Air Quality.

Interagency and interregional instructor assistance was provided by R-7 FWS personnel in 1997 for Fire Program Management, S-130/190, and Wildfire Cause Determination classes.

While all refuges in Alaska are currently covered by the Alaska Interagency Fire Management Plan, work on updating or preparing specific refuge fire management plans continued at a slow but steady pace.

Fire outreach and education continued to be an important focus for R-7. A new "Role of Fire on National Wildlife Refuges in Alaska" display was utilized at the Alaska Public Lands Information Center in Anchorage, and during National Wildlife Refuge Week festivities in both Fairbanks and Anchorage. Presentations were made on the role of fire in Alaska at Science Camps at Innoko and Yukon Flats NWRs. Tetlin NWR held a Fire in the Forest Carnival for children, and also made presentations on the role of fire in Alaska at two local Cultural Camps. A fire ecology station was hosted by FWS fire personnel at interagency Outdoor Days festivities in Fairbanks. A graduate credit course for teachers on the Role of Fire In Alaska Curriculum was given in Fairbanks in association with Project Learning Tree. Personnel from Kenai NWR provided a teacher in-service orientation on the Role of Fire Curriculum for the Kenai Peninsula Borough School District, manned a fire learning station at an interagency Environmental Education Week event, and provided fire and forest ecology

expertise on several field trips for school children.

Another focus in R-7 was ongoing efforts to promote fire research in Alaska to improve the abilities of refuge managers and fire program managers to make fire management decisions. The USFS Pacific Northwest Research Station assisted through a cooperative agreement collecting and analyzing data on fuel loading, duff moisture, fire behavior and fuel consumption on selected refuges in Alaska. Darold Ward's nationally funded Smoke Emissions Study was logistically supported, and Darold was able to collect aerial samples from some of the Alaska refuge fires that occurred in 1997. Input was also provided for refinement and finalization of information on Alaska Fuels in the nationally funded Natural Fuels Photo Series. Other investigations supported included fire history at Kenai NWR and small mammals sampling at fire sites on Koyukuk NWR. FWS personnel played a key role in developing a statement of work proposal entitled "Assessing Wildfire Impacts on the Winter Habitat Use and Distribution of Caribou in Alaska's Boreal Forest Ecosystem" that was submitted to the Interior Fire Coordination Committee for potential funding.

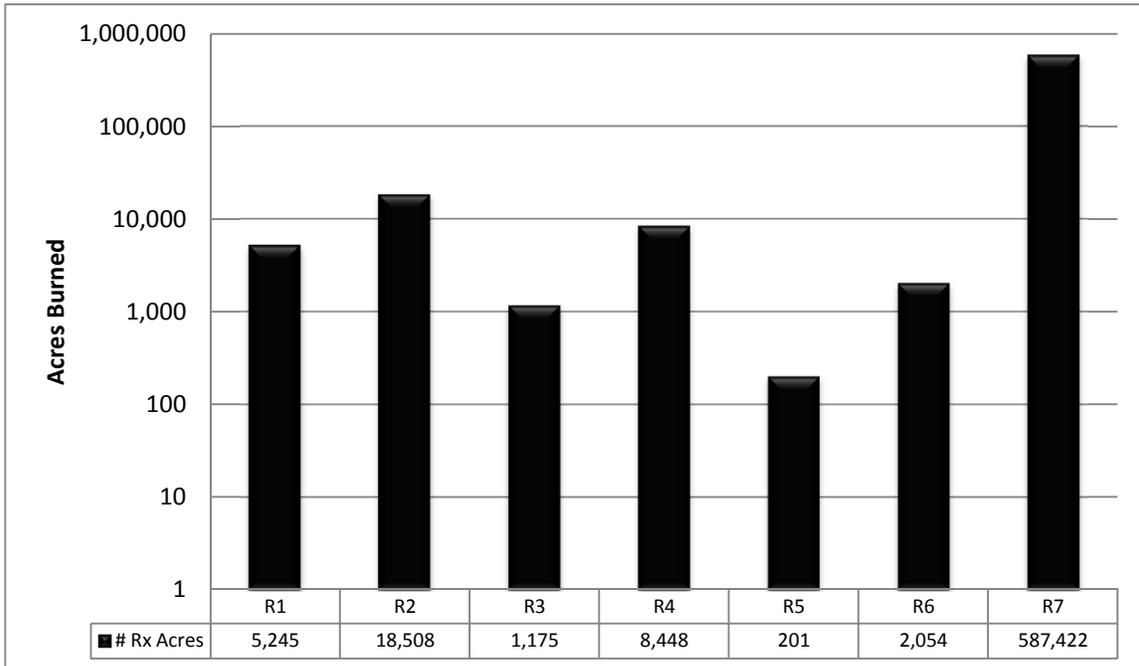
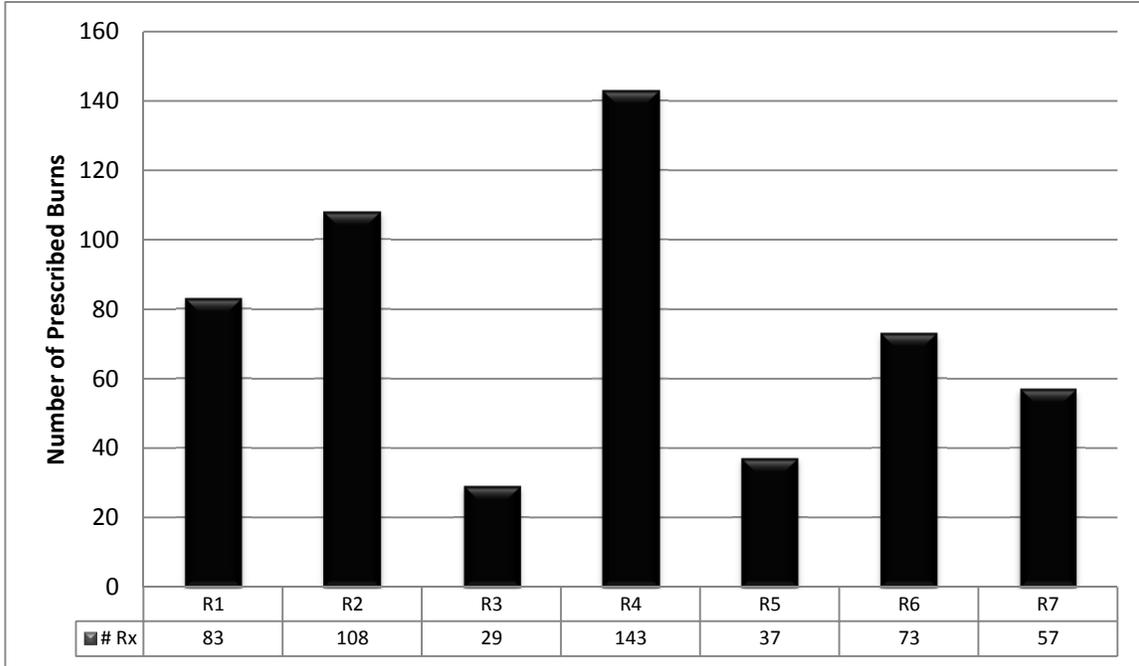
An interagency radio and RAWS maintenance agreement between NPS, BLM, and FWS that was initiated in 1996 continued to be effectively utilized. Although plans were approved for prescribed burns scheduled on two refuges in Alaska in 1997, there were no prescribed burns initiated due to uncooperative weather patterns in some areas, and impacts on availability of personnel and equipment because of sustained wildland fire activity. Prescribed fire planning assistance was provided to the State of Alaska by FWS

personnel. Pre-burn monitoring plots were established on a prescribed burn site on Kenai NWR in 1997.

While there is always room for improvement, the 1997 fire season in Alaska was a success. First and foremost, it was safe. Cooperation and communication between suppression agencies and refuge managers was productive. Suppression efforts and

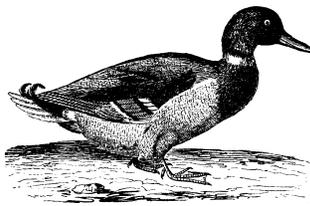
expense were commensurate with values to be protected. Threatened values were successfully protected. Last but not least, ecological benefits from the landscape-scale occurrence of wildland fire on refuges within the framework of the Alaska Interagency Fire Management Plan, approved Refuge Fire Management Plans, and Refuge Comprehensive Conservation Plans were realized.

# WILDFIRES 1997



## WILDFIRES BY CAUSE 1997

CAUSE	# FIRES	# ACRES
Lightning	154	590,768.4
Debris/Vegetation Burn	100	14,371.2
Equipment Use	53	646.4
Incendiary	89	2,826.9
Open or Outdoor Fire	32	214.1
Smoking	24	2,618.5
Other Causes	23	592.3
Undetermined	55	11,015.6
<b>TOTAL</b>	<b>530</b>	<b>623,053.4</b>



## WILDFIRES BY SIZE CLASS 1997

SIZE	# FIRES	# ACRES
A (0 - .2)	155	17.3
B (.3 - 9.9)	191	455.5
C (10 - 99.9)	109	3,901.5
D (100 - 299.9)	36	5,863.8
E (300 - 999.9)	24	13,464.5
F (1000 - 4999.9)	8	19,896.8
G (5000 +)	7	579,454.0
<b>TOTAL</b>	<b>530</b>	<b>623,053.4</b>

# WILDFIRES

## by State

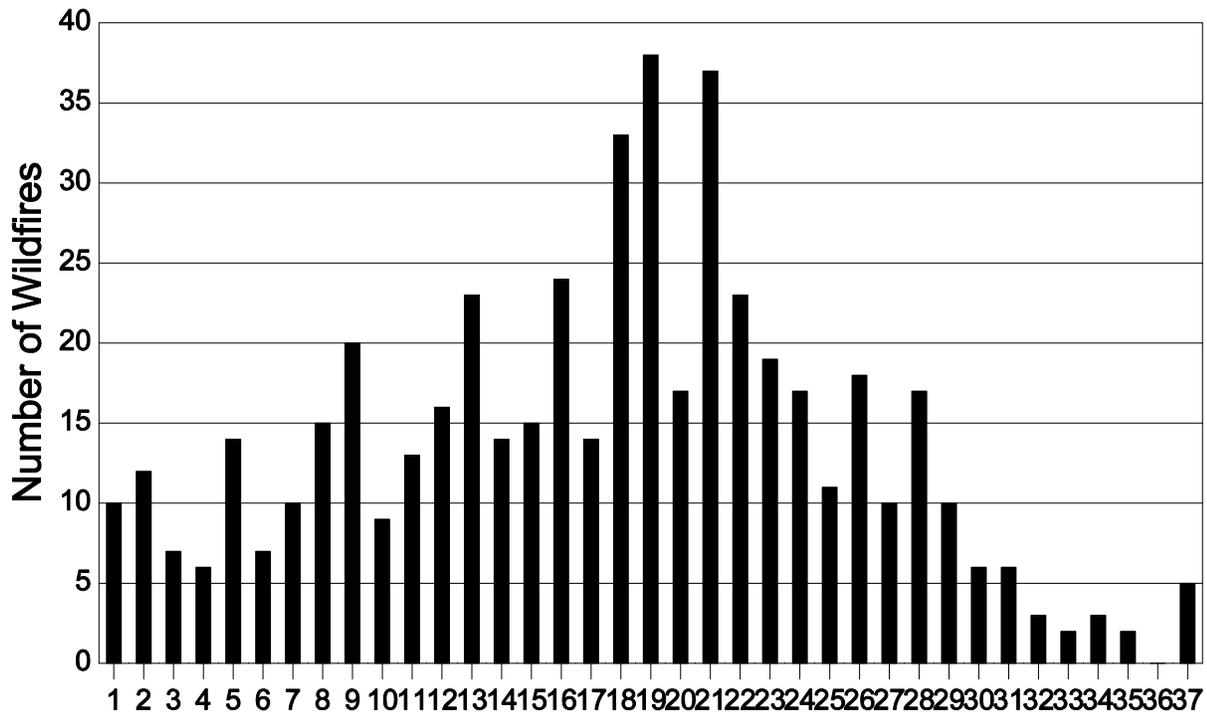
### 2007

<u>State</u>	<u># Fires</u>	<u>FWS Acres</u>
Alabama	11	461.1
Alaska	57	587,422.0
Arizona	19	2,229.7
Arkansas	2	83.5
California	30	2,690.6
Colorado	1	1.0
Deleware	5	24.6
Florida	33	266.2
Georgia	5	214.1
Idaho	8	57.1
Illinois	2	1.3
Kansas	10	59.6
Louisiana	56	6,863.0
Maine	3	4.3
Maryland	13	115.4
Massachusetts	1	0.1
Michigan	1	1.0
Minnesota	18	994.7
Mississippi	7	131.9
Montana	15	1,154.7
Nebraska	16	432.9
Nevada	12	460.5
New Hampshire	1	0.1
New Jersey	1	1.0
New Mexico	8	295.7
New York	2	2.0
North Carolina	17	297.2
North Dakota	28	388.2
Oklahoma	11	2,608.6

Oregon	10	643.3
Pennsylvania	1	1.0
Puerto Rico	6	82.8
South Carolina	6	47.5
South Dakota	3	17.6
Tennessee	3	2.5
Texas	69	13,223.7
Virginia	7	51.0
Washington	24	1,543.5
Wisconsin	8	178.4
<b>Total</b>	<b>530</b>	<b>623,053.4</b>

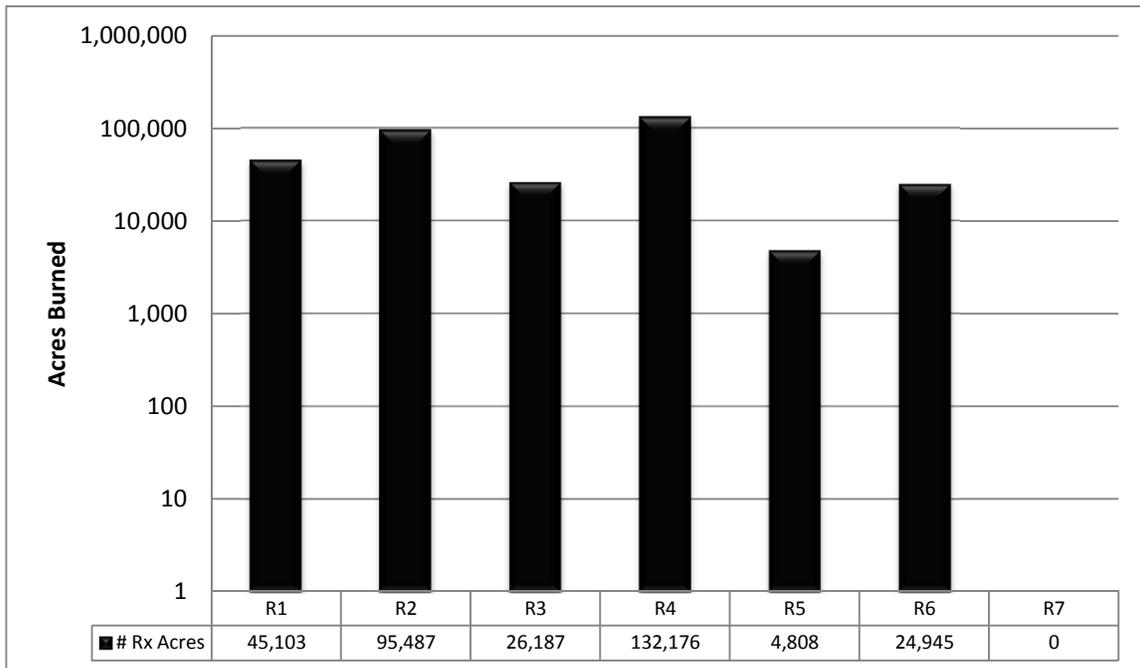
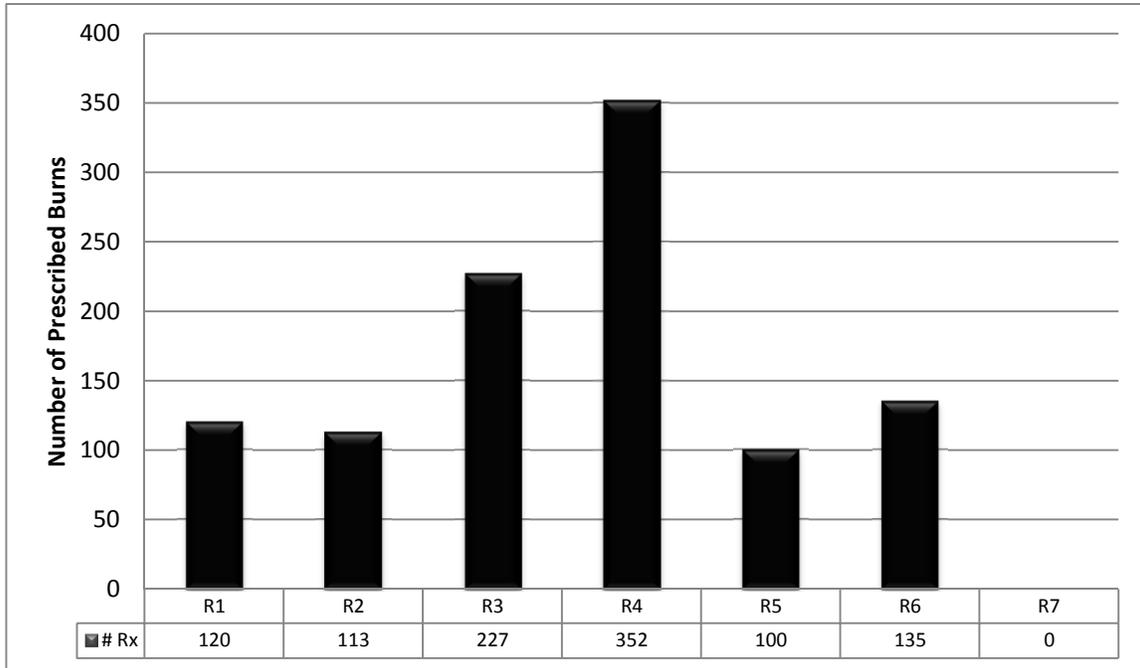
# WILDFIRES - 1997

## 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		

# PRESCRIBED BURNS 1997

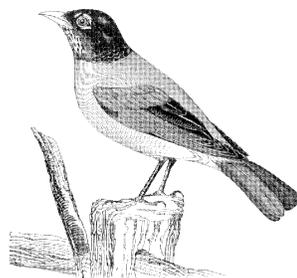


# PRESCRIBED BURNS

## Burn Plan Objective

### 1997

OBJECTIVE	# FIRES	# FWS ACRES
<b>Natural Systems</b>		
Exotic or Undesirable Species Control	81	30,257.6
Habitat Maintenance	535	132,768.0
Research	12	2,111.3
<b>Hazard Reduction</b>		
Fuel Reduction	327	151,878.7
Fuel Break Maintenance	1	10.0
<b>Maintenance</b>		
Debris Removal	37	1,674.9
Vista Maintenance	1	5.0
<b>Not Identified</b>	53	10,000.0
<b>TOTAL</b>	1,047	328,705.5

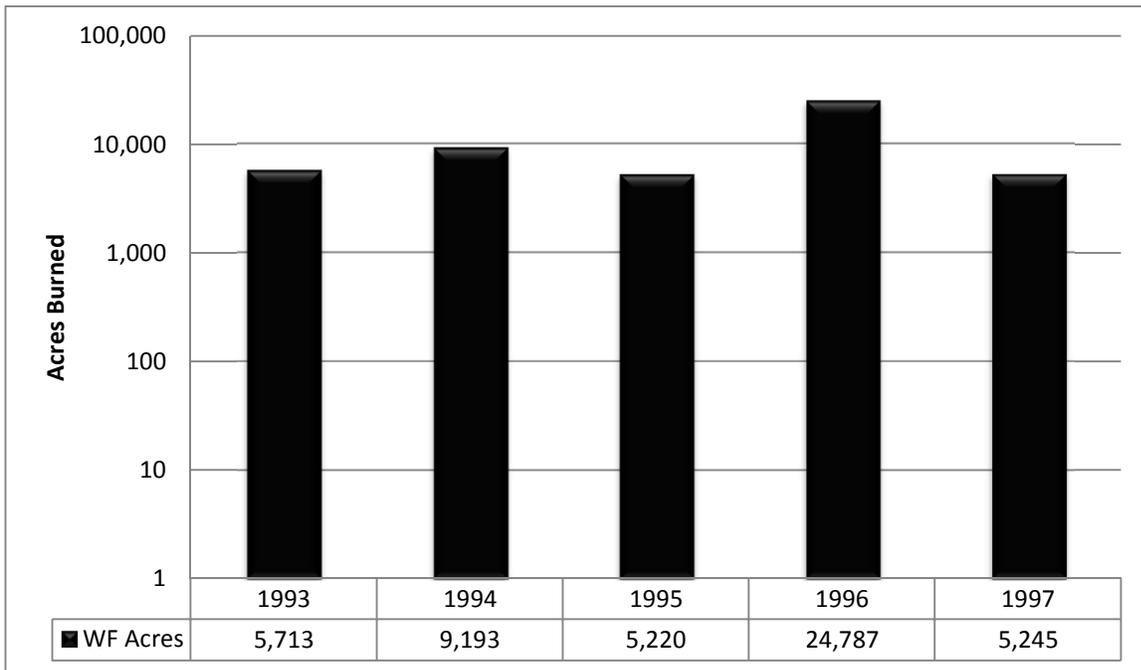
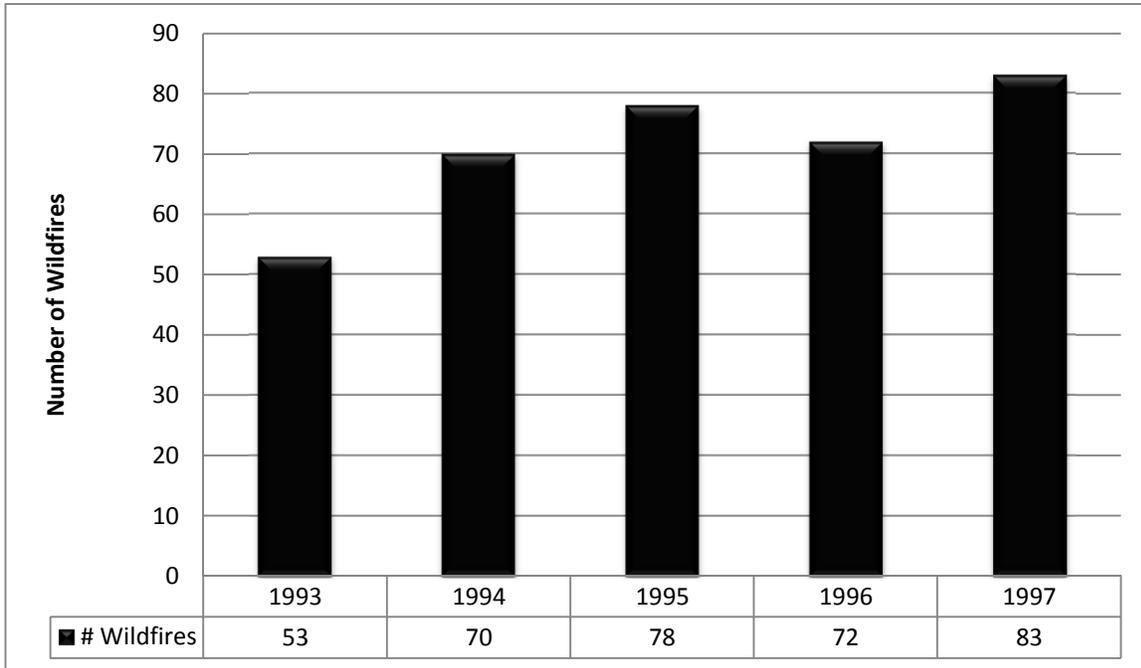


**PRESCRIBED BURNS**  
**by State**  
**2007**

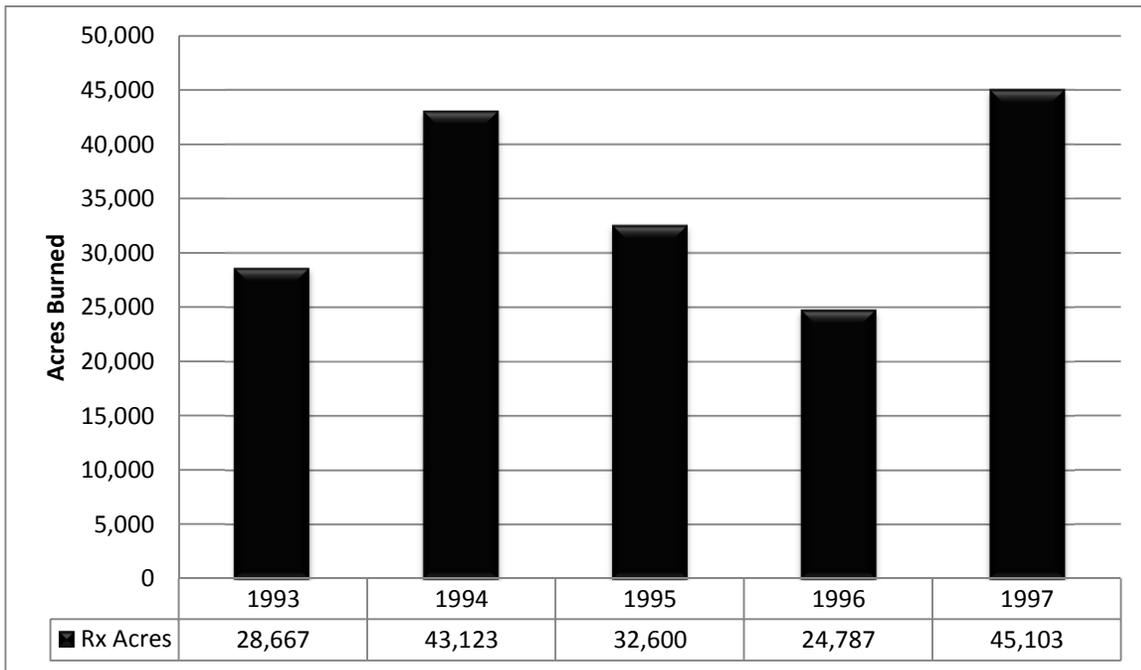
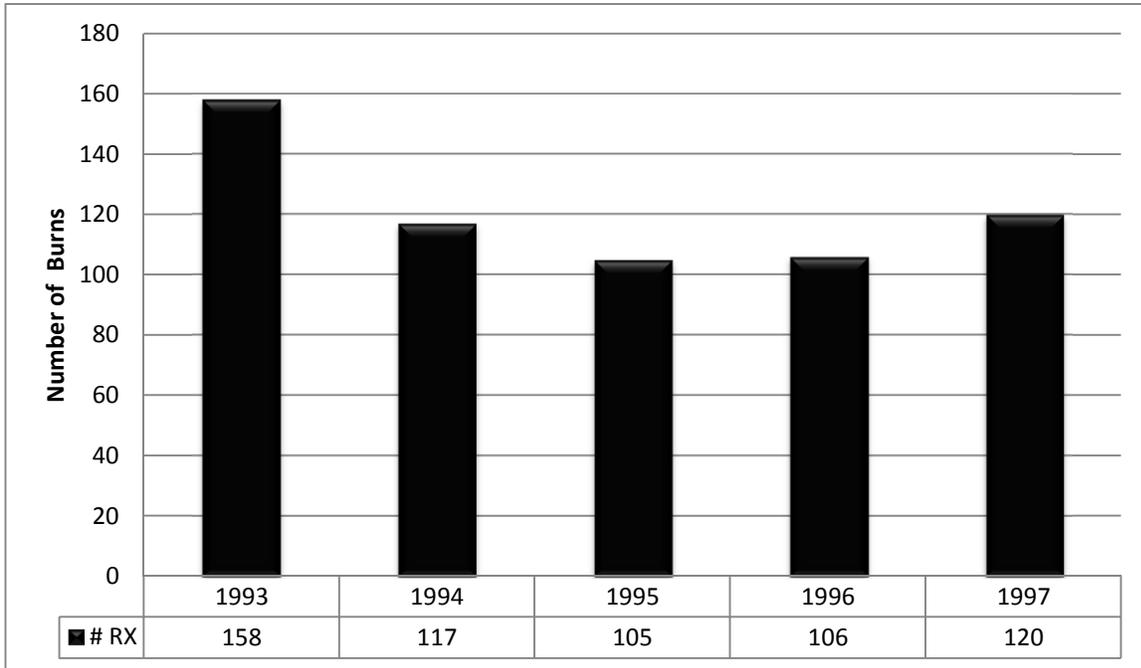
<u>State</u>	<u># Fires</u>	<u>FWS Acres</u>
Alabama	3	138.0
Arizona	18	21,447.0
Arkansas	1	300.0
California	50	28,268.2
Colorado	2	240.0
Deleware	4	70.6
Florida	124	43,076.4
Georgia	49	12,552.9
Hawaii	3	6.0
Idaho	1	200.0
Illinois	11	288.2
Iowa	13	687.0
Kansas	18	2,202.5
Louisiana	30	31,840.2
Maine	17	165.1
Maryland	50	3,137.0
Michigan	8	341.0
Minnesota	138	19,222.7
Mississippi	45	10,408.5
Missouri	7	320.0
Montana	8	1,249.0
Nebraska	23	1,849.2
Nevada	18	4,483.5
New Hampshire	1	2.3
New Mexico	6	2,485.9
New York	8	94.5
North Carolina	50	17,156.0
North Dakota	87	17,995.2
Oklahoma	9	8,736.0

Oregon	33	10,297.7
Pennsylvania	4	118.7
South Carolina	50	16,731.4
South Dakota	4	136.0
Tennessee	1	7.5
Texas	80	62,817.8
Utah	1	1,300.0
Vermont	3	115.0
Virginia	12	1,069.5
Washington	15	1,848.0
Wisconsin	41	5,141.0
Wyoming	1	160.0
<b>Total</b>	<b>1,047</b>	<b>328,705.5</b>

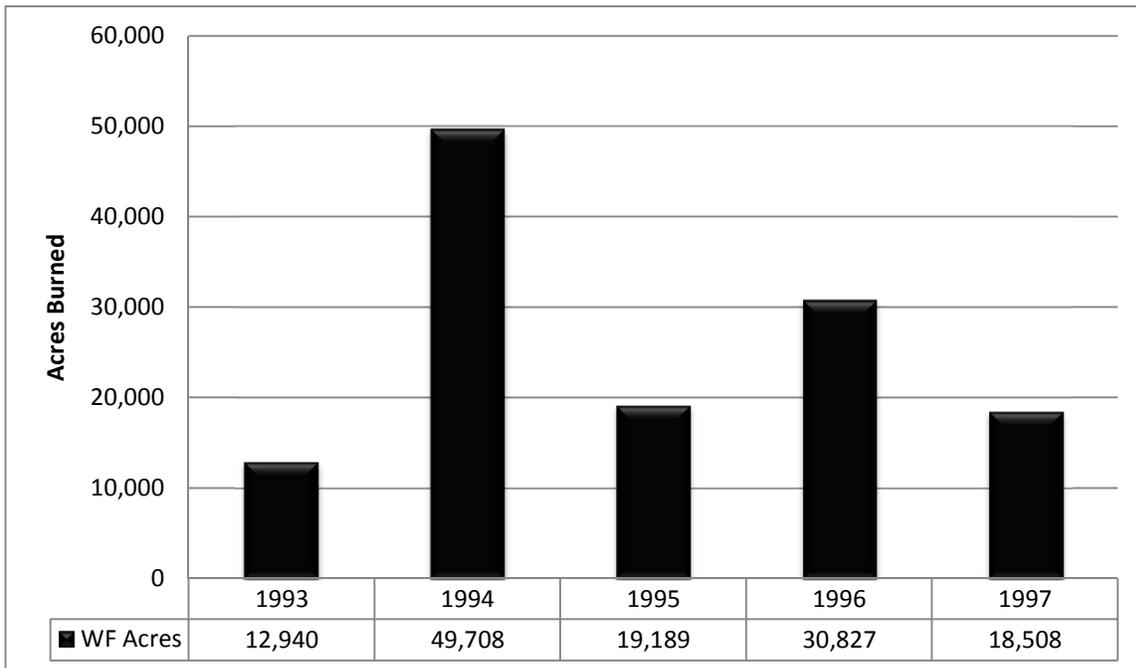
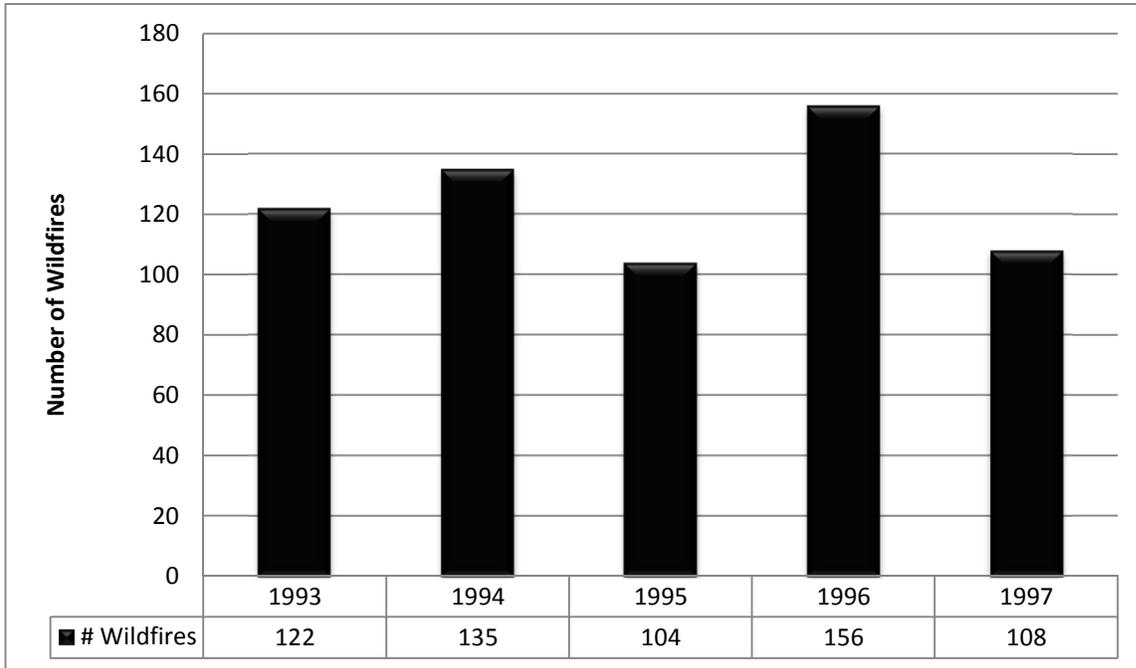
## REGION 1 Wildfires 1993 - 1997



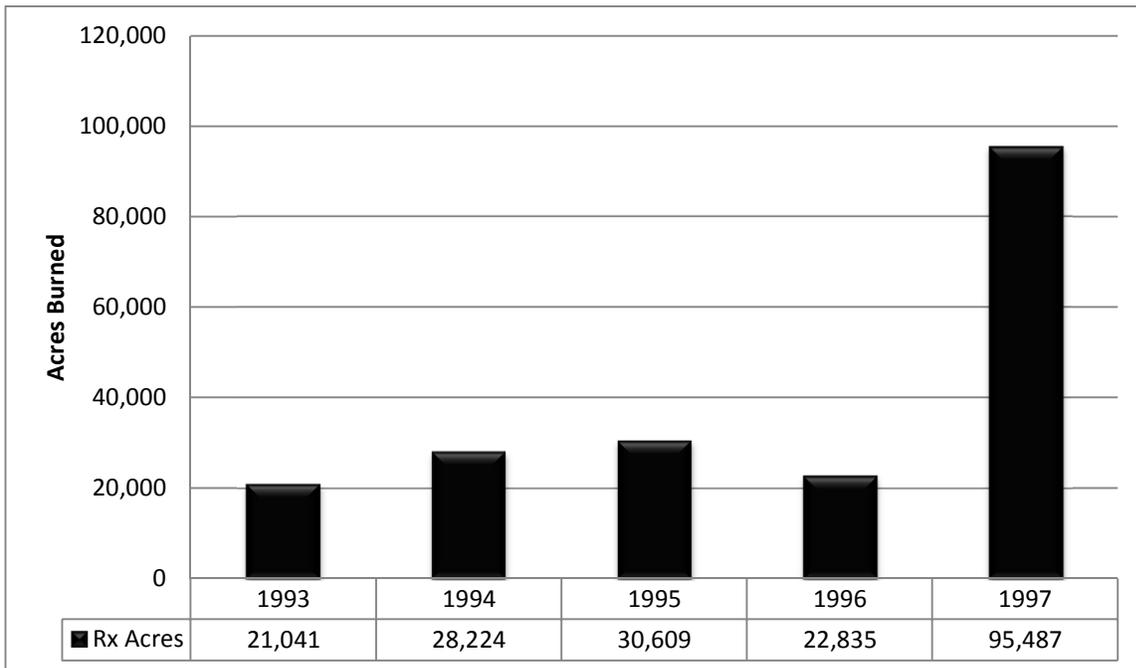
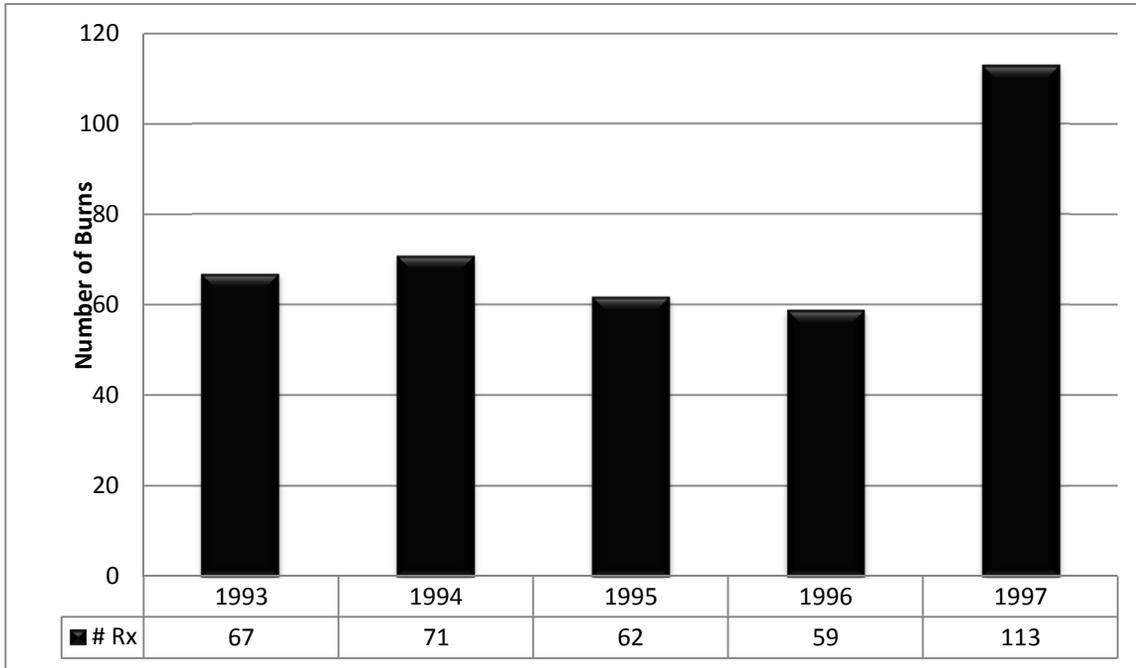
## REGION 1 PRESCRIBED BURNS 1993 - 1997



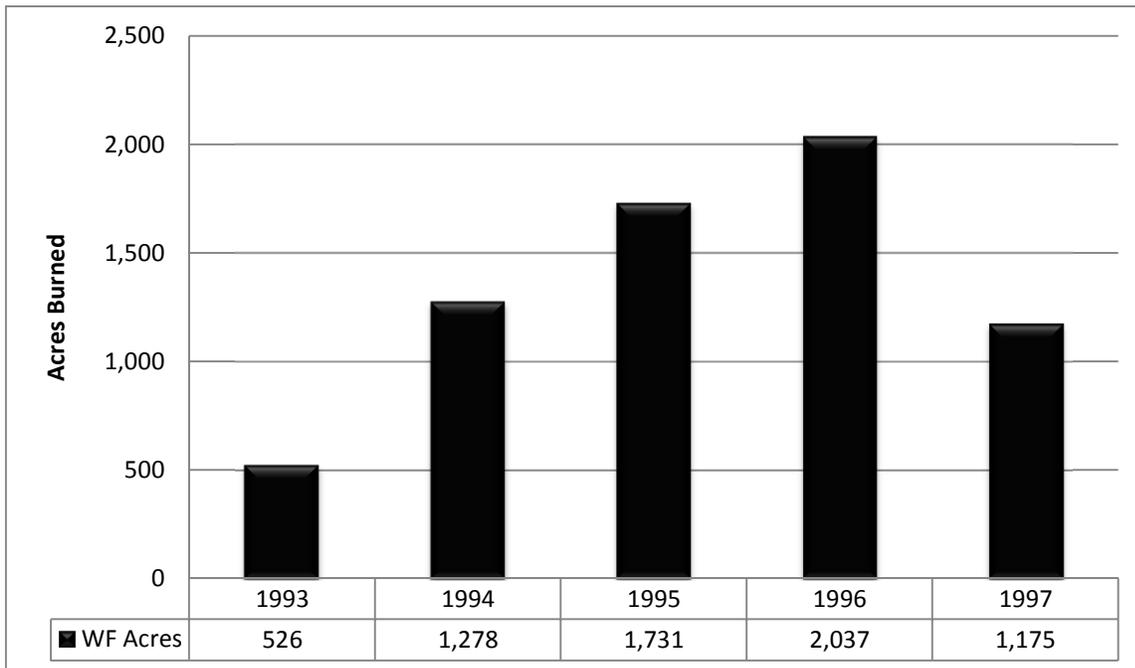
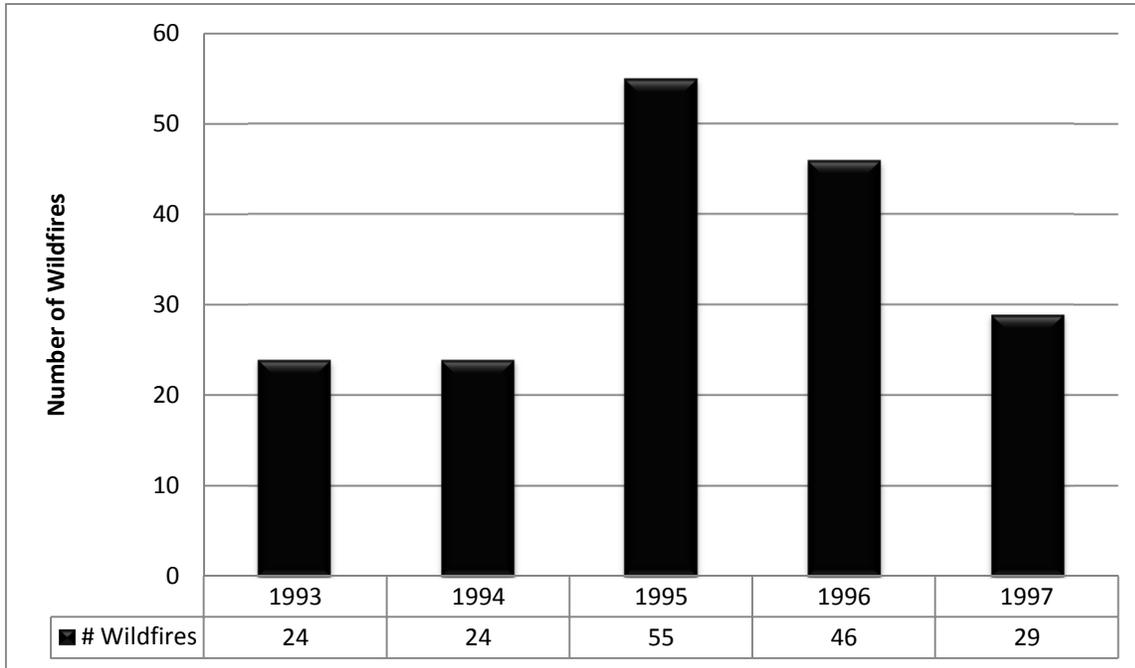
## REGION 2 Wildfires 1993 - 1997



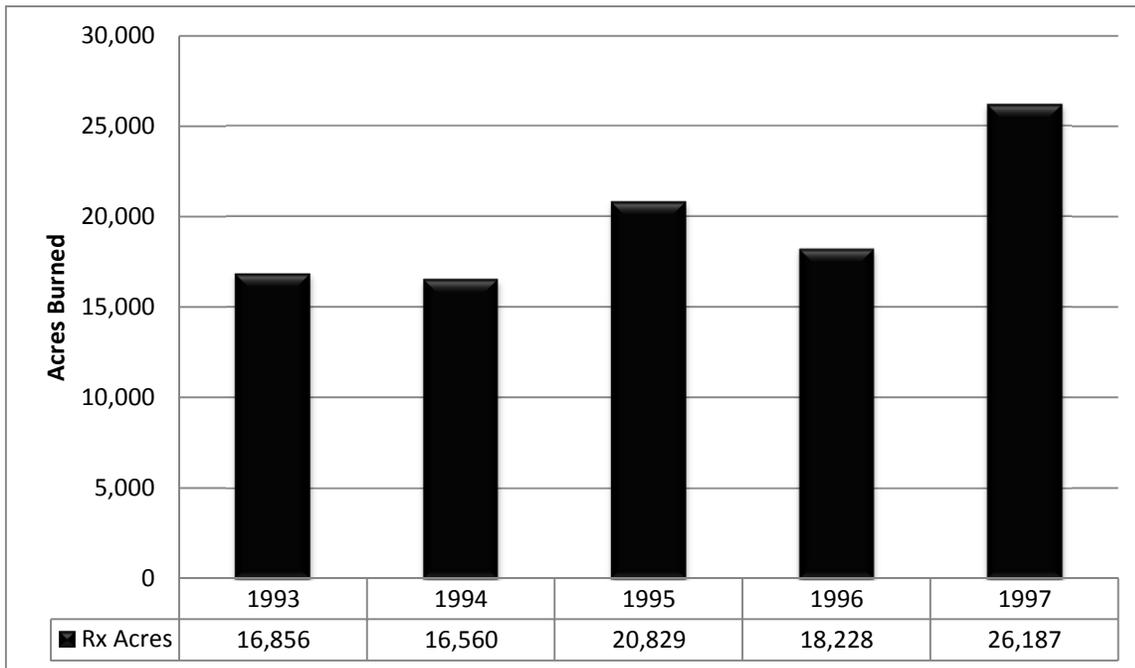
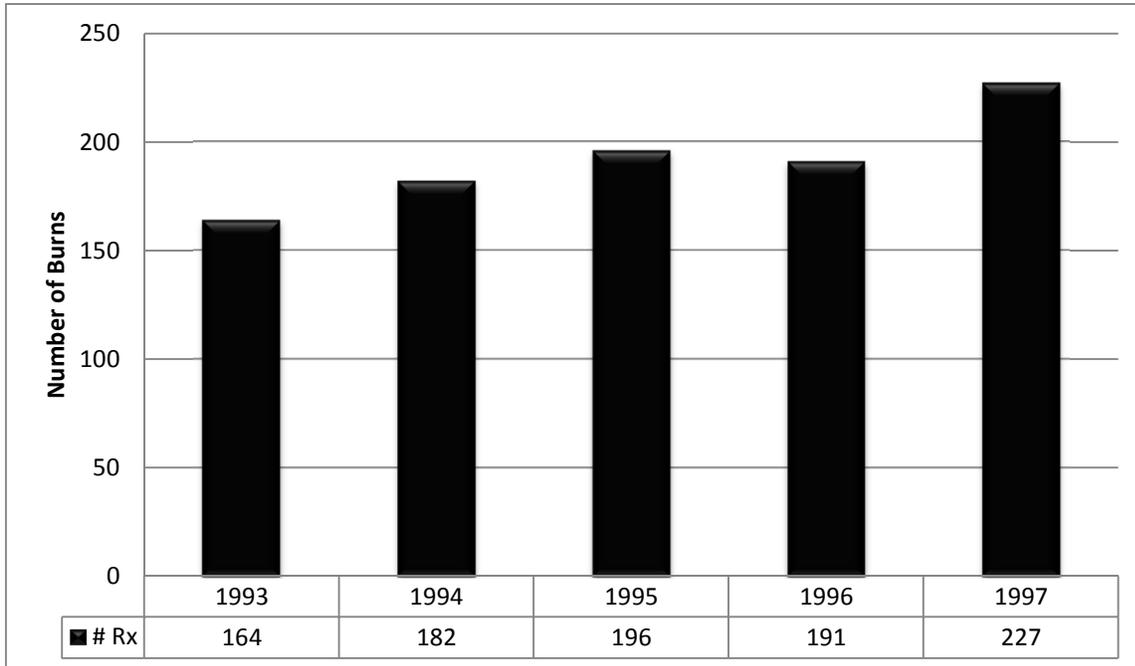
## REGION 2 PRESCRIBED BURNS 1993 - 1997



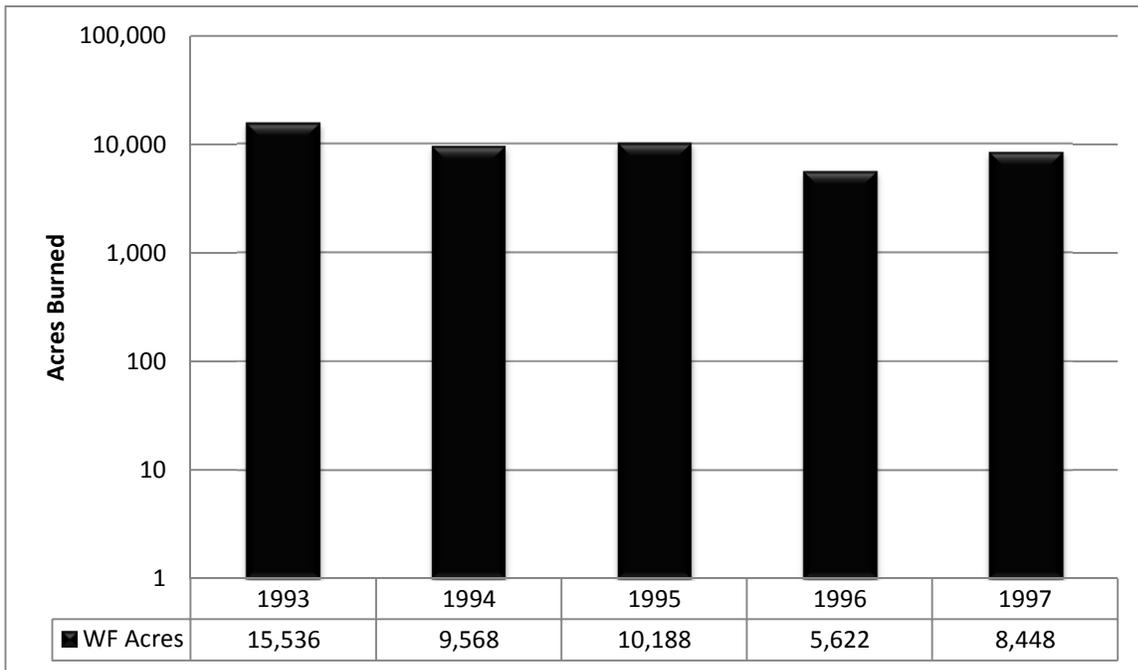
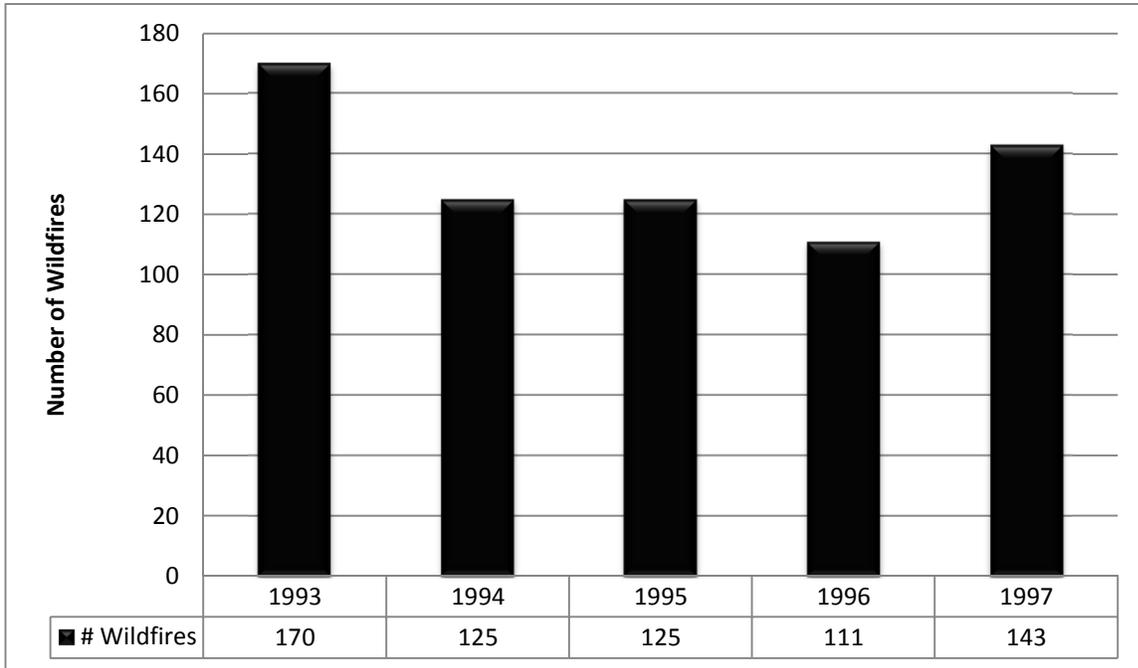
## REGION 3 Wildfires 1993 - 1997



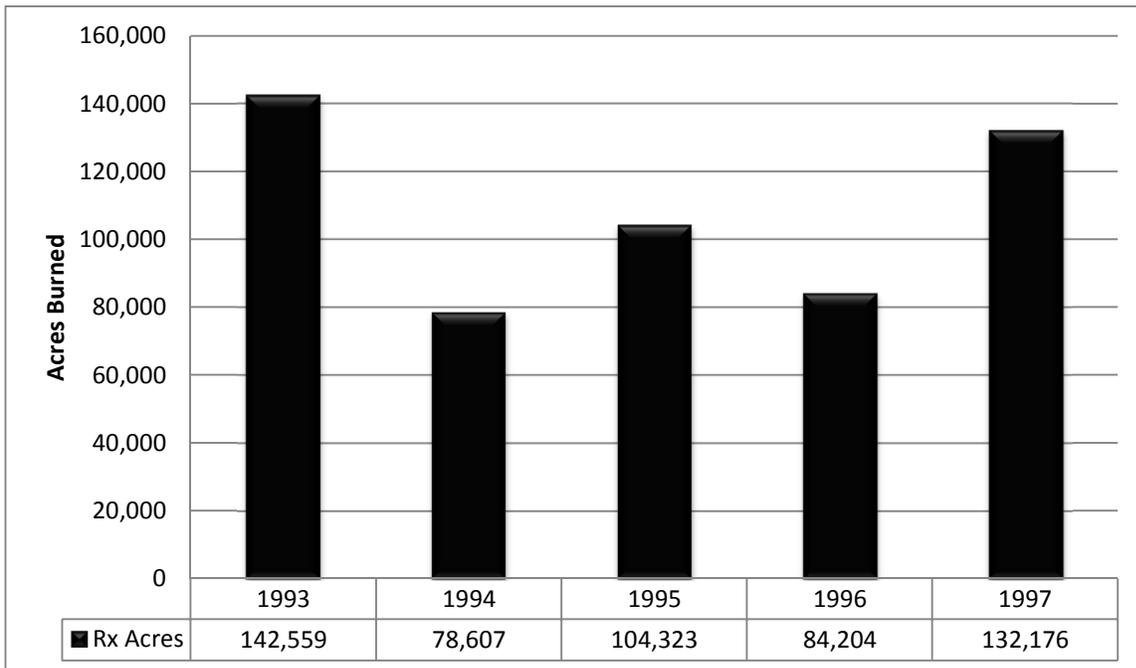
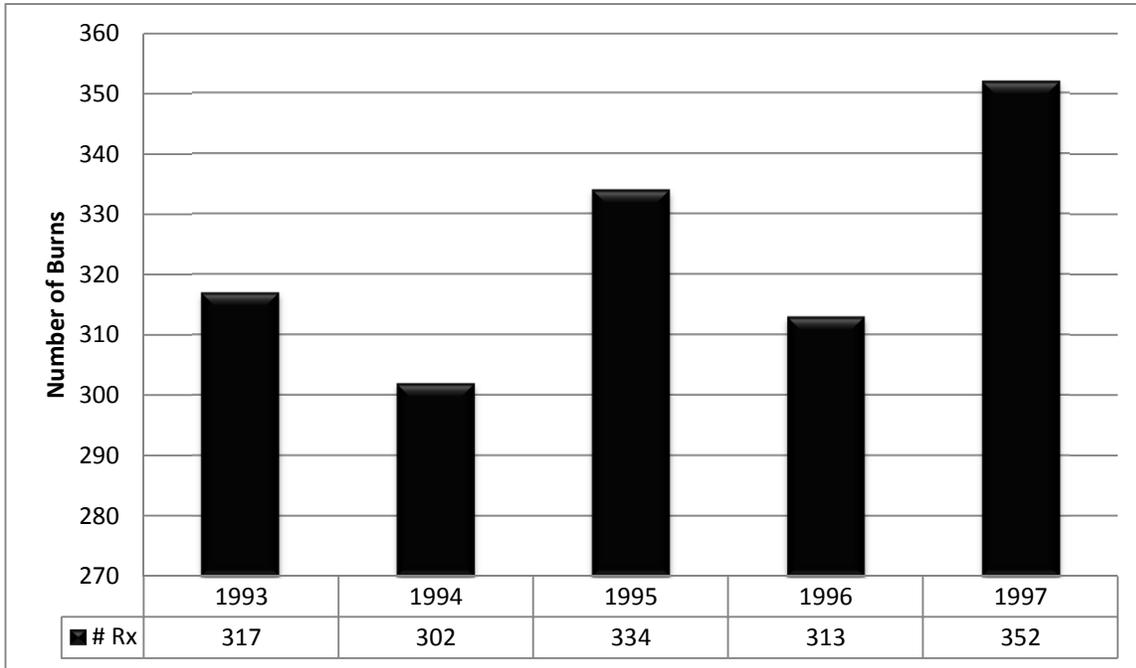
## REGION 3 PRESCRIBED BURNS 1993 - 1997



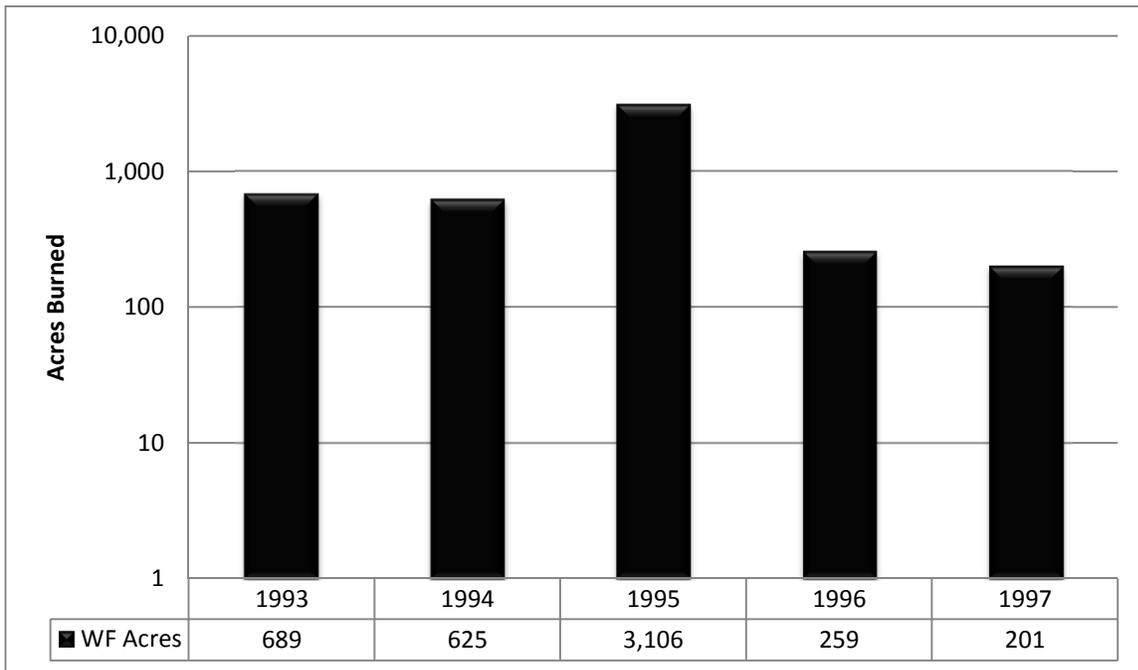
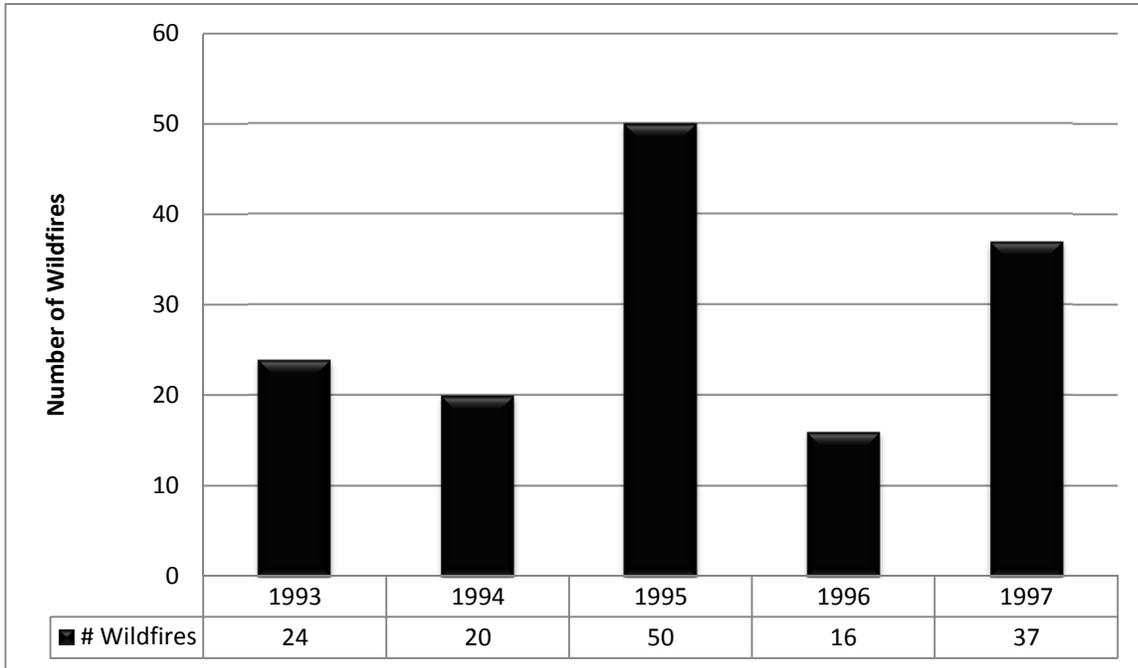
## REGION 4 Wildfires 1993 - 1997



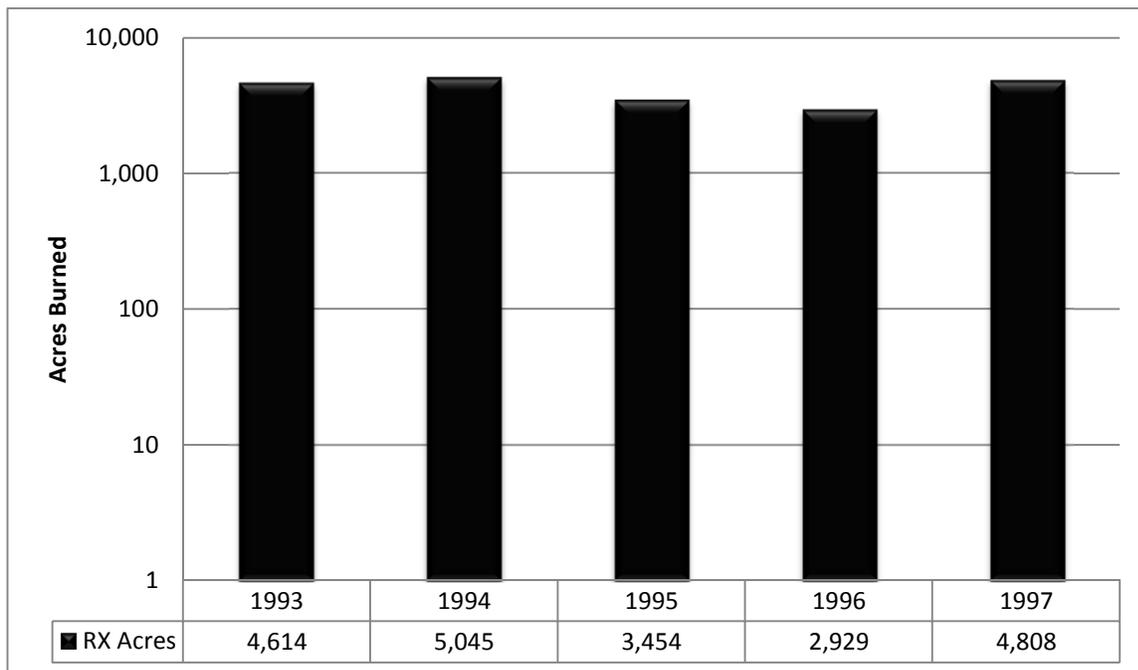
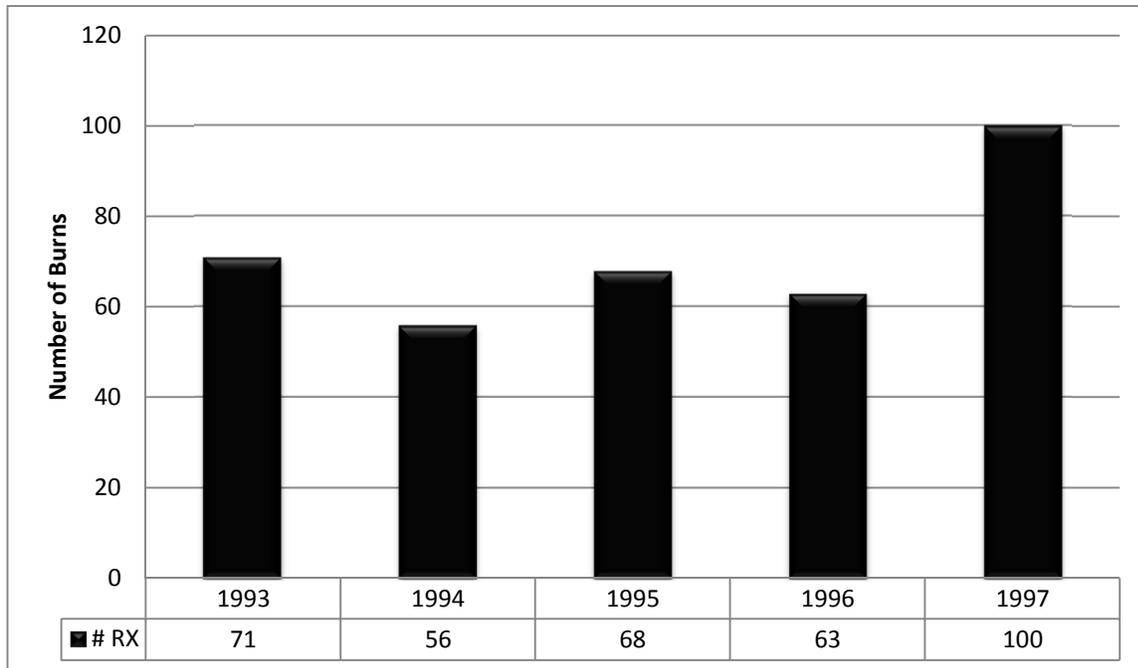
## REGION 4 PRESCRIBED BURNS 1993 - 1997



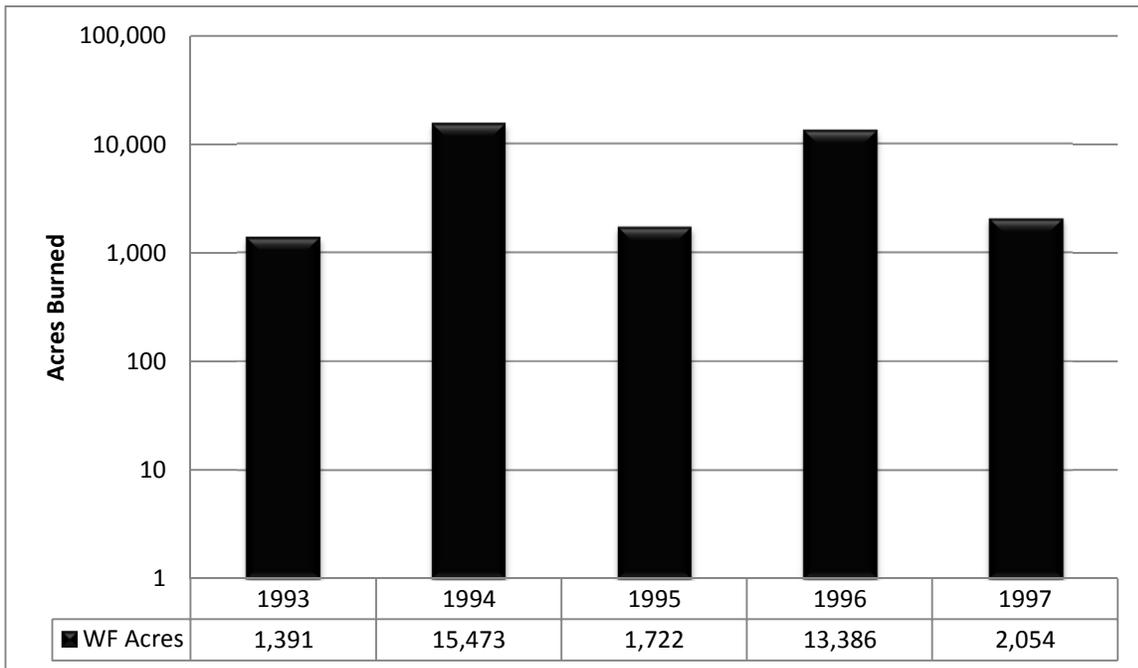
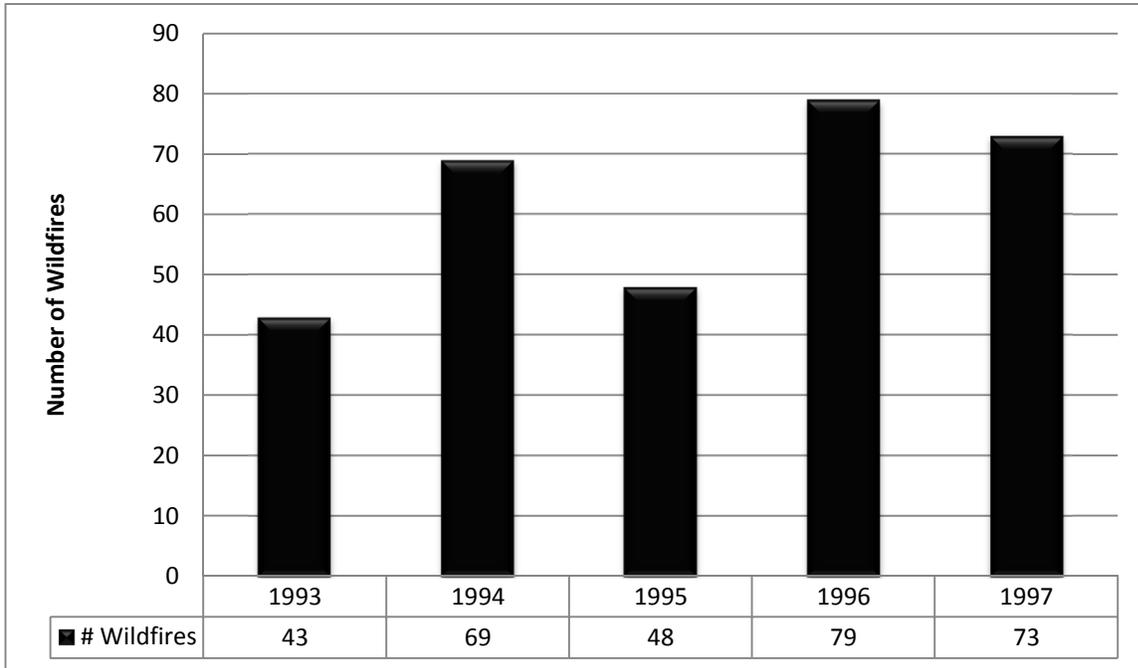
## REGION 5 Wildfires 1993 - 1997



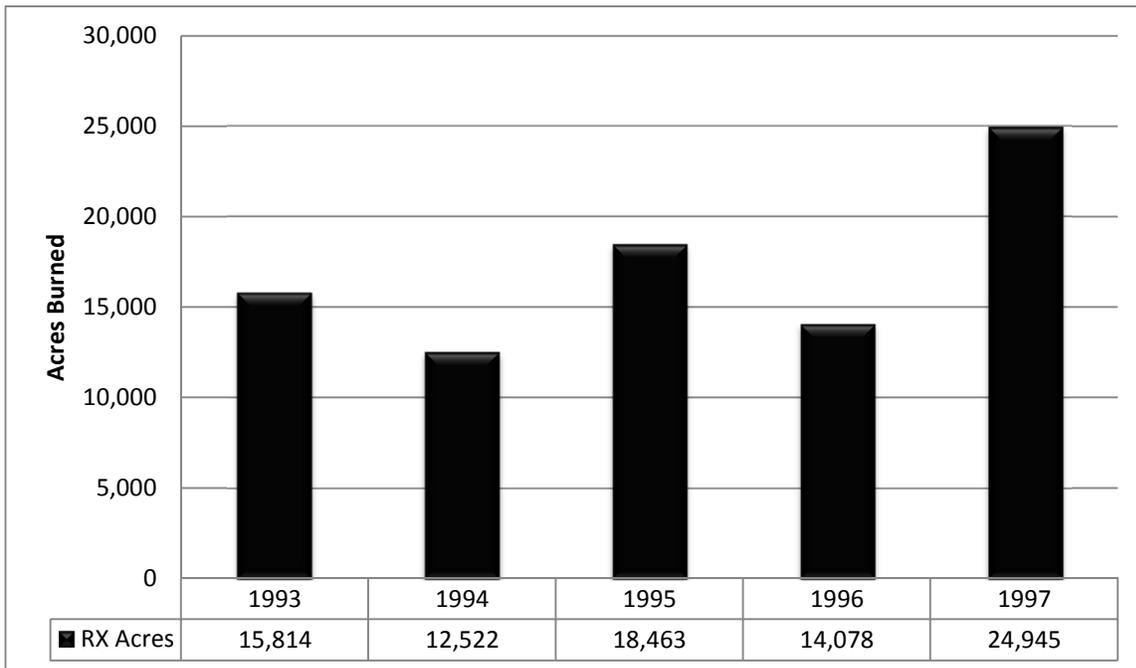
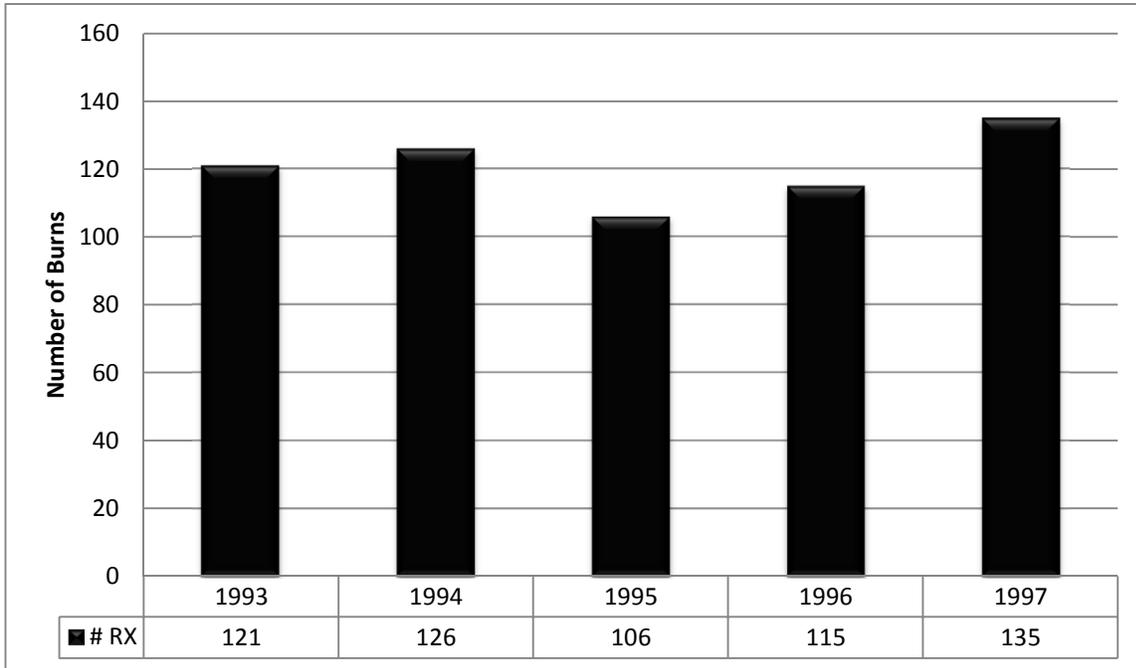
## REGION 5 PRESCRIBED BURNS 1993 - 1997



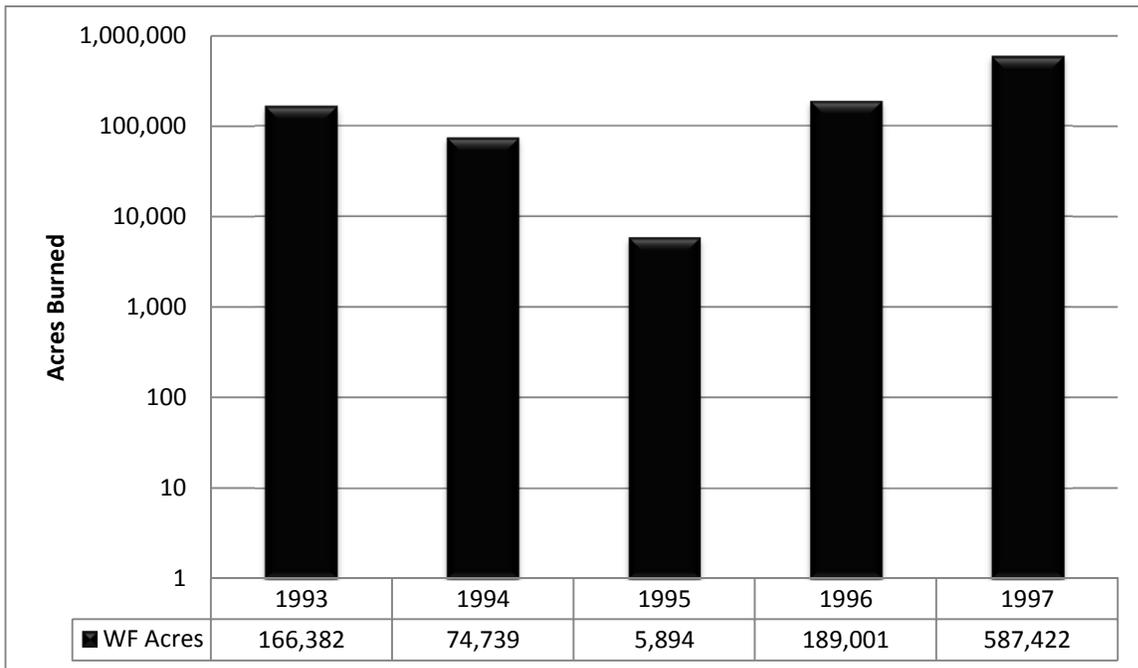
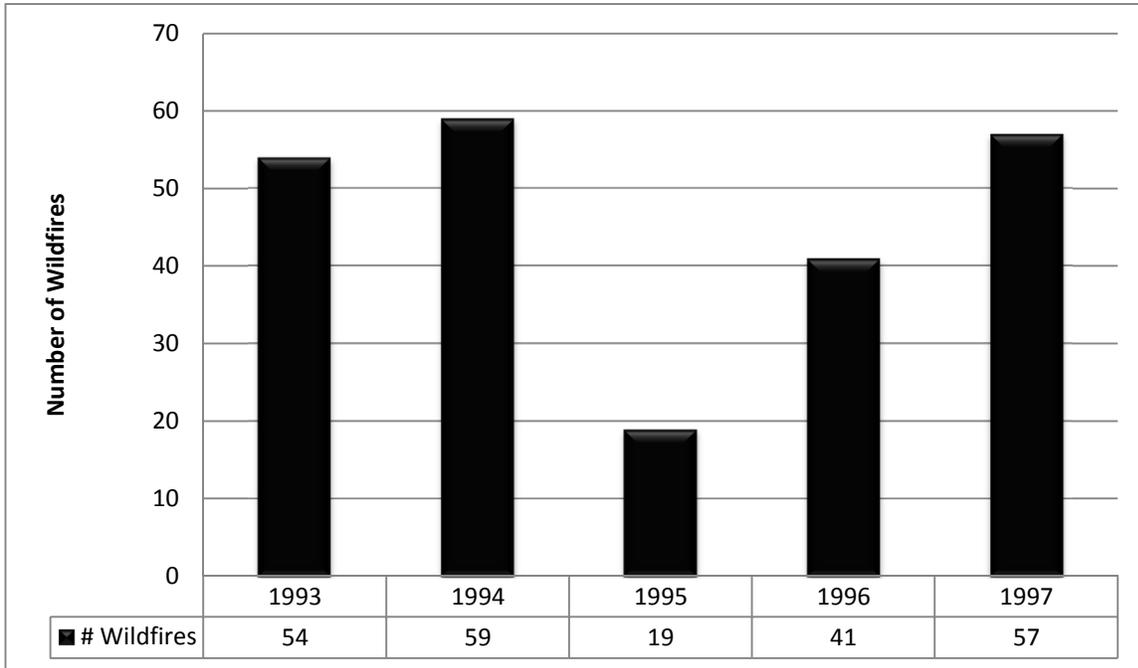
## REGION 6 Wildfires 1993 - 1997



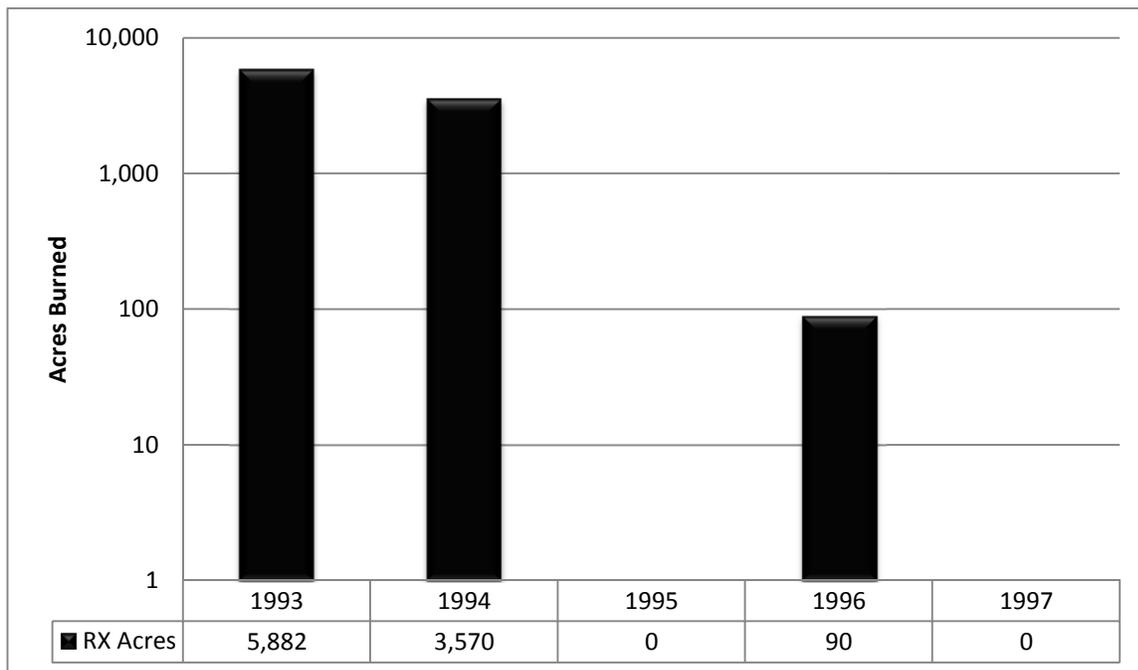
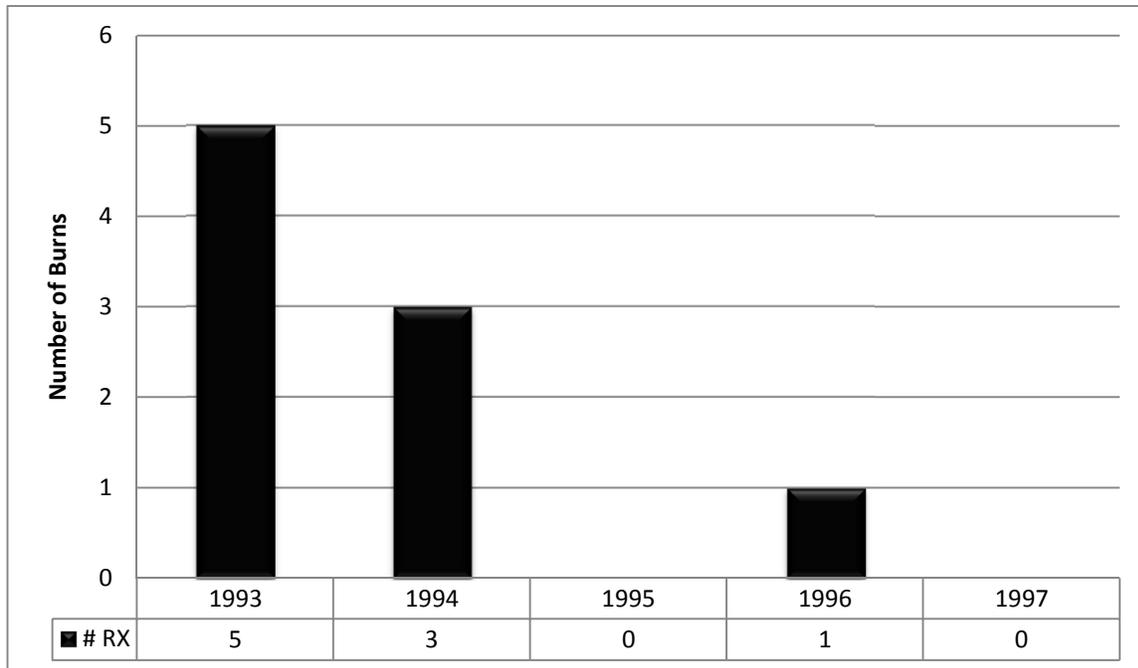
## REGION 6 PRESCRIBED BURNS 1993 - 1997



## REGION 7 Wildfires 1993 - 1997

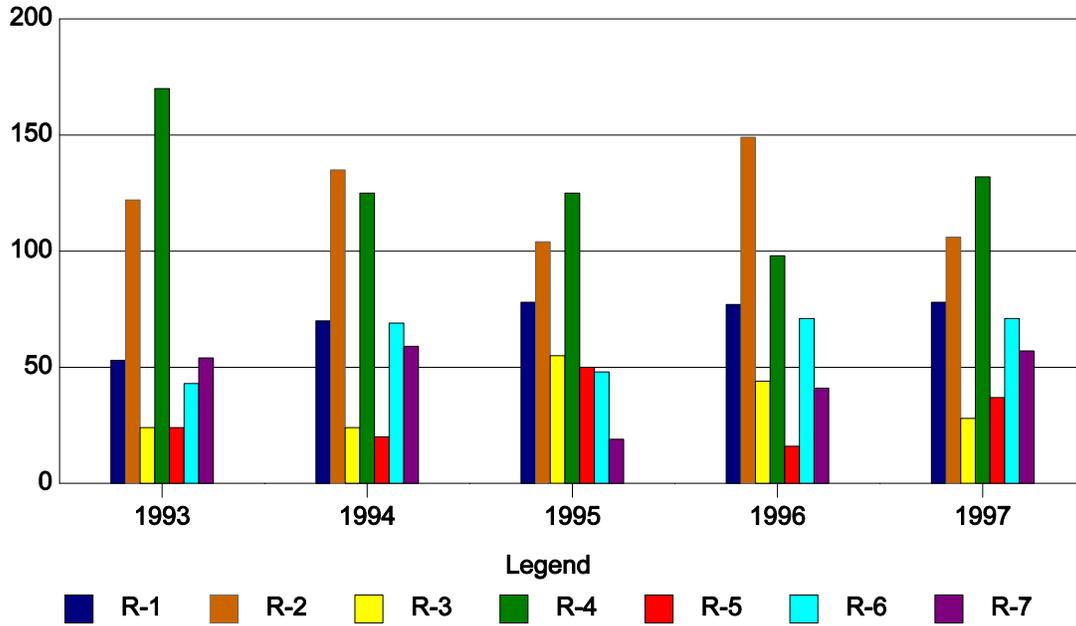


## REGION 7 PRESCRIBED BURNS 1993 - 1997

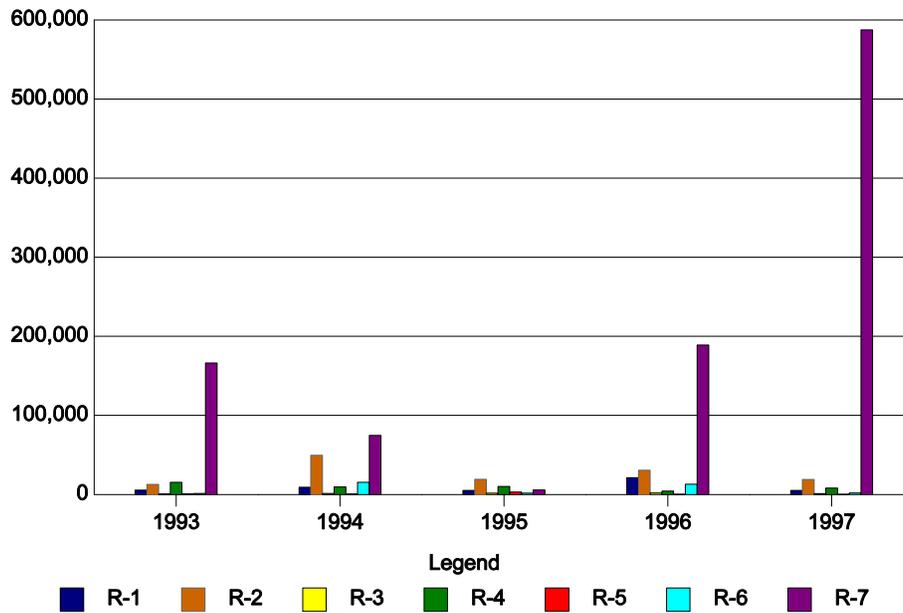


# WILDFIRES 1993 - 1997

## Number of Wildfires

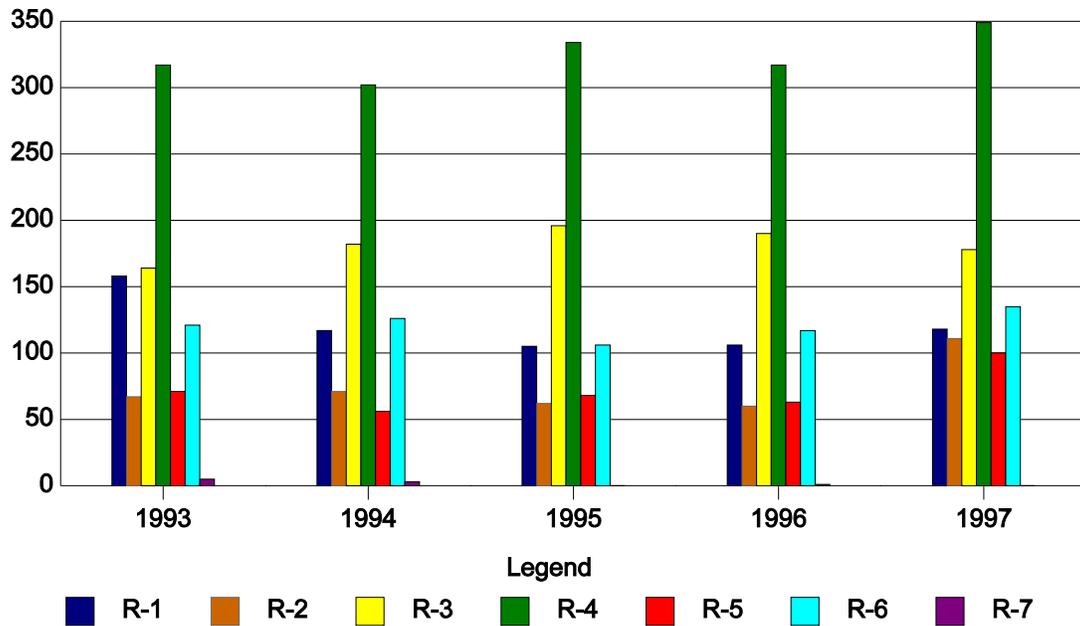


## Number of Acres Burned

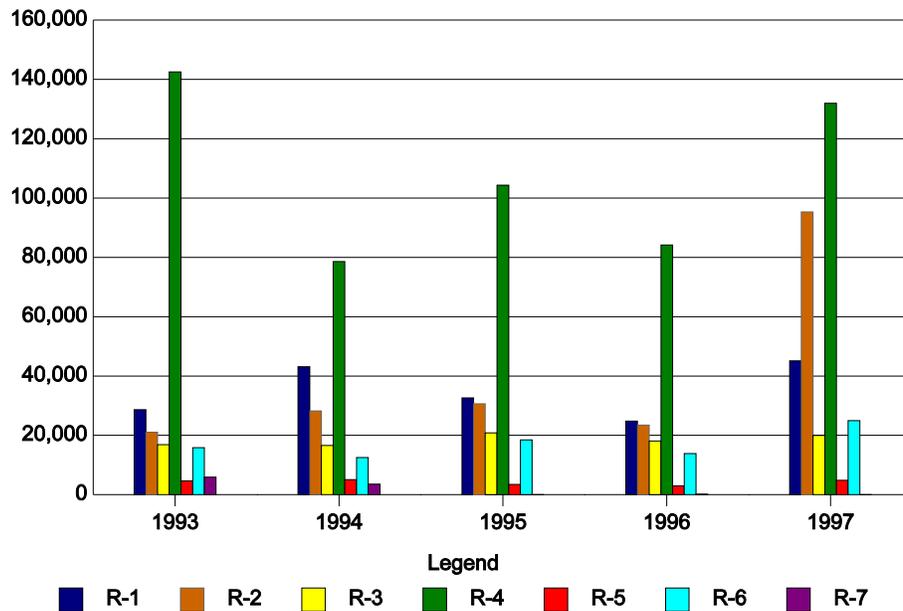


# PRESCRIBED BURNS 1993 - 1997

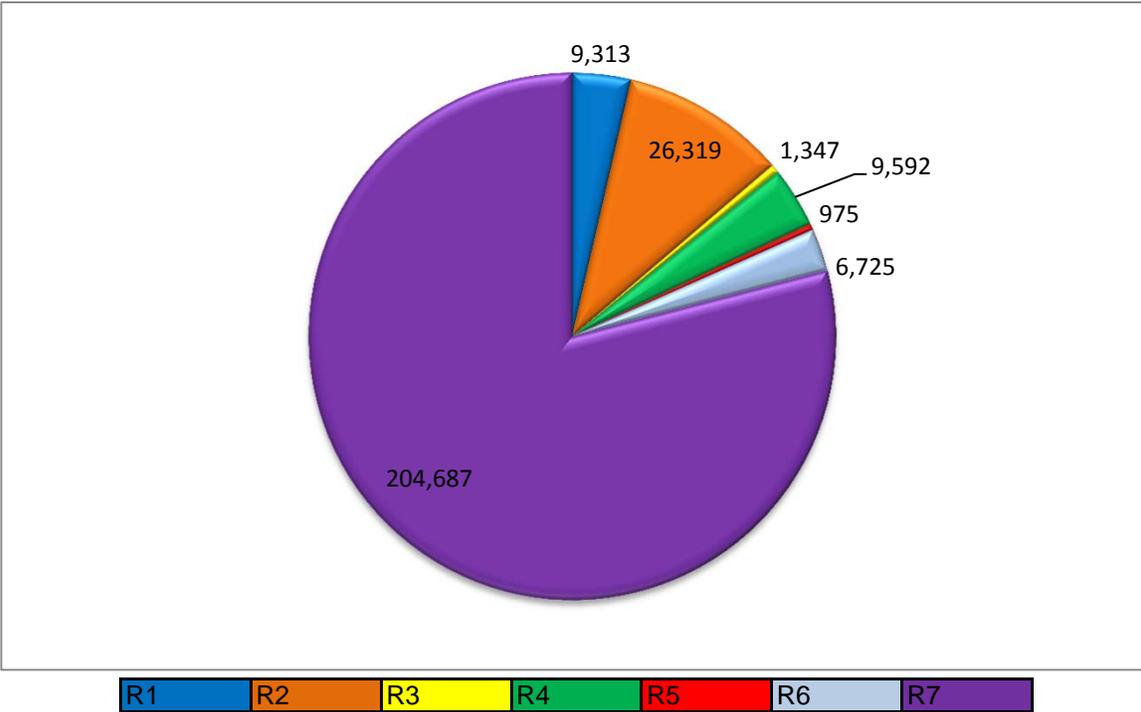
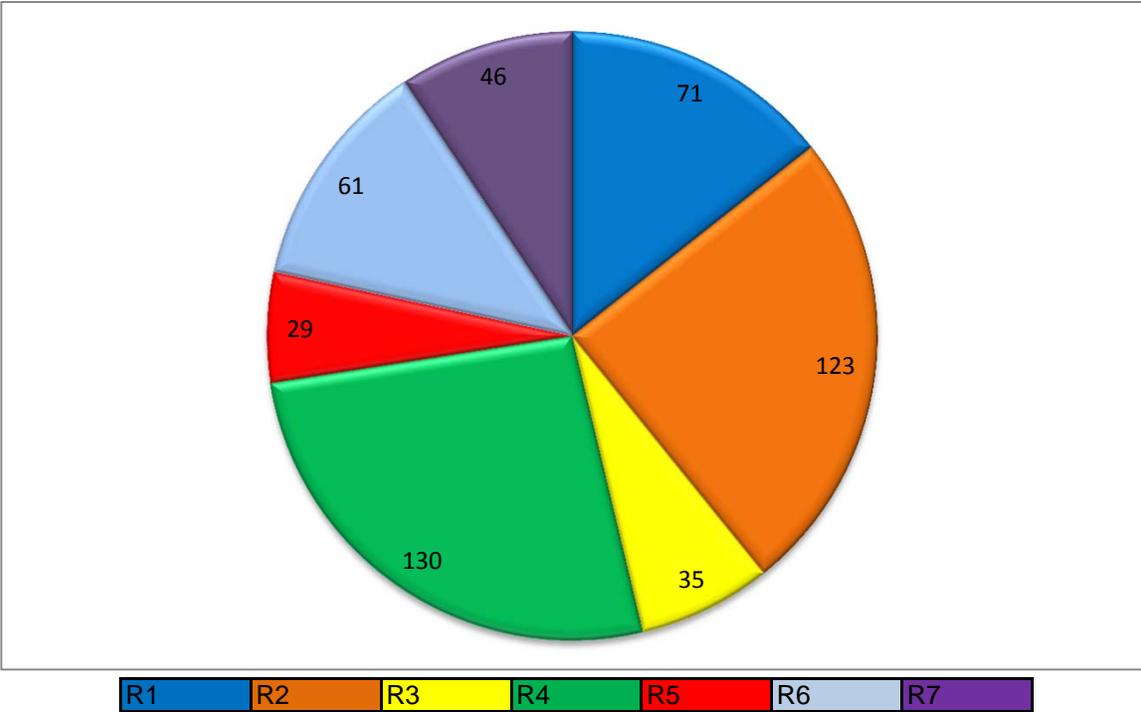
## Number of Burns



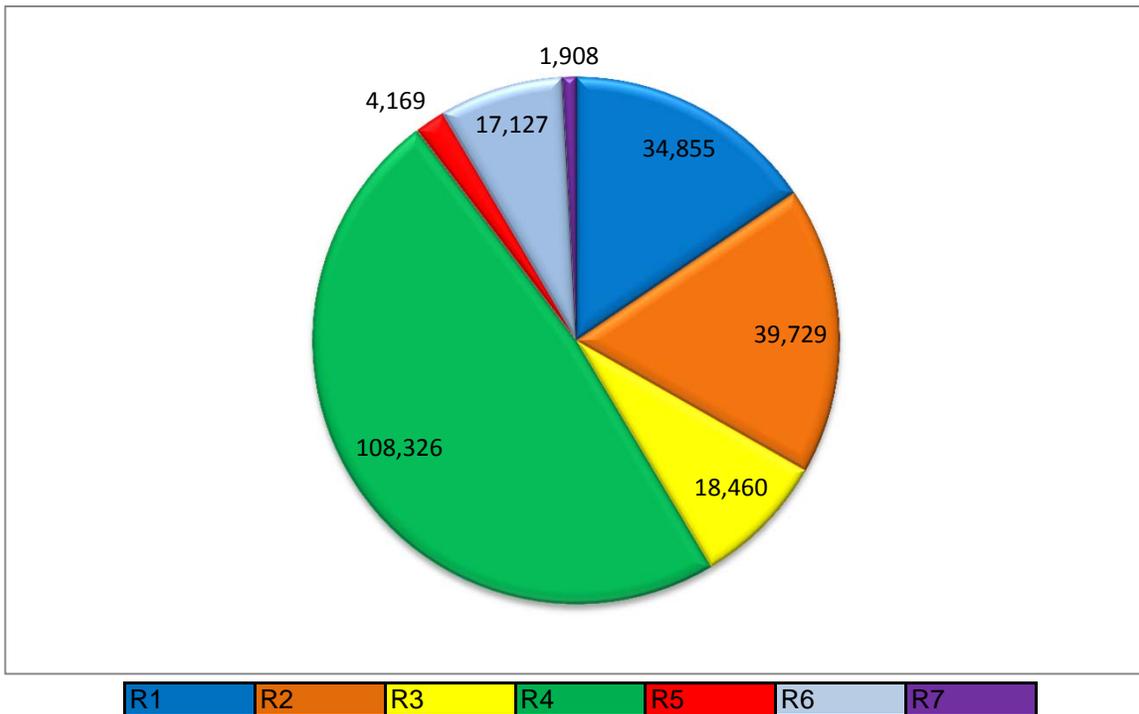
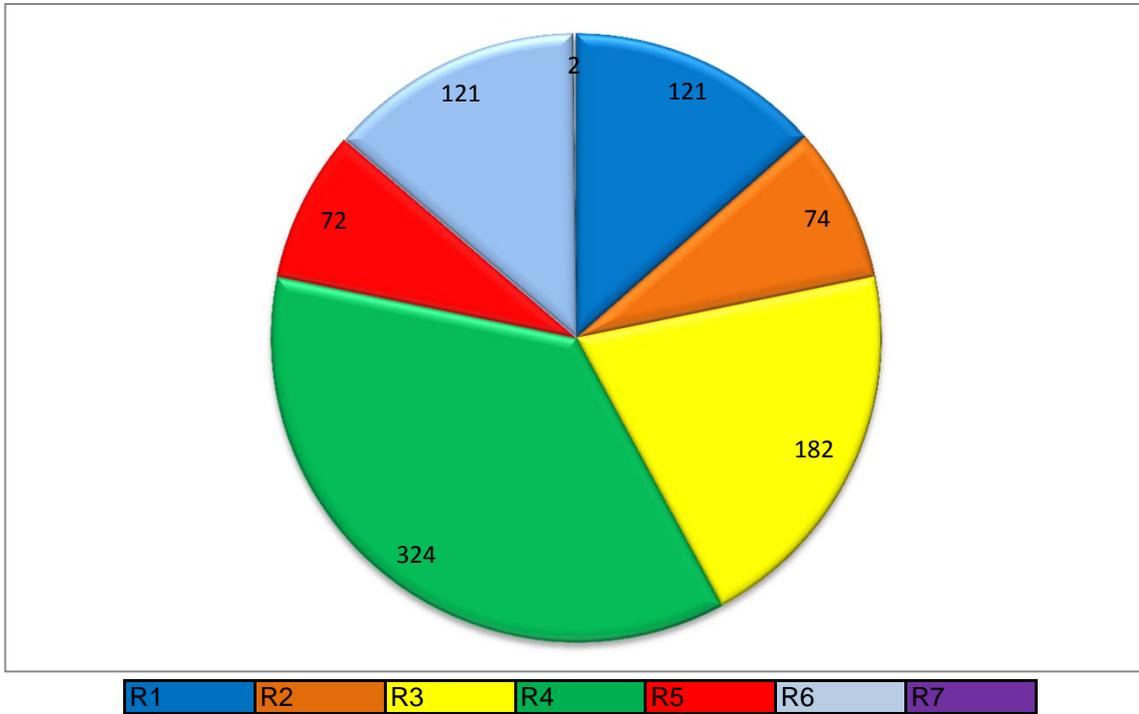
## Number of Acres Burned



# WILDFIRES 1993 - 1997 (Average)

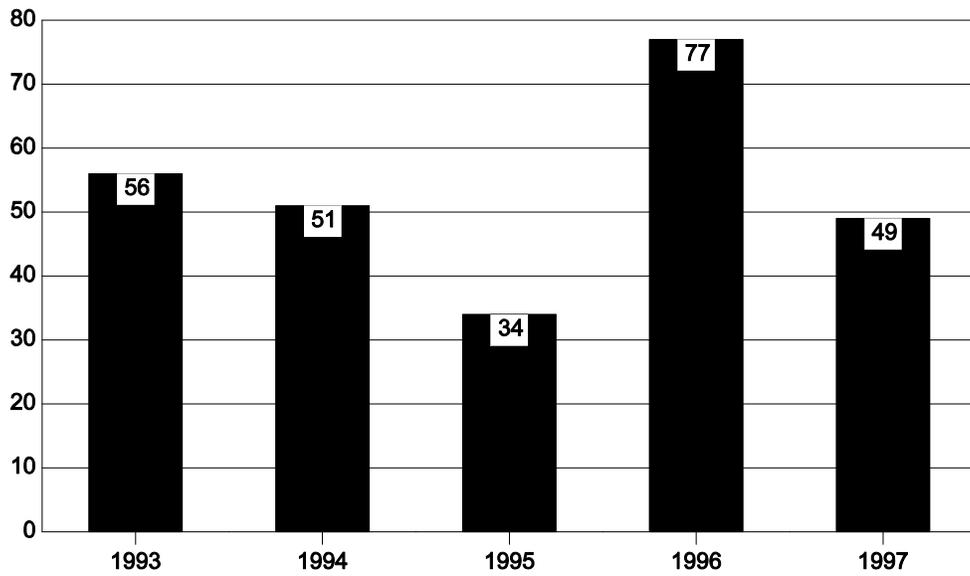


# PRESCRIBED BURNS 1993 - 1997 (Average)

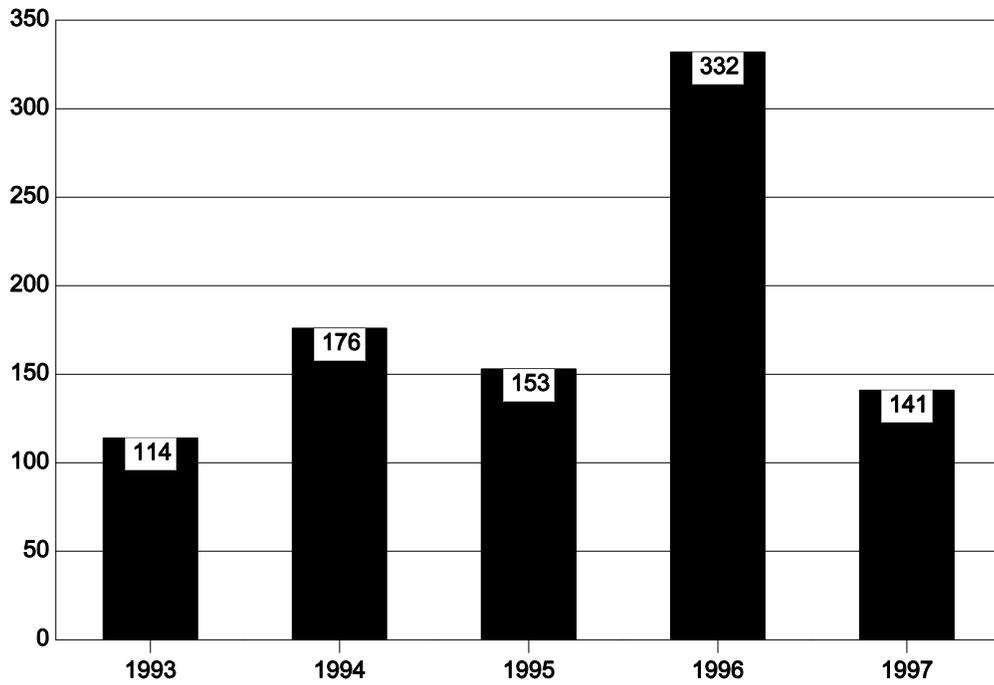


# REGIONS 1 - 7

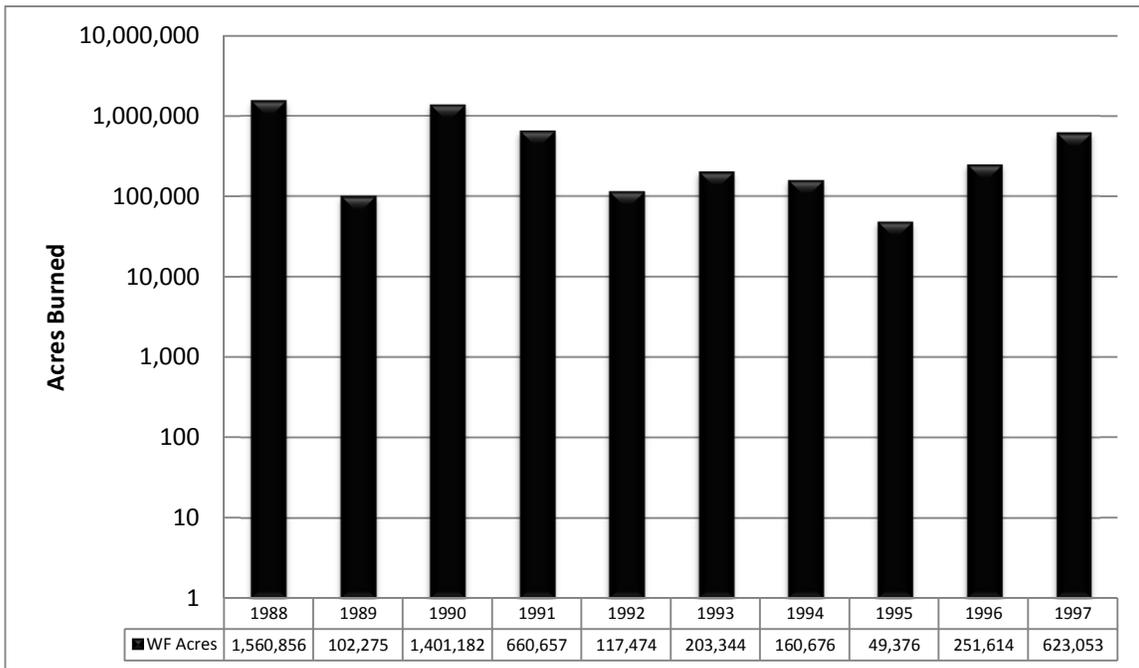
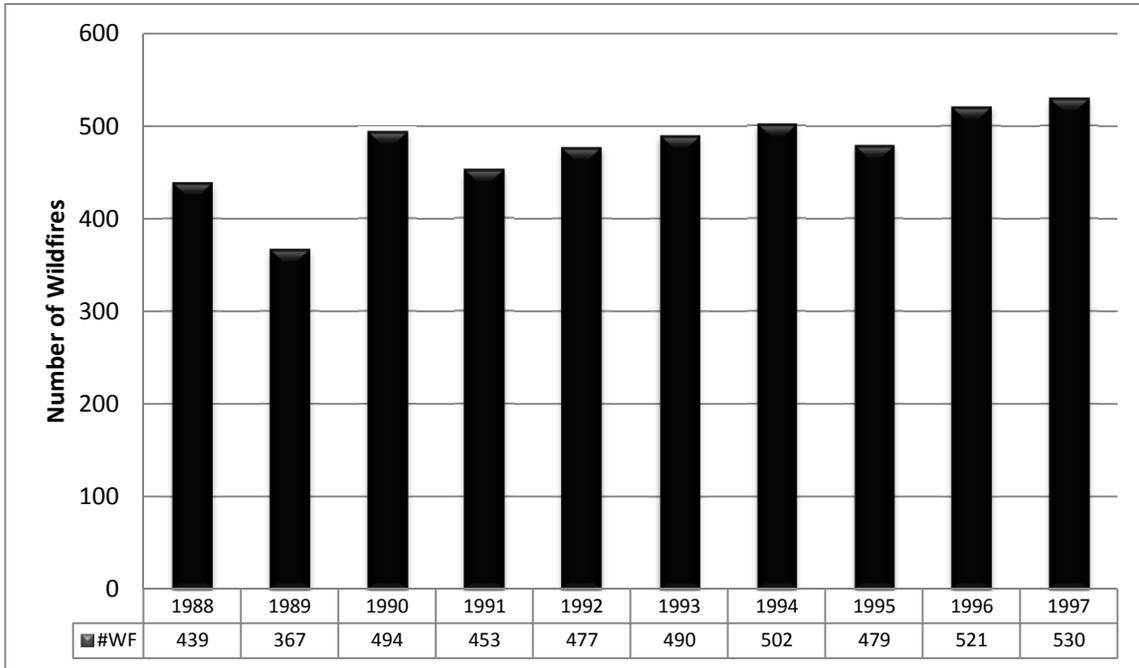
## FALSE ALARMS 1993 - 1997



## SUPPORT ACTIONS

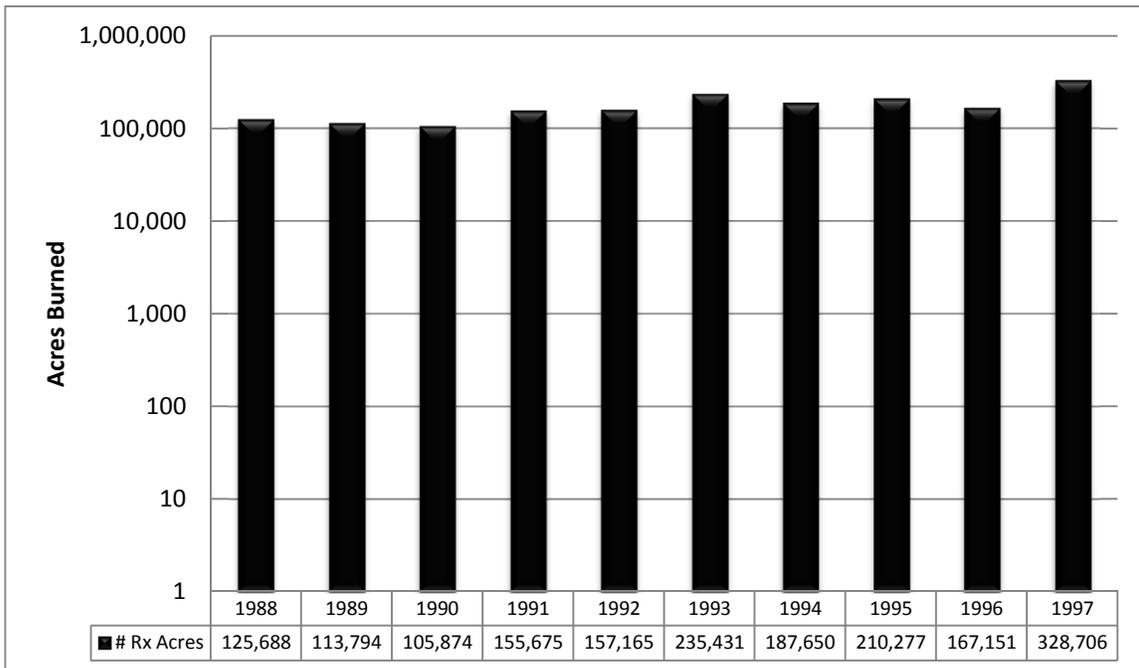
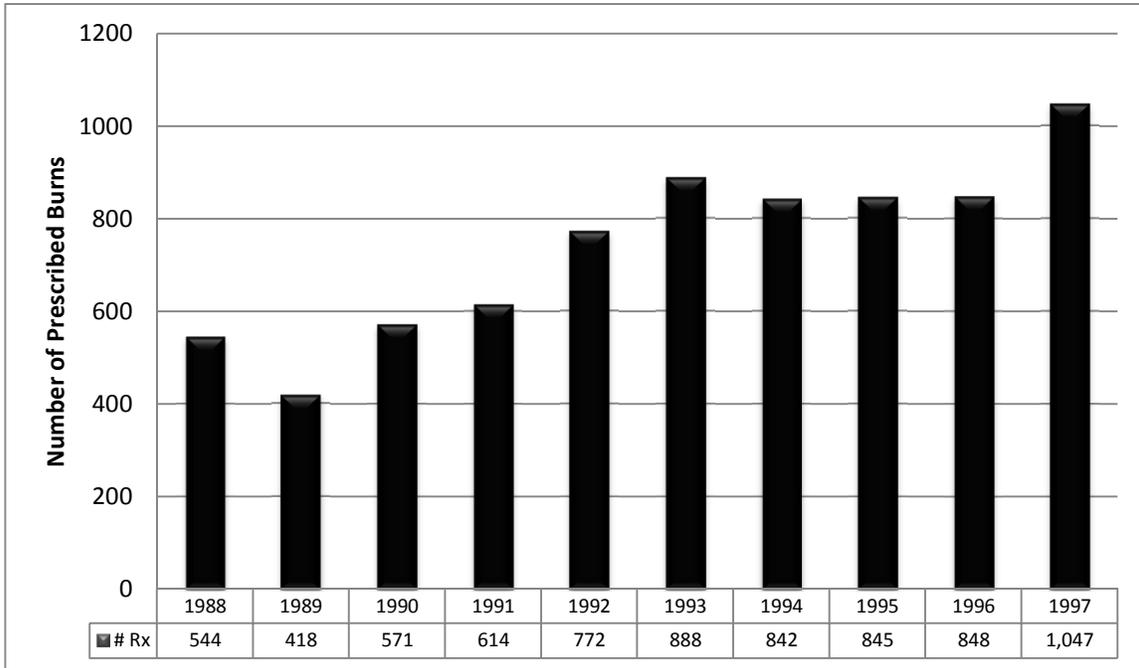


# WILDFIRES 1988 - 1997



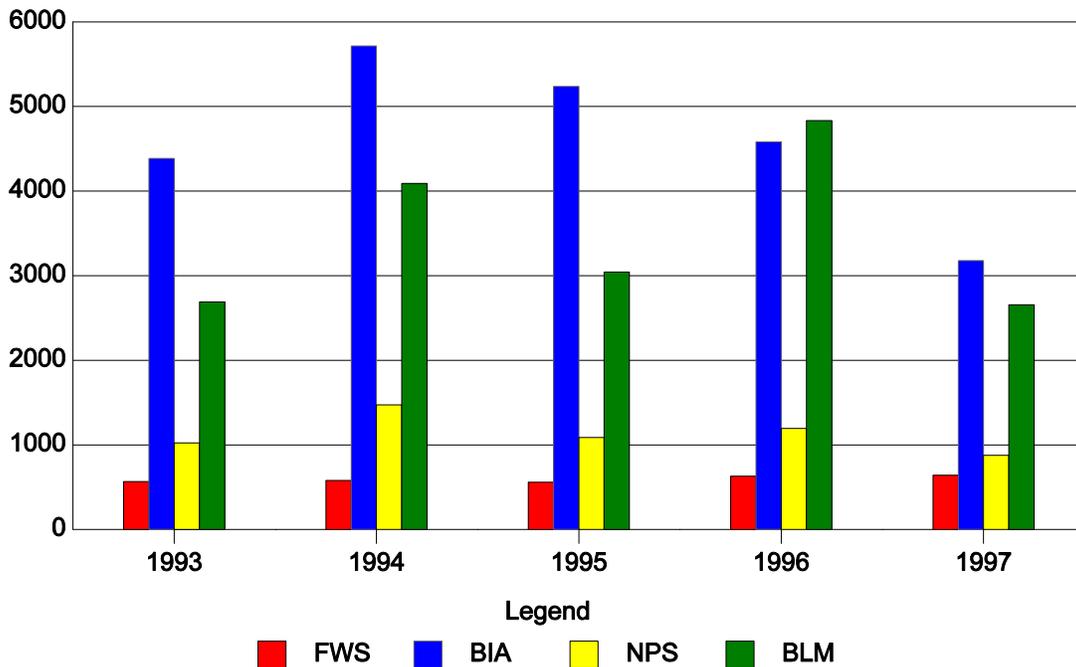
# PRESCRIBED BURNS

## 1988 - 1997

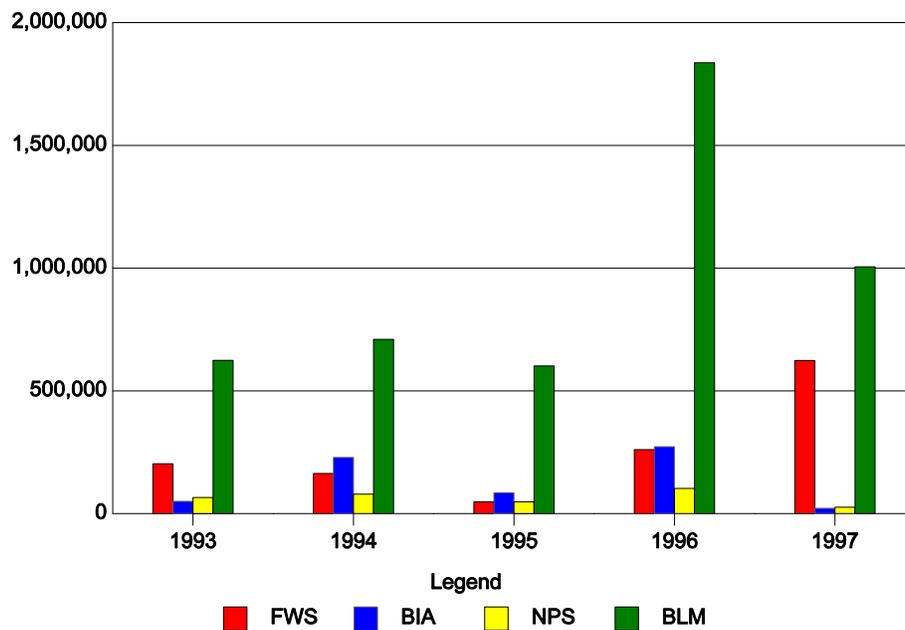


# DEPARTMENT OF INTERIOR 1993 - 1997

## Number of Wildfires

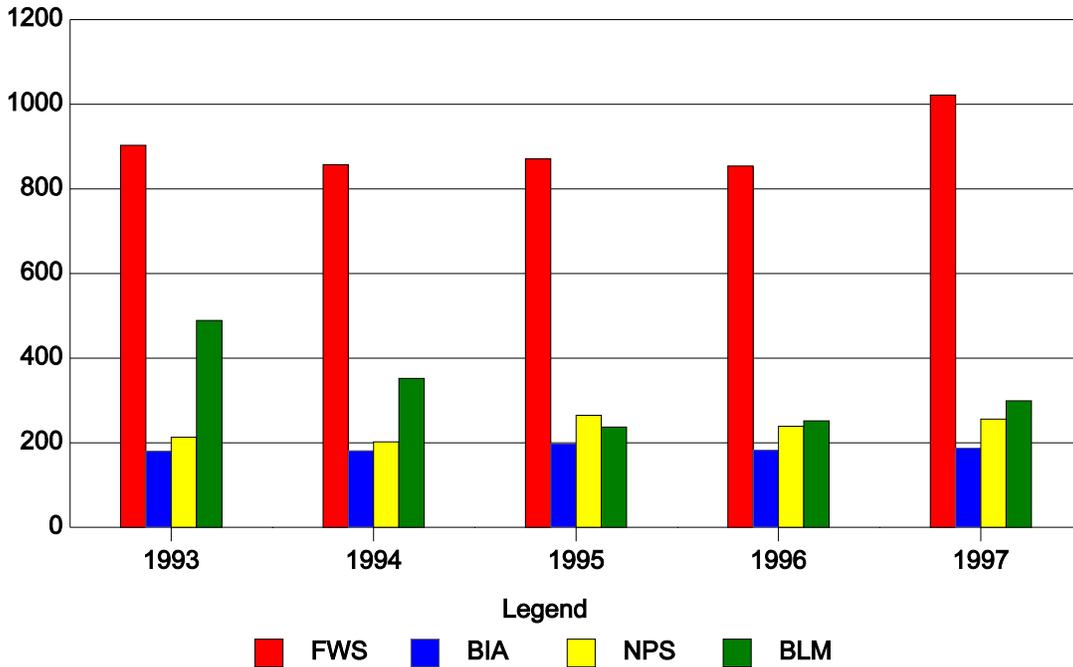


## Number of Acres Burned



# DEPARTMENT OF INTERIOR 1993 - 1997

## Number of Prescribed Burns



## Number of Acres Burned

