

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



2006

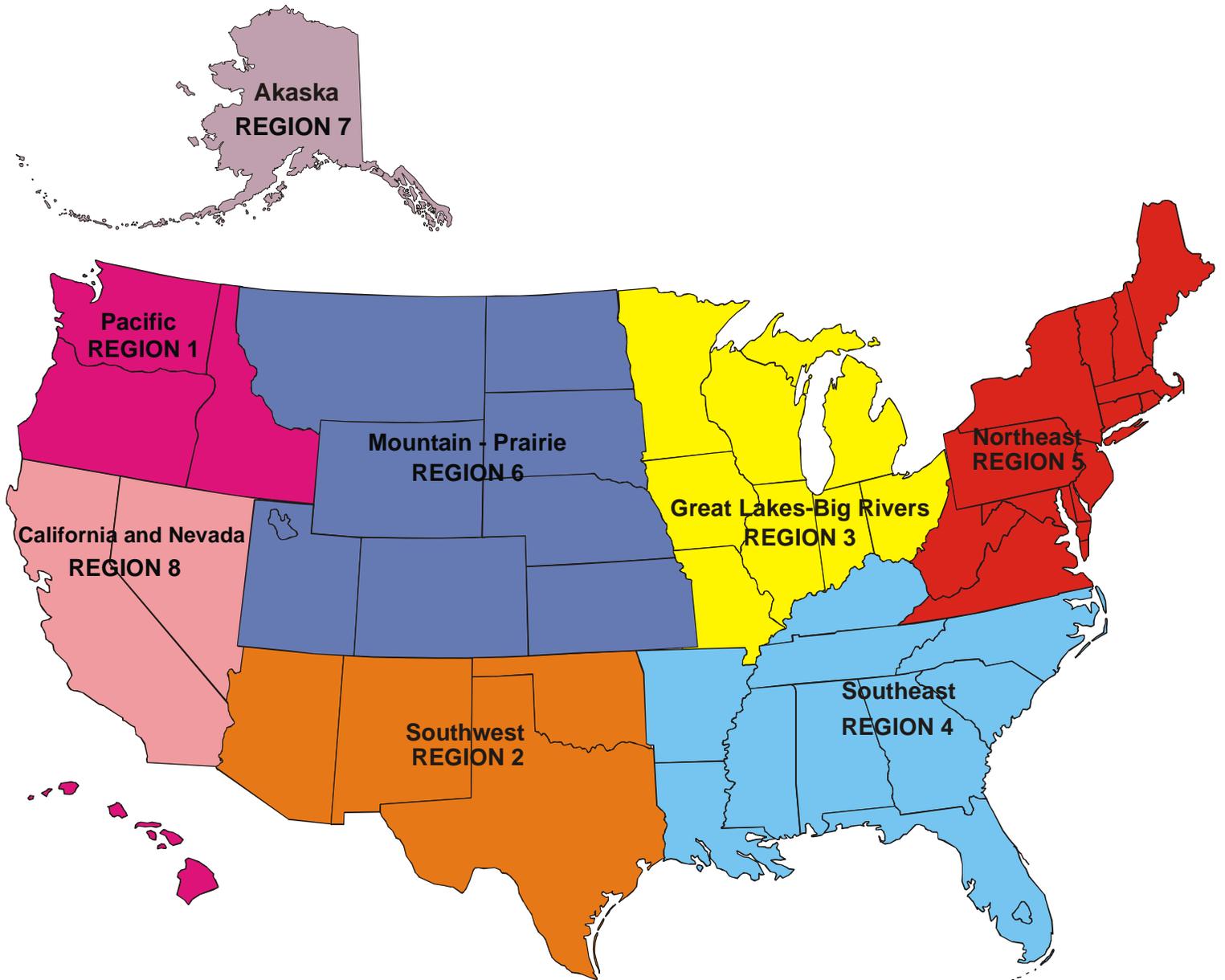
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# U.S. FISH & WILDLIFE SERVICE Regional Map



# PACIFIC REGION

The relatively normal spring experienced by the Pacific Northwest and Great Basin abruptly transitioned into one of the driest summers on record and led to an exceptionally severe fire season. One Type 1 and numerous Type 3, 4 and 5 fires directly impacted FWS lands within the Region. In addition to suppressing fires on Service-managed lands, the Region actively provided interagency assistance both in and out of Region.

Although the 2006 fire season started slowly in the Region, once it got rolling, it lasted well into the fall. Washington was the most severely impacted with numerous large fires, the most prominent being two massive Type 1 incidents; the Tripod Complex in the northeast portion of the state and the Columbia County Complex in the southeast portion of the state. The Region provided inter-agency support at all levels in the suppression effort of both fires. Oregon also experienced numerous large fires, four of which directly impacted FWS managed lands. For the year, Idaho led the Pacific Northwest overall in the number of acres burned and also in the total number of Incident Management Teams (IMT) assigned to federal incidents.

Severity funds were requested on an interagency basis for refuges in Washington, Oregon, and Idaho. Extended staffing levels were implemented for Sheldon-Hart Mountain, Malheur, Columbia, Little Pend Oreille, Turnbull and the Southeast Idaho Complex Refuges. A single engine air tanker (SEAT) was ordered to service Mid-Columbia,

Columbia, and Hanford/Saddle Mountain NWRs during the severity period and was stationed at Richland, Washington. Sheldon/Hart NWR also requested a SEAT to be stationed at Lakeview, Oregon. The two SEATs saw extensive action in Washington and Oregon including three large incidents on FWS and BLM lands in southeastern Oregon.

The four major fires affecting FWS lands all occurred in and around Malheur NWR. The largest of these, the Southend Complex was a Type 1 incident comprised of three separate fires totaling more than 60,000 acres. Two of the Complex's fires, "Granddad" and "Krumbo Butte" burned a total of 1,736 acres of refuge land. Two other large fires, "Basque Wells" and "Crater" burned approximately 18,000 acres, 2,420 acres of which were on refuge lands. The Lakeview-based SEAT was utilized on all four of these incidents and was instrumental in their suppression. The SEAT also responded to fires on adjacent BLM and private lands.

All four fires were on sage-dominated communities, and directly impacted several hundred acres of sage grouse habitat. A National Burned Area Emergency Rehabilitation (BAER) team was assigned to prepare a plan addressing the restoration of habitat, erosion control, and prevention of invasive species on the impacted lands. The BAER plan calls for rehabilitation measures totaling \$1,115,196.00, of which \$211,810 will be used to rehabilitate refuge lands.

Willapa NWR, on the Pacific Coast, had a 53 acre fire in grass and timber that burned to the Ocean. This Type 3 incident is the largest fire the refuge experienced in decades and is illustrative of the hot and dry conditions of the 2006 fire season. The interagency response to this fire included Washington State DNR and USFWS personnel.

The Region was assisted by Region 4 personnel during its severity period, and in turn, assisted that Region by providing crew personnel to several Florida refuges during their severity period. Specifically, personnel from Sheldon/Hart and LPO NWRs assisted Florida Panther, Merritt Island, and Alligator River NWRs. A long term detail was arranged with Florida Panther for an engine boss to be stationed in the northwest for the entire fire season. The detail was highly beneficial to both the employee and the Region. It helped the employee with a family hardship situation while greatly enhancing the fire suppression and prescribed fire programs for the Region's North Coast Fire Zone.

The Region also provided inter-agency assistance to the BLM in Nevada and the Forest Service in Arizona during their periods of severity.

The PNW Multi-agency Coordinating (MAC) Group was activated for two months during the summer conducting daily conference calls as well as numerous face-to-face meetings. Once the Great Basin MAC was activated, Pacific Region staff participated in their conference calls.

Fuels treatment accomplishments for Oregon, Washington, Idaho, and Hawaii totaled 15,704 acres for Wildland Urban

Interface (WUI) and 8,282 acres for Hazard Fuels Reduction (HFR). At least one completed WUI project on the Deer Flat NWR in Idaho had a direct positive influence on a fire that was threatening homes.

Successful implementation of the Regional Fuels Program was significantly aided by the flexibility of the Region's FMOs lending their engines and crews to each other's refuge as the need arose.

The Region's Prescribed Fire Module, based out of Turnbull NWR, was used extensively throughout the Region and once again proved to be a valuable asset with completing mechanical and prescribed fire projects on various refuges. The crew, along with Regional Office personnel and interagency cooperators, completed numerous prescribed fire projects across the Region.

The Region was successful in meeting its contracting targets in 2006; well over 50% of WUI and HFR projects and acquisitions were accomplished through contracting.

The Regional Fire Effects Monitoring Program accomplished plot installation and data collection on six refuges within the Region. *North State Resources*, a biological consulting firm was contracted to assist the refuges in plot installation, data collection, and analysis. The Mid-Columbia NWRC and Regional Office staff assisted with program planning, prescribed burn monitoring, and post-burn data collection.

The Rural Fire Assistance Program (RFA) distributed \$174,918 to 15 fire

organizations throughout Idaho, Oregon, and Washington.

The Regional Fire Planner worked with interagency partners to meet FPA deadlines. We are awaiting further direction from the Department as the program continues to evolve.

Region 1 personnel filled critical positions on both National and Area IMT. The teams were dispatched to numerous fires throughout the west. In addition to IMT members, the Region was able to fill numerous orders for single resources, engines and hand crew members. Regional support was also crucial for local initial attack and Type 3 organizations.

The Pacific Region refuges continued to be very active participants in Interagency Dispatch Offices throughout the Region. The Region assisted in staffing or funding five dispatch locations in Washington, Idaho, and Oregon. The major accomplishment for 2006 was becoming partners with the Wenatchee/Okanogan National Forests in the Central Washington Interagency Communications Center. This new partnership allowed for extended dispatch services, WIMS, and ROSS for Columbia Basin Refuges (Hanford Reach/Saddle Mountain and Columbia). The Mid-Columbia Refuges will be added in 2007. The RO continued staffing the chief meteorologist position at the Pacific Northwest Coordination Center in Portland, Oregon. This position has been a benefit to all of the wildland fire organizations in Washington and Oregon.

The Region, in partnership with the Columbia Basin Job Corps Center in Moses Lake, WA, established the "Blue

Goose" fire crew. This crew, which will give the Service a higher profile in the inter-agency fire community, has been outfitted for the upcoming fire season. It will be supervised by a full time Region 1 employee. Other leadership positions for the crew will be filled by detailers recruited throughout the Service. Crew slots will be filled by Job Corps enrollees. This program will benefit both the Job Corps enrollees who will learn new skills and career employees who will gain experience and training in leadership roles.

The Region filled two vacant FMO positions as well as the newly created Blue Goose Superintendent job. All three positions were filled with strong candidates, one of whom is an ICT 2. The addition of an ICT2 is a great boost for the FWS and Region 1. The new Blue Goose supervisor position was filled by an experienced FWS employee, who then presented an overview of the crew program at the Fire Management meeting at NCTC that was very well received.

Region 1 personnel continued to serve on numerous national working groups as well as local working groups throughout the Pacific Northwest, Great Basin, and Hawaiian Islands.

Region 1 continues to represent the Service on the Technical Fire Management (TFM) steering committee. Region 1 also provided four subject matter experts for final project review to assist participants and the program. This program continues to be an important method for Service employees to gain technical training. This opportunity serves to advance their careers while also bolstering the overall professionalism of the Service fire

mission. In 2006, Region 1 had one employee completing the TFM coursework process with the final project presentation remaining and one employee currently enrolled in the program. Employees also took advantage of other avenues to garner the IFPM requirements such as credits from Utah State University.

Regional personnel are active cadre members for various training courses including S-620/S-520, RX-310, and Lessons Learned for the Redmond IHC, Fire Simulation Development and Delivery, and leadership training.

The leadership training included an organized site visit to the NW Oregon Incident Management Team while they were deployed on the Mt. Hood Complex of fires which was about two hours east of Portland, OR. The Regional Fire Coordinator, Division of Refuges Chief, Project Leaders, and other Regional leadership spent a day attending planning and operations section meetings and met with the Incident Commander and Agency Administrator. The on-site training exposed the non-fire leaders to the complexities of large fire management. This particular incident was valuable in

demonstrating the different roles and teamwork needed in dealing with a fire complex that is garnering a lot of public attention in a large media market.

A staff ride was conducted as a portion of the annual spring Region 1 fire safety and operations workshop. This year's meeting was held at the Lakeview Interagency Fire Center in Lakeview, Oregon. The staff ride was conducted at the site of the 1939 Rock Creek Fire near Orovada, Nevada, which took the lives of five enrollees from the nearby Civilian Conservation Corps camp. Winnemucca District BLM fire management staff planned and led the staff ride. The staff ride consisted of a pre-work study of the event, a field review and discussion at key locations at the site and a follow-up discussion. Participants used the learning experience to continue strengthening safe, effective and efficient fire strategies, operations, and communications in a quickly changing fire environment. In addition to the staff ride, the fire operations and safety workshop included segments on radio communications, preparedness reviews, personal protective equipment, medical standards, and sand table exercises.

# CALIFORNIA/NEVADA OPERATIONS

The CNO Region overall had an average wildland fire season. The Desert National Wildlife Refuge Complex (NWRC) in Southern Nevada near Las Vegas had an extremely busy fire season and well above average. They had 39 fires and burned over 40,000 acres. A Type II Team was brought in to take care of the 20,000 acre Gass Fire Complex.

The above average acreage burned this fire season in CNO generated a sizeable workload in the Emergency Stabilization and Rehabilitation (ESR) Program. Three refuges submitted plans covering approximately 30,000 acres and requested funding in the amount of \$1,350,000 to implement the plans.

## **Fuels, RFA & Community Assistance**

The CNO Region treated well over their target acres for hazardous fuels reduction and wildland-urban interface (WUI) protection. The Region accomplished approximately 40,748 acres<sup>1</sup> in 2006, with 17,046 acres treated in the WUI. All WUI projects were developed through a collaborative process and designed to protect national wildlife refuge lands and adjacent communities at risk to wildfire. While Community Wildfire Protection Plans (CWPP) are still in progress for many of the CNO WUI areas, CWPP equivalents<sup>2</sup> or agency level plans<sup>3</sup> are being utilized for collaboration and prioritization strategies.

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<sup>1</sup> Acres calculated by averaging calendar year 2006 accomplishments reported within the NFPORS and FMIS data systems.

<sup>2</sup> CWPP Equivalent- a Community Wildlife Protection Plan Equivalent has been identified, by FWS, as one of several options to meet the intent of the Healthy Forest Restoration Act and National Fire Plan policy.

<sup>3</sup> Agency-level plan- a plan that suffices as a risk assessment and mitigation strategy for National Wildlife Refuge lands

Contracting and cooperative agreements continue to be an emphasis for fuels treatment implementation and other cooperative fire management efforts. The San Diego NWRC has an ongoing chipper program contracted through local partners. In 2006, this project treated 2,600 acres of private lands around adjacent communities. The Stone Lakes National Wildlife Refuge has an ongoing agreement with a local fire department for cooperative fire management on refuge lands adjacent to the Elk Grove community. In 2006, over 2,700 acres were treated and homes protected through grazing, fuel break maintenance and emergency vehicle access enhancements.

The majority of prescribed fire treatments in the CNO fire program are accomplished outside of the WUI or within areas of mixed resource objectives (WUI & Non-WUI). In 2006, approximately 23,317 acres were treated to maintain and or enhance wildlife habitat and fire-adapted ecosystems (non-WUI areas). Many refuge properties are intensively managed for wildlife habitat. To compare fire regime condition class data to habitat objectives is often difficult to correlate with national fire program objectives. For example, some wetland and grassland areas are managed for high concentration wildlife use which correlates to a vegetation conditions class 3 or an altered fire regime and unnatural vegetation conditions. Strategic treatments and techniques are utilized to best integrate multiple fire and resource management objectives.

Many areas in the Central Valley and Southern California are still finding it difficult to meet prescribed fire targets through growing and competing smoke restrictions. It is estimated that the affected refuges are willing and capable of burning three to four times as many acres as they are

currently but are limited by the local air quality districts.

The CNO fire management staff is actively involved in the California Fire Alliance. This interagency forum of local, tribal, state and federal agencies coordinates statewide pre-fire management efforts and provides assistance to local communities at risk to wildfire.

In 2006, \$47,357 of grant funding was disseminated through the CNO Rural Fire Assistance (RFA) program. \$20,000 was provided to support an interagency agreement with the California Fire Chiefs Association to fund a mobile training cadre providing firefighter I/Basic training to numerous rural and volunteer fire departments throughout California. The remaining funds went to five volunteer fire departments for training and personal protective equipment. In addition to RFA, a number of CNO fire programs have provided training and assistance to local fire partners. The Sacramento National Wildlife Refuge provided firefighter safety videos, training, and educational materials to over 15 volunteer fire departments.

The CNO fire outreach efforts have expanded greatly over the last year. The completion of *Keeping Fire on Our Side*, the Fire Management Strategic Communications Plan (Plan) and dissemination of support materials has helped jump-start outreach and communication efforts in the Region. Plan implementation started in early 2006 with renewed representation on the National Fire Outreach Team (NFOT) and enhanced coordination and communications between regional, zone, local fire, and refuge staffs. The Klamath NWRC has provided staff to support work details for the NFOT and support Regional and National outreach efforts throughout 2006 and past years.

In 2006 the Region earmarked a portion of funding to assist each Fire Management Zone with local outreach staffing and projects. Utilizing outreach and other fire and refuge funding sources the CNO Region implemented over 350 fire outreach, education, or media events/activities with local communities and partners. Efforts were focused at meeting Plan objectives and utilized partnerships and leveraged resources to more effectively communicate messages. The Regional Directorate and other FWS program leads were briefed on the Plan and provided input and support for Plan implementation. Regional efforts included the development of a CNO Fire Management webpage, development and dissemination of fire program success stories, interpretive displays, and other regional products used to help educate internal and external audiences about the CNO fire program.

The CNO fire program is growing and has made tremendous leaps in fire outreach and communications. The California and Nevada environment (ecosystem, cultural, political and social environs) are very complex and will require unique and long-term outreach strategies to be effective. Increased funding and support to CNO would greatly enhance and build upon the successful implementation of Plan objectives within the CNO Region.

### **Sacramento / North Central California Fire Management Zone**

North Central Valley Zone experienced 10 wildfires on Service lands burning 16.2 acres, all of which were suppressed during initial attack and held to under 10 acres. Zone firefighters also took action on 24 threat fires that burned 170.4 acres. Heavy fuel loadings existed because of well above-average precipitation during the preceding winter and spring, and severity funding was

approved for much of fire season. Other zone accomplishments included:

- Three fire support actions to local cooperators
- 10 WUI treatments for a total of 6329 acres.
- Nine prescribed fires for a total of 96 acres.
- North Central Valley Zone fire staff assisted other FWS regions with personnel and equipment support during severity operations
- North Central Valley Zone fire staff responded to assist local, state, and national suppression efforts with seven off refuge fire assignments. These assignments lasted anywhere between two days to two weeks.
- North Central Valley Zone fire staff provided seven day staffing from June 11 through September 30.
- North Central Valley Zone fire staff worked on various projects in support of the Refuge Complex and the Fire Management Zone.
- In FY2006, North Central Valley Zone fire staff had no serious injuries both during fire and non-fire operations.

### **San Luis / South Central California Fire Management Zone**

The fire season and severity conditions in California's delta region and San Joaquin Valley began a month earlier this year and extended through October. However, the National Wildlife Refuges comprising the San Luis Fire Zone (San Luis NWRC - San Luis, Merced and San Joaquin NWRs, Grasslands WMA; Kern NWRC - Kern and Pixley NWRs; and San Francisco Bay NWRC Antioch, Don Edwards, Ellicott Slough, Salinas and San Pablo Bay NWRs), experienced an average number of fire starts this year. This provided the Zone the

opportunity to send resources out on assignments, conduct fuels and project work, and focus on safety. Highlights of the 2006 season include:

- Fire personnel in the San Luis Zone conducted initial attack on 18 wildfires totaling 235.9 acres on or threatening refuge lands.
- Fire personnel in the San Luis Zone were dispatched as overhead to six off-zone fire assignments totaling 70 staff days.
- A biologist in the San Luis Zone was dispatched on a BAER team assignment to a project fire encompassing the Malheur NWR.
- San Luis Zone engines were dispatched to four off-station fire assignments and one severity cover assignment.
- San Luis Zone had eight red-carded fire-funded personnel and seven red-carded collateral fire fighters this calendar year and maintained two type 6 engines, one type 3 engine and a tactical water tender.
- San Luis Zone fire-funded staff completed 4 Position Task Books.
- The San Luis Zone maintained one WIMS station and made use of a new portable WIMS station on a number of fuels projects.
- The San Luis Zone completed 21 fuels projects totaling 2034 acres. 10 projects were prescribed fires ranging in size from 10 to 400 acres and totaling 1285 acres - early severity this year prevented additional prescribed burning. Eleven projects were mechanical fuel

reductions involving mowing, disking, and spraying totaling 749 acres.

- As part of the Service's Partners for Fish and Wildlife program, fire personnel from the San Luis Zone conducted a prescribed fire on private lands to benefit colonial-nesting tri-colored blackbirds - the most successful breeding colony this year in the San Joaquin Valley.
- Fire personnel in the San Luis Zone provided support on three fuels projects (Rx burns) totaling 120 acres on cooperators' lands in Central California.
- Staff from the San Luis Zone monitored vegetative response to prescribed fire at three sites on the San Luis NWRC.
- Personnel from the California Department of Fish and Game visited the San Luis NWRC to view the fire effects monitoring program - one of the few monitoring programs occurring in the valley.
- Fire personnel in the San Luis Zone conducted public outreach efforts at the Wild on Wetlands Festival and the Riparian Brush Rabbit Festival.

### **Northern California / Southern Oregon Fire Management Zone**

- Klamath Basin suppressed 11 wildfires on refuge property. These fires burned 229.2 acres. The fire season was average in relation to starts and acres burned this year. The super abundance of fine fuels caused by the wet spring definitely added to the severity of the season, especially in northeastern California.

- The two Refuge suppression engines responded to 29 initial attack responses with the local dispatch offices. The engines also had four complete 14 day off forest fire details. One of the engine foreman was detailed to the Redmond Hot shot crew for the summer. The Zone helped the PFTC by sending a coordinator for the first session in January.
- The Zone worked on and completed three suppression agreements with Fortuna Interagency Dispatch Center and local Volunteer Fire Departments for the Humboldt Bay NWRC. An agreement with the Local Volunteer Fire Department for assistance on refuge fires and structure protection was completed.
- Over 24,000 acres of prescribed fires on the Klamath Basin Refuge Complex was completed.
- Eleven out of 12 fire personnel in this Zone meet the IFPM qualifications for their current positions. Four major red-card qualifications were completed this season for four permanent employees (ICT3, ICT4, TFLE, & RXB2).
- The Zone assisted the Nature Conservancy, USFS, NPS and other FWS refuges with prescribed burns.
- All of the vacant permanent fire positions were filled with good qualified personnel.
- The Zone would like to mention a special thanks to the Little Pend Oreille and Ding Darling Refuges for their assistance when there was a shortage of qualified Engine Bosses. In the middle of fire season, four

experienced employees took other positions and without the extra help, an engine would have been forced to shut down.

### **Southern California Fire Management Zone**

- The Southern California Fire Management Zone (San Diego NWRC, Hopper Mountain NWRC, and Salton Sea NWRC) conducted initial attack and or extended attack on 13 wildfires totaling 35 acres on or threatening refuge lands.
- The Day Fire on the Los Padres National Forest (NF) caused the evacuation of the Hopper Mountain Refuge facilities near Fillmore. The Hopper Mountain NWR field crew was evacuated to Ventura as a precaution in mid September due to the Day Fire on the Los Padres NF. One biologist traveled to the Refuge to put out food and take telemetry signals for several weeks until the threat diminished. The condors traveled to the nearby Bitter Creek Refuge during the four weeks the fire waged. All birds were accounted for and the fires never reached the Refuge, although it burned thousands of acres of adjacent habitat.
- San Diego NWR fire crew's participated in five interagency prescribed burns for 336 acres and two Fish and Wildlife Service burns for 25 acres.
- The San Diego NWR Fire crews participated in six out-of-area wildland fire assignments, approximately 30 mutual aid assists and two fire preparedness details. One was for Fish and Wildlife Service Lake Havasu, AZ and one for National Parks Service, Lake Mead, AZ.
- AFMO Larry Wade was temporarily promoted and detailed to the National Office, Branch of Fire Management, as the National Training and Qualification Specialist for four months.
- FMO Bill Molumby's Type 1 Incident Management Team was called out three times for fire suppression assignments.
- Due to the implementation of "Operation Gatekeeper" which tightened border access in the San Diego – Tijuana border area, there has been a dramatic increase in undocumented immigrants flooding the United States through the rugged mountainous areas of eastern San Diego County. Investigations have determined that immigrants have been responsible for an extraordinary number of wildfires. Most of these were found to be the result of campfires that were improperly extinguished. In response to this threat, the fire community formed The Border Agency Fire Counsel (BAFC) in 1986. San Diego NWRC Fire Management was a founding member and continues to be actively engaged in the counsel.
- The WUI program has been actively engaged in both planning and project implementation within the fire management zone.
- The WUI program accomplished 2,963 acres of mechanical fuel break maintenance in the southern California fire management zone which serves to protect both private property as well as critical habitat.
- The WUI program continues to partner with the San Diego Rural Fire District to fund and manage residential chipping. This project funds two brush chippers and the personnel costs for San Diego Rural employees to chip debris which

homeowners have produced from creating defensible space around their homes. This program is very popular and typically has a 5 to 8 month waiting period. Since 2002 over 1500 homes have been worked at chipping over 8700 acres.

- The Fire Management staff is currently working with the Fire Safe Council of San Diego County on an effort to produce a county wide Community Wildfire Protection Plans well as local tiered plans. The Fire Safe Council of San Diego County has recently identified 15 agencies to represent there Board of Directors. James Roberts, Wildland-Urban Interface Coordinator will represent the Fish and Wildlife Service.

### **Nevada Fire Management Zone**

- 2006 was a very busy year for wildland fire suppression in southern Nevada. There were a historical number of acres burned as a product of the second year of a wet spring

which produced very high fine fuel loading.

- The new Fire Management Officer, Glenn Gibson, came on board July 10th and was thrown right into the frying pan.
- The prescribed fire program keeps growing as the Stillwater NWR burns about 5,000 acres per year. All prescribed fire at this refuge is implemented and planned with the assistance of off refuge personnel. This is also an interagency effort as other federal agencies are involved with the implementation of these projects.

Ruby Lakes NWR has implemented the second phase of a multi-agency project to protect the homes within the community of Shanty Town. Previous years the USFS completed cutting and chipping to create a fuel break to reduce the hazard to the WUI. This year because of the high grass loading, the USFWS provided and operated a mower which cut the grasses around the community and therefore reduced the risk of fire spreading into the community.

## SOUTHWEST REGION

The 2006 wildfire season came with no break in activity from 2005, Texas and Oklahoma experienced their second driest fall and winter since 1921 and one of their worst wildfire seasons ever. The season began in earnest on January 1 with at least 30 large wind driven fires reported across the Southern Plains from southeastern New Mexico through north Texas and into central Oklahoma scorching over 400,000 acres and destroying 125 homes. This was the precursor to a wildfire season that would seem to never end in the Southwest Region. Wildfire activity and unseasonably hot and dry conditions persisted throughout most of the year in Texas, Oklahoma, and New Mexico. Arizona, although not unusually hot continued to be plagued with an abundance of annual grasses and forbs in the southern deserts from the record precipitation that fell over the area during the winter of 2004-2005. Refuges in Arizona that normally do not have significant annual wildfire occurrence continued to experience large fires in 2006, much like those in 2005.

Suppression actions on Service lands totaled 233 fires for 27,843 acres burned. Wildfire response by state included; 26 in Arizona, 10 in New Mexico, 42 in Oklahoma, and 155 in Texas. Additionally, Service Firefighters assisted with the suppression of 141 wildfires in neighboring jurisdictions. The largest fires on Service lands include the 4,814 acre Marcial Fire at Bosque del Apache NWR, 4,600 acre Cibola Fire at Cibola NWR, 4,370 acre Copperhead Den Fire at Sequoyah NWR, and the 2,683 acre Butternut Fire at Deep Fork NWR.

Extreme environmental conditions and continued fire activity necessitated additional severity funded resources on Refuges for successful initial attack and needed relief for fatigued refuge firefighting

personnel. The Southwest Region requested and was approved over \$2.8 million to preposition fire equipment and personnel on Refuges in all four states for 273 days beginning in January and not ending until early October. This emergency funding was used to supplement refuge firefighting resources with engines, overhead, single engine air tankers, and heavy equipment in Arizona and Texas. Additional severity resources were invaluable in controlling new starts in the first burning period thus reducing extended commitment of suppression resources needed for ongoing initial attack.

The Southwest Region also deployed a fire prevention team in Oklahoma as our contribution to the interagency staffing and public education program for the area. This team adapted FireWise publications to meet the specific needs of Oklahoma and presented the information at communities meetings around the State. This was the first time a national interagency prevention team had operated in the Oklahoma.

Despite the severity of the fire season, the Region was able to exceed all performance targets this year by treating a total of 71,376 acres using fire management activities. Seventy-four projects were completed within the Wildland Urban Interface encompassing 18,394 acres. Fifty-six hazardous fuels projects were completed on 52,982 acres to reduce hazardous fuels and to improve wildlife habitat. In addition, over 50% of project funds were obligated to contracts.

Community Wide Protection Plans were developed for all of the communities at risk in Oklahoma, New Mexico, and some in Texas and Arizona by using a collaborative approach with local stakeholders and other Federal and State agency's. These plans

will be used to further reduce fuels and threats to community values at risk.

The Rural Fire Assistance Program distributed \$146,939 to seven rural fire departments throughout Texas, New Mexico, and Arizona in 2006. These grants provide assistance to the departments for training, fire shelters, suppressions tools, protective gear, and essential communications equipment.

Region 2 is a very active partner with the Fire Use Training Academy in Albuquerque, New Mexico. The Region's Fire personnel assist the academy by providing instructors to prescribed fire training courses and curriculum development and provided 12 % of all the prescribed fire project work allowing trainee's to gain experience and work on qualification taskbooks. The Region has fully implemented the 2006 Interagency Prescribed Fire Planning and Implementation Reference Guide.

Despite an early and extremely busy fire season experienced by much of the Southwest Region, the February 15, 2006, Fire Program Analysis (FPA) submission deadline was met by all the Southwest Region's FPU's with the exception of two in Eastern Oklahoma. U.S. Fish and Wildlife has no existing fire programs within either of the two FPU's. In addition, all the participating FPU's made the March 1 budget development and delivery deadline without incident. The Southwest Region Fire Planner coordinated and attended meetings with representatives from the BIA and several Oklahoma Tribes to discuss the problems that lead to the exclusion of the Eastern Oklahoma FPU's from the final FPA runs and helped put these FPU's on a path towards being fully prepared for the next phase of FPA. The FPA Phase 1 completion brought to light many problems with the existing model. The Regional Fire Planner was very active in local, Regional and

National After Action Reviews in identifying existing problems with FPA and offering suggestions for possible solutions to these problems.

This year was a watershed year for identifying deficiencies in the GIS layers and other data necessary for the future of FPA within the Southwest Region and for applying this tool to fire management in general. Great progress was made in addressing the GIS data deficiencies and working with other non-fire GIS personnel within the Regional Office and outside the Region on developing agency standards for collecting and storing data specific to the FPA process.

Other projects included oversight and assistance in collecting aerial photography and remote sensing data for a number of fire monitoring programs within the Region and continuing GIS support for all Fire Districts.

The Regional Office hosted a three day fire administration meeting for the Fire Program Technicians in R2. Presentations, training, and guidance were provided in the areas of Human Resources, Contracting, IDEAS, Budget and Finance, Accomplishment Reporting, Administratively Determined hiring procedures and fire timekeeping.

Personnel changes within the Regional Office included welcoming Donna Zanger aboard as the Region's new Budget Specialist, replacing Kathy Winship, Mark Kaib became the Deputy Regional Fire Management Coordinator and WUI Coordinator Lorene Guffey transferred to the USFS.

The Southwest Region has two approved Emergency Stabilization (ES) projects amounting to \$231,186 dollars in National Funding. These projects at the Lower Rio Grande Valley and Bosque Del Apache Refuges will help fight invasive species and

restore native habitat. There are also eight approved Burned Area Rehabilitation projects for a total of \$2,327,108 dollars in National Funding. These eight projects will help rehabilitate native habitats at the Lower Rio Grande Valley (three), Bosque Del Apache (one), Kofa (two), Cibola (one), and Havasu (one) NWRs.

Ongoing fire research projects include the Joint Fire Science Program funded collaboration between Oklahoma State University and Iowa State University (Dr. Sam Fuhlendorf and Dr. Dave Engle; \$387,994 /5 years/2003). This research evaluates prairie ecological interactions between large herbivore grazing, fire effects, and biological diversity at landscape scales. The Region's Science Support Program funded an assessment of fire risk to Endangered Golden Cheeked Warbler

habitat in the Texas Hill Country and at Balcones NWR (Dr. Wylie Barrow and Dr. Joseph White at Baylor University Texas; \$323,542 /5 years/2004). The Region's Science Support Program also funded Dr. Karen McKee at the USGS Wetlands Research Station (\$176,188/4 years/2005). This research is part of a larger global climate change network and designed to evaluate changes to coastal marshland ecosystems including fire effects.

The Region has approved a new Fire Management Plan for San Bernardino and Leslie Canyon NWRs and two new Fire Effects Monitoring Plans at Aransas and Buenos Aires NWRs. Four of the eight fire management districts now have approved fire monitoring plans and the remaining four are in development.

## **GREAT LAKES-BIG RIVERS REGION**

Two thousand six was a challenging year in Region 3, the Great Lakes and Big Rivers Region. As in the past several years, it was highlighted by changes in personnel, emergency response, weather impacts, and fire program projects, culminating in a year of excellent fire program growth and accomplishment.

Region 3 again contributed to the personnel changes occurring in the National Fire Office in Boise, ID. Becky McMahon, Field WUI Coordinator at Necedah NWR accepted the position of National Fire Planner and also promptly changed her name to Becky Brooks. At the Regional Office, Jerry Szymaniak, was hired as the Regional Fire Planner. Jerry comes to us from the US Forest Service, where he was a Fire Planner in the Minnesota Interagency Fire Center. His knowledge and expertise in Fire GIS will be extremely beneficial to our program as FPA and LANDFIRE come into fruition.

Weather again was the major factor affecting all fire operations during 2006. Drought conditions were found in many areas of the Region. Three areas remained in a severe drought condition throughout the year, especially impacted was northern Minnesota. Extending from the northwestern corner of the state across the entire northern half of MN, the drought created extreme hydrologic deficits, increased wildfire activity and reduced prescribed burn opportunities. These drought conditions crossed into the upper peninsula of Michigan. This created extreme fire hazard conditions across the Eastern Upper Peninsula of Michigan directly impacting Seney NWR. The continued drought conditions in the NW Missouri/Southern Iowa/Western Illinois region has also

continued. This too created a challenging scenario from which to conduct fire operations.

The remaining states within the Region also experienced many of the same weather related phenomena that have become characteristic to the most recent years. Wisconsin experienced above normal temperatures with below normal precipitation. Illinois continued the trend with its ninth warmest recorded year since 1895. Temperatures were 1.8 degrees F above normal for the most recent 30 year time period. Statewide precipitation was 6 % above normal except in the western region of the state around Quincy and east of St. Louis, corresponding with the on-going drought described earlier. Iowa similarly experienced above normal warm temperatures with below normal precipitation. It ranked as the 12<sup>th</sup> warmest year on record. In Missouri, extended drought conditions in a path lying generally southwesterly extending northeast into Illinois and SE Iowa caused problems essentially all through the growing season. No major fire events occurred on refuge land as the fire season progressed. Indiana and Ohio remain fairly unchanged from normal. Early spring precipitation made it difficult to meet prescribed fire targets while fall precipitation assisted in restoring groundwater charge and alleviating many shortages. The present outlook is for continued normal to slightly above normal precipitation in Indiana and Ohio.

For 2006, there were 62 wildfires which burned approximately 1,142 acres within Region 3. Staff from Leopold WMD, Necedah NWR and Big Oaks NWR supported Seney NWR during its severe drought period. Additional large fire

incidents staffed by regional FWS employees included the Cavity Lake Fire, BWCAW (US Forest Service, Superior National Forest). Personnel from Big Stone NWR, Agassiz NWR engine module, Michigan and the Regional Office, assisted on this fire. It was common throughout mid-July to mid-September to have 35-40 + Region fire personnel out on assignments during any given week. As in years past, over 20 staff participated in a fire severity engine detail to the Arizona Strip with the Bureau of Land Management in St. George, Utah. This has provided an excellent opportunity for our Regional fire staff to utilize their engine and water handling expertise while gaining additional hands-on training. Additionally, this Arizona Strip detail included staging the new Type 6 CAVS engine from Squaw Creek NWR, South Zone, for over two months. This provided an excellent initial attack detail for both the engine and its crews.

The 2006 prescribed burn and hazardous fuels reduction program was also an excellent success given the weather challenges that occurred throughout the Region. For example, even with extended drought conditions, the South Zone exceeded all targets and set a new record for acres treated. The West Zone (Minnesota) utilized a broad array of multi-agency detailers to assist with completing all burn projects. FWS stations in Florida, Oregon, California, Texas, and Iowa contributed personnel and equipment. NPS Fire Use Modules from Buffalo River and Zion NP were very effective in assisting during the spring prescribed fire season. Finally, a BLM/BIA Fuels Module from California also assisted with prescribed burning. Region 3 completed a total of 68,156 acres of WUI and HFR accomplishments. This included 19,963 acres of WUI projects and 48,193 acres of hazardous fuels treatments. A total of 255 WUI and fuels projects were accomplished consisting of prescribed fire

and various mechanical fuels treatments entered into the NFPORS database. Of major importance, these excellent accomplishments were all made with no reportable accidents.

The joint Region 3 and Region 5 FWS and USGS Cattail Marsh Study project has continued forward with important progress made during 2006. An impressive growing season cattail marsh prescribed fire was conducted on 1,000 acres at Agassiz NWR during August, 2006. Dataloggers were utilized to obtain empirical burn data for analysis. Additionally, the Uihlein WPA management unit on the Leopold WMD was also burned. Because the unit was considered to have soil moisture levels too high for the formal study, the burn results were not included in the formal cattail study project. Successful results were still obtained. With continued drought conditions persistent throughout the upper Midwest, it will provide favorable drying conditions in these wetlands while presenting a challenge to conducting the prescribed fires to meet study objectives.

At Sherburne NWR, a fire dendrochronology study is being conducted. This project is establishing fire history, age structure and vegetation analysis on a naturally significant native Oak Savanna. Important data is being collected and analyzed that will greatly enhance the Regional management capabilities in these Oak Savannas. The Seney NWR Joint Fire Science project on "Restoration based fuel reduction recommendations for mixed pine forests of Upper Michigan" is successfully advancing with impressive data collection and analysis efforts. Establishing the historic pre-European settlement and post settlement fire regimes, fuel loadings, forest composition and structure will aid immensely in developing ecological restoration techniques and alternatives. The refuge has embarked on an important

silvicultural and fire ecosystem project that will greatly benefit pine management throughout the North country.

We continue to make excellent use of the IDIQ (Indefinite-delivery, Indefinite-quantity) contract as developed within Region 3 to allow for the efficient and timely ordering of MarshMaster tracked vehicles. In 2006, the new MMII Model C MarshMasters were ordered for Horicon NWR and Windom WMD. These are proven pieces of equipment that are an indispensable vehicle for firefighting and prescribed fire purposes on our refuges. Additionally, these new models allow for the attachment of the rotary cutting head for fuels management.

Region 3 distributed \$291,878.00 through the Rural Fire Assistance (RFA) Program. This funding purchased personal protective gear, equipment, supplies and fire training and was distributed to 31 rural fire departments in eight states. This greatly assists the local fire departments adjacent to NWR's and WMD's to expand their fire fighting capabilities. Further, it is a great public outreach educational tool that expands our network of local firefighters available to respond to rural incidents.

A strong public outreach program continued in 2006. The highlight for the region was completion of the new portable fire display. Since completion, this impressive display has been in use at several large events carrying the message for prescribed fire and the need for fire in maintaining healthy ecosystems.

During the week of January 24-26, 2006, the FWS assisted the State of Wisconsin with the first ever prescribed fire conference and workshop in Wisconsin. This proved to be an excellent training opportunity and public information forum. The FWS fire program contributed greatly to the success of this

workshop with speakers and equipment. As a measure of the interest in this workshop, over 400 people attended the three day session.

On September 15-16, 2006, Seney NWR, hosted the 1976 Walsh Ditch Fire Reunion. This 30<sup>th</sup> anniversary gathering commemorated the historically significant 1976 Walsh Ditch Fire, which burned the Seney refuge. To those too young to have known about or participated in the fire, (also referred to as "The Seney Fire"), it was significant for many reasons. It was the first fire to utilize Unified Command. At the end of the fire, both a federal and state of MI employee had served in most functions. It really exemplified the cross sharing and utilization of multiple agency resources. It was an enormous fire by Eastern standards for the day as over 1000 personnel from all over the United States contributed time, talent and expertise. It firmly established the FWS as a fire agency with diverse capabilities. It forever remains on the minds and in the forefront of every Seney Refuge Manager and employee to this day as exemplified in resource management and planning efforts. It was a landmark event in the history of Seney NWR and its importance remains with us today as further captured by this reunion event.

On-going multi-agency coordination efforts within the region included the hiring of a permanent full time dispatcher and assistant at the Illinois Interagency Dispatch Center.

One additional permanent Remote Automatic Weather Stations (RAWS) was purchased in 2006 for the Minnesota Valley NWR. It is to be installed during Spring 2007. This brings the number of RAWS in the region to 14. These fourteen RAWS provide critical fire weather data collection and weather history for the prescribed fire management and Fire Program Analysis programs.

Region 3 personnel have participated in several LANDFIRE and fuels mapping workshops. Testing and troubleshooting map inputs is contributing to further refinements in fire mapping products that is crucial to providing accurate base level data for LANDFIRE. Additionally, FPA is undergoing a major transformation and

regional personnel have remained in close contact with this on-going process.

In conclusion, 2006 was a superb year of accomplishment given the challenges presented to the Region 3 fire program. The stability that has now been formed within the region will allow for continued program growth and development.

# SOUTHEAST REGION

## General

Region 4 had 219 wildland fires covering 12,542 acres in 2006. The largest fire occurred in the Upper Ouachita NWR and totaled 1,806 acres. There were 58 mechanical fuel treatments for 7,348 acres and 291 prescribed fire treatments for 106,864 acres. This totaled 349 treatments for 114,212 acres, which once again exceeded the Regional target.

This was quite an accomplishment based on a very early fire season in the Southwest Region of the Fish and Wildlife Service (FWS) (Texas & Oklahoma), which is supported by resources through the Southern Area. This weather pattern, which consisted of a dry airmass, continued to slide east and south affecting the timing of certain spring prescribed burns in the Southeast Region. These conditions continued to provide a challenge for management to balance the prescribed burning and the wildland fire suppression programs.

During the spring fire season, the Southeast Region was moderately busy. The majority of the fires took place in LA, MS, and FL. The total of wildland fires was 219, of which 24 became large fires; all others were fires below 100 acres or initial attack. This was an increase over 2005's fires, but still lower compared to previous years which can be attributed to a historically aggressive prescribed burning program. The increase in fires can be accounted for due to the last two years of hurricane downed trees and foliage.

Alligator River NWR, Piedmont NWR, FL Panther NWR, and Lake Woodruff NWR prescribed burned over 55,957 acres even with the extreme wet conditions. These refuges accounted for 48% of the Refuge's Rx acreage and 35% of the number of burns.

## Eastern Area Assists

The Southeast Region is within the Southern Area Geographical Area. The 2006 wildfire season will best be remembered as the year with minimal hurricane impact to the Southern area. The wildfire activity in Texas, Arkansas, and Oklahoma began immediately after Christmas and continued until July and some of August. Cabo Rojo and Culebra NWRs in Puerto Rico also had fires in the spring, but not to the extent of the fires they incurred in 2005.

The Gulf Coast NWR Complex (NWRC) began with a continuation of the drought dating back to Hurricane Katrina in 2005. By the end of June 2006, the 10-month precipitation deficit stood at 30.62 inches. In mid-April Mississippi Sandhill Crane NWR declared fire severity status for the second time within a seven month period. FMO Tony Wilder along with Anthony Snow, Sami Gray, and Brad Bailey served as Incident Commanders during this time of initial attack activity. Excellent interagency cooperation combined with their aggressive fuels treatment program inhibited large fire growth. In June, several Mississippi Sandhill Crane NWR employees assisted in a burnout on the 1,800 acre Sause Fire in the DeSoto National Forest. Fire management staff of the Gulf Coast NWRC had several assignments during the first half of the year in the Southeast Region. Tony Wilder served as trainee Incident Commander during the North Central Texas initial attack in January as well as an assignment during the Florida fire season. Tony Wilder also served as Operations Section Chief on the Cherokee South Complex in east Tennessee during the Spring wild fire season. On the Mollicy Warrant fire, which 315 acres of this fire was on FWS lands, Sami Gray served as a Type III Incident Commander. Mississippi Sandhill Crane NWR once again

demonstrated it's willingness to share its knowledge and experience in fire and incident management.

Refuge personnel served as instructors in fourteen programs at the Refuge and other locations including the National Advanced Fire and Resource Institute (NAFRI). As part of the effort to improve Region 4 hurricane preparedness, Tony Wilder coordinated two sessions of S-213 chainsaw training, in which 28 FWS employees became qualified as Faller Type A. Noxubee and Cache River NWR hosted these two sessions. Tony Wilder participated in numerous meetings and classes relating to Fire Program Management training (M-581). Sami Gray participated in a regional workshop on implementation of the new, national template for prescribed burn plans.

Alligator River NWR became the first responder on two project fires that occurred in the Great Dismal Swamp NWR located in Region 5. They also were the primary responder to a fire located at Cape Hatteras National Seashore that threatened numerous homes and structures. Alligator River's District 1 employees were instrumental in suppressing these fires. An improved cooperative relationship with their sister refuge to the north as well as the Park Service resulted from their participation in these incidents. With the hazardous fuels projects completed the most significant of these burns were the five Joint Fire Sciences Project burns that were completed in marsh and pocosin fuels. Many of these prescribed burns were very difficult burns in heavy shrub and timber fuels that had never been burned before. There were six burns totaling 1014 acres at Cedar Island NWR these were especially challenging due to heavy fuels, close proximity to houses, and logistics of traveling to this remote refuge.

The FWS gained excellent support in their prescribed burning program from the residents at Cedar Island as a result of their efforts to conduct prescribed burns there. District FMO Thomas Crews received the Southeast Region's All-Hazard Management Leadership Award for his role as Incident Commander for the USFWS Southeast Region Incident Command Team #1 for Hurricane Katrina. He was also recognized for his role by Secretary of Interior Gale Norton, and Director of FWS Dale Hall, and Southeast Regional Director Sam Hamilton.

Savannah Coastal Refuges drought conditions brought about a new historic high in the reporting of lightning strikes. Of particular interest were two lightning caused fires on the barrier island. Both fires required extensive work, with one of the fires being in the designated wilderness area of Blackbeard Island NWR. The district devoted resources on that particular fire for over a month. Fire staff was successful in completing phase one of Fire Program Analysis (FPA). Staff assisted in burning approximately 3,000 acres on The Nature Conservancy lands with significant threatened and endangered species concerns. The fire district has developed a Standard Operating Plan (SOP) and an Annual Operations Plan (AOP) for an interagency FireWise mobile trailer. This trailer will be staffed with an interactive display screen and houses a number of educational displays devoted to wildland urban interface issues. On a high note, fire staff assisted state cooperators in a big way concerning prescribed fire in 2006. New MOUs were established with the South Carolina Department of Natural Resources system, allowing the fire staff to assist with burns in critical habitat areas. The South Carolina Low Country Fire Council was established for cooperative efforts and outreach for wildland urban interface concerns and

projects. Keith Penrose worked as a member of the South Carolina Prevention

Team, working to educate the public in a joint effort with the South Carolina Forestry Commission and the U.S. Forest Service on the dangers of wildland fire potential. Keith was also instrumental in the development of South Carolina Low Country Wildland Interface Council, an interagency council consisting of private, county, state, and federal cooperators working to raise awareness and educate targeted groups in best management practices in community development and implementation methods to lessen wildland fire opportunities in interface areas. Additionally, the group presented several FireWise Workshops around the state.

Noxubee NWR assisted the National Park Service in prescribed burning on the Natchez Trace Parkway. Dusty Dendy assisted the Bureau of Indian Affairs with the Choctaw Tribe on writing prescribed burn plans.

Merritt Island NWR responded and assisted with four WUI fires consisting of 65 acres and four State of Florida assists for a total of 1,103 acres.

As fire season subsided for the spring and hurricane season began the fire staff from the Southeast Region turned its attention, as did everyone in the Southern area, to the potential hurricane season. When Hurricane Ernesto was moving towards Florida, a Type III Team with Mike Housh as Incident Commander was activated and placed in a readiness status. When Ernesto hit land, a daily conference call with the refuges determined that the team was not necessary. This was a great change from the response levels of the previous year's activity. Pat Boucher produced a SOP for the Regional Hurricane Response Desk; this

desk is activated as expanded dispatch for the region during hurricanes.

### **New Incident Response Vehicles**

In an effort to prepare for any emergency, the Southeast Region of the Fish and Wildlife Service has obtained four Incident Management Response trucks and trailers. The response vehicles are custom built to suit the needs of the Southeast Region's response teams and will be utilized to conduct a multitude of tasks. The vehicles were designed to deploy as self-contained units while conducting emergency response operations able to sustain a crew of 12 personnel for 10 days without refueling or restocking. The largest trucks maintain crew supplies for two weeks with a 100-gallon fuel tank and storage for 100 gallons of potable water. All of the trucks feature a work station for two and those with communications capabilities include cell phone boosters, remote communication systems using satellite technology, and telescoping antennas to instantly set up radio communication in a disaster area.

There are two response truck and trailer units and several new fuel trailers currently assigned to Merritt Island NWR in Florida. A 53-foot cargo trailer has been converted into a mobile warehouse for rapid distribution of needed emergency supplies. A 30-foot response trailer is also assigned to Merritt Island NWR that not only contains a portable work center, but also six portable generators, first aid supplies, personal hygiene supplies, and has a work bench area to perform minor repairs to equipment. Another 38-foot response trailer is assigned to Okefenokee NWR in Georgia is equipped with a state of the art communications system and plenty of storage space to literally transport a crew and tons of supplies to an emergency location. The last 38-foot response trailer, also located at

Okefenokee NWR, was specifically designed to suit the needs of the law enforcement program and will be assigned to the Regional Office. It too comes with a state of the art satellite communication system complete with laptop computers, phones, and surveillance cameras, as well as a mobile office with a printer, scanner, and fax machine. This trailer is the only trailer that includes a bunk area and it can sleep up to six personnel to allow for 24 hour operations. The two disaster-response trailers have custom-built chainsaw racks (now patented), enough hand and power tools for an initial crew. The law enforcement trailer has a custom built weapons safe and a data center that controls satellite systems.

Response equipment will be stored at refuges that are close to major Interstates and airports to allow for rapid mobilization. Equipment is interchangeable and can be deployed separately or in unison, creating a fully-functional command center capable of supporting large emergencies.

The Region's FWS Fire Management employees had opportunities for many rewarding assignments. Tony Wilder became qualified as Incident Commander Type 1 during the Heart Fire in California, and subsequently served as Deputy IC on the Blue Team at the Black Crater Fire in Oregon. The number of FWS employees who assisted on western fire assignments increased significantly from last year, due to the decrease in hurricane activity. Merritt Island had 34 employees who went on western assignments and Alligator River along with the other North Carolina refuges had 70 off-station assignments.

The Regional helicopter went to Oregon with Pilot Glen Cullingford to work on the Black Crater Complex and the Lake George fires.

## Miscellaneous

Jeremy Keller, District 7 WUI Specialist, made a welcome return in July from an 11-month tour of military duty in the Middle East. Jeremy has played an active role in interagency fire organizations since returning from the Middle East. He participated in a meeting with the Mississippi Coastal Fire Management Cooperative and the Gulf Coast fire chiefs in Biloxi. He also met with representatives of the Volunteer Fire Departments in Jackson County, Mississippi and Baldwin County, Alabama to discuss mitigation plans, operational support, and the Rural Fire Assistance program. In addition, Jeremy published his article "The Fourth Element" in the Trade Journal Fire Chief. The paper was originally submitted as a requirement for a distance learning course entitled "Fire Prevention Organization and Management", offered through FEMA. The Oregon State Fire Marshal has expressed an interest in adopting it as a white paper for the WUI program.

FMO Tony Wilder was named Incident Commander of the newly established Southern Area Interagency Type 2 Incident Management Team.

Jon Wallace accepted a permanent fulltime position as Prescribed Fire Specialist at Arthur R. Marshall Loxahatchee NWR.

Wildland Fire Specialist Anthony Snow has worked with Mike Kionka of the FWS Telecommunications Office to make significant progress in design and implementation of a radio system that will link all three refuges within the Gulf Coast Complex: Mississippi Sandhill Crane, Grand Bay, and Bon Secour. The system should be operational in the near future.

Greg Askins, District Prescribed Fire Specialist, relocated to Carolina Sandhills NWR from Savannah Coastal Refuges.

Heidi Hubbs-Williams transferred from St. Marks NWR to Savannah Coastal Refuges as a Prescribed Fire Specialist.

Jennifer Hinckley has transferred from Arthur R. Marshall Loxahatchee NWR to St. Marks NWR as the District 4 Prescribed Fire/WUI Specialist.

## NORTHEAST REGION

Spring rainfall deficits resulted in an unusually large number of wildfires in the Northeast, particularly in the mid-Atlantic area. Fire danger indices were at or above historical levels at weather station sites on southern refuges for much of the spring. Great Dismal Swamp NWR experienced three fires from early April to early May, two of which became Type 3 extended attack incidents. The West Drummond fire started by lightning and burned 535 acres, making it the largest wildfire in refuge history. The Cross Cut fire, also started by lightning, burned into an Atlantic white cedar salvage site and threatened high value logging areas, as well as the Dismal Swamp State Natural Area. The fire danger and fire occurrence on the refuge led to the opening of a severity account, which enabled the refuge to temporarily increase staffing and resources. Conditions moderated in late May and early June with several rain events.

Blackwater NWR crews responded to more than 30 wildland fires in Dorchester county alone. Two fires stand out from this season, the “Wasn’t Me” fire in which Blackwater units were first on scene and did an outstanding job of keeping a fast moving fire from burning down several homes directly in the path of the fire, and the “Becker Fire” which was on state land and burned for several days in the marsh, covering almost 1500 acres. While responding to this incident, the fire crew came across a vehicle accident where a car missed a turn and ran into a tree. The crew put their first aid and EMT skills to use, managing to stabilize the patient and prepare him for the medevac flight out.

Within the New England zone, there were five wildland fires (two at Eastern Massachusetts Complex, two at Moosehorn NWR, and one at Rachel Carson NWR) totaling just over eight acres burned. Fire

staff from Moosehorn and Sunhaze Meadows also assisted the State of Maine on four fires, outside of agency ownership. The largest and most threatening fire was the Centerville fire, near Petit Manan NWR. This incident was driven by an unusual northeast wind, just ahead of coastal moisture moving in. The 30+ m.p.h. wind speed diminished late that afternoon as coastal moisture from the south finally arrived. Final fire size was 800 acres, and only a few out-buildings were destroyed.

Prescribed burning accomplishments for 2006 included 3,005 acres at Blackwater NWR plus an additional 2,332 acres on state and private lands; over 2,000 acres on refuge and state/NGO partner lands in the VA/WV zone; 298 acres in the NJ/NY/PA zone; and 285 acres in the New England zone. Some burn projects were not accomplished, or cut short, due to the increasing fire danger and commitment of resources to fire suppression during the spring burn season. An additional 1,794 acres were treated with mechanical fuel reduction methods and 1,714 acres were treated chemically. Several wildland-urban interface fuels reduction projects were implemented or initiated in collaboration with partners including the Maine, Massachusetts and Virginia chapters of The Nature Conservancy, Maryland Department of Natural Resources, National Park Service, and Virginia Division of Natural Heritage/Department of Conservation and Recreation.

While safety remains foremost on our minds, an event happened at Moosehorn NWR where a sudden (unexpected) wind event exposed a burn team to a potentially hazardous situation, resulting in a “near-miss” situation. A more formal review was conducted by FMO Vollick with the burn team and Refuge Manager where the day’s

event was reconstructed. While no one event or individual was at fault, several issues requiring mitigation were revealed, including a better briefing addressing fireline safety awareness, better unit preparation of fire breaks and modification of the APC tracked vehicle. All findings within the report have been addressed, including equipment modification to minimize firefighter exposure on future burns.

The large biomass utilization project at Great Dismal Swamp NWR continued with the objective of salvaging Hurricane Isabel storm damaged timber and regenerating the globally rare Atlantic white cedar forest cover type. Income generated from the salvage of windblown cedar was used to improve the condition of access roads and compensate the contractor for removal of unmerchantable or low value material. Salvage operations are being assisted through use of helicopter yarding (Carson) which also minimizes ground disturbance. This project has the dual benefits of reducing a hazardous fuel situation while helping to regenerate cedar seedlings and eventually restore the forest type, all at little cost to the government. WUI project funds were used to contract for the streamlined EA and bring in a consultant in helicopter logging operations to help develop the scope of work and evaluate bids. As of December 31, 2006 approximately 3,500,000 board feet of cedar and 315,000 board feet of hardwoods had been salvaged on about 580 acres, in addition to a quantity of hardwood pulp and mulch.

The Rural Fire Assistance (RFA) program awarded 31 grants worth \$206,846 to fire departments in ME, NH, MA, RI, CT, NJ, NY, PA, MD, VA, and WV. WUI Specialist Bob Harris conducted 29 compliance visits to monitor fire department compliance from the 2005 RFA grant program. Overall, there are approximately

200 fire departments in the Northeast Region eligible to participate in the RFA program.

The very busy 2006 western fire season was reflected in the number of assignments taken by Region 5 personnel. WUI Specialist Gerald Vickers was gone a total of 71 days on fire assignments as Type 2 Safety Officer (three Texas assignments, Pea Vine Complex in Virginia) and Type 1 Safety Officer trainee on the Bennett Team (Flick Creek in Washington, Pine Ridge and Derby in Montana). WUI Specialist Bob Harris served as Support Dispatcher on details in Rapid City, SD, Fort Snelling, MN, and Redmond, OR and trainee Supervisory Dispatcher in Klamath Falls, OR. Fuels Coordinator Steven Hubner went out on three details as Crew Boss and to the Suzie Fire in Nevada as a Food Unit Leader. Blackwater FMO Joe Krish traveled to PA, ID, and MT on Helibase Manager or other aviation assignments. Blackwater Fire Program Tech Mary Elliott and Steve Hubner assembled and dispatched the first 20-person crew ever from Blackwater Coordination Center. Central Zone FMO Mike Durfee was assigned to a Northern Rockies IMT2 (McNitt) and was on five assignments as Fire Behavior Analyst, Situation Unit Leader, and Resource Unit Leader trainee. Durfee and Mace spent 21 days at Merritt Island NWR on several wildland fires and a severity detail, and Mace worked on engine and crew assignments in FL, MN, ID, and MT. Maine engine crews served several 14-day severity details at Ruby Lake NWR in Nevada. Prescribed Fire Specialist John Meister served a 30-day military detail on the Tripod Fire and Chad Becker worked two 14-day assignments on Type 2 crews as Crew Boss trainee. Personnel from Great Dismal Swamp responded to incidents at Shenandoah NP and Prince William Forest Park in Virginia in the spring. A refuge engine and crew of three were sent on a

severity detail to New Mexico in June. Forestry Tech Jim Forsythe and Bio Tech Kyle Krzywicki were sent on crew assignments in August, and Fire Management Officer Timothy Craig went out on overhead assignments in July and August.

Training provided by Region 5 fire personnel included eight annual firefighter refresher sessions conducted throughout the Region; S-215 provided by WUI staff at the New York Fire Academy, Virginia Wildfire Academy, and Missouri Fire Academy; S-336 Fire Suppression Tactics for the states of Maryland and Delaware; and two B-3 Basic Aviation Safety courses.

FMO Mike Durfee successfully completed Technical Fire Management training and received enough upper level credits to meet IFPM requirements for the 401 job series. Other Region 5 fire staff in key positions have now met IFPM requirements or are very close to meeting them.

Fire management plans were completed and approved for James River NWR, John Heinz at Tinicum NWR, and Shawangunk Grasslands NWR. The FMP for Lake Umbagog NWR has been completed and reviewed, but is being submitted as part of the overall Comprehensive Conservation Plan and is pending approval as an appendix of the CCP.

While much FPA work was completed by the end of 2005, the budget and analysis side of things continued through February 2006 and beyond. New England FMO Rick Vollick had a lead role in the New England and New Jersey Fire Planning Units (FPU). Interagency collaboration was strong throughout the process. Vollick's role continued as the evaluation phase progressed, leading to the evolution of FPA Phase 2. In December, the New Jersey FPU was selected as a prototype to test certain

components of the revised version, and will undoubtedly present challenges in 2007.

The Region 5 fire communications and outreach initiative really took off in 2006 thanks to the efforts of Regional Fire Program Specialist Catherine Hibbard. Catherine served as the regional lead on the National Fire Outreach Team, organized logistics for the team meeting at Blackwater NWR, and briefed the Regional Refuge Chief on the Communications Plan. She oversaw development of regional and refuge fire outreach products, and developed a Region 5 fire intranet site. Catherine is also assisting the national program by serving as Service Representative on the NWCG Wildland Fire Education Working Team, participating in conference calls and providing editorial comments on the Communicator's Guide.

A number of personnel changes occurred in 2006 which affect the Region 5 fire program. New England FMO Vollick accepted a directed reassignment and a change in duty station from Sunhaze Meadows NWR to Wallkill River NWR in New Jersey. His position is now Regional Fire Planner with collateral duties functioning as FMO for administrative and technical oversight to the New England District. Prescribed Fire Specialist John Meister will step up and implement the various fire projects across the New England zone. Northeast Coordination Center Dispatcher Stephanie Fournier, a FWS employee, became a new mother in July, and as the western fire season was coming to a close she made a personal decision to resign. Stephanie was the core of NEC and we will miss her in the interagency dispatch arena, but we also look forward to a strong replacement that will ultimately function as a Center Manager. Terri Edwards of Region 5 External Affairs began working 25% of her time for the fire program in communications and outreach along with

Catherine Hibbard, and her role is expected to increase in 2007. Finally, three permanent positions historically funded from fire, one in the Regional Office and two in the field, were shifted out of fire and into other funding sources due to the minor

percentage of actual fire work being done in proportion to other job responsibilities. This will help the fire program stay within budget and reserve a portion of annual operating funds to support, equipment, etc. without having salaries consume the entire budget.

# MOUNTAIN-PRAIRIE REGION

## Highlights

The year 2006 was memorable as it may have been the Region's busiest fire season ever, in terms of Service lands burned.

Unfortunately, it will also be memorable as a serious incident occurred in April, when a fire engine with two firefighters inside was entrapped by the flaming front of a wildfire after a prescribed fire escaped on the New Holland Waterfowl Production Area in South Dakota. We are very fortunate that this incident resulted in only minor injuries and the total loss of the engine instead of something more serious. The incident was reviewed by an interagency team and the region developed an action plan to address the findings and recommendations in the report. These efforts to learn, from what occurred and improve our practices in the future, took place through the rest of the year and are continuing into 2007.

On the brighter side, several people in the region were recognized in 2006 for their track record of fire management accomplishments. Bill Waln, the Fire Management Officer at the Mid-Plains Fire Management District, won the national Paul Gleason "Lead by Example" Award in the "Initiative and Innovation" category. He was recognized not only for the excellence of his work as an district Fire Management Officer (FMO) but also for mentoring and developing leadership skills in others, his work with the Fish and Wildlife Service Fire Mentoring program, and his ability to promote Interagency cooperation. Several others were presented with regional awards at the National Fire Management Workshop at the National Conservation Training Center. Lorenz Sollman and Brad Johnson, Refuge Operations Specialists, received the Region's "Excellence in Fuels Management" award for their work at the Rocky Mountain Arsenal National Wildlife

Refuge. Zone FMO Ken Kerr received the Region's "Fire Management Leadership" award for his vision and guidance in many areas.

The fire season started off earlier than normal as high fire danger in the southern plains resulted in refuges in Kansas into emergency preparedness in January and February. Numerous small fires were suppressed in refuges in that area and agency overhead and resources assisted state and federal agencies in Texas, Oklahoma, and Kansas. Northwestern Colorado also continued to feel the effects of ongoing drought conditions and experienced a busy fire season with Service personnel responding to a number of small and large fires within the Interagency Fire Management Unit based in Craig, Colorado. Refuges in this area used severity funding to bring in additional resources from the first of July until mid-August.

The strengthening drought in the middle of the country affected several parts of the region. The Sandhills Fire Management District in west and central Nebraska experienced a very severe wildland fire season with several Type 1 and 2 fires destroying a number of structures and threatening at least two towns near Service lands. Refuge resources were directly involved in initial and extended attack of these fires, and in at least one case (Valentine Fire), were credited with saving a number of structures that otherwise would have been lost. The Sandhills Fire Management District started the use of severity funding on August 1 and ended in early September.

As was the case in much of the region, the dry conditions in the Dakotas and the burn bans which ensued affected the ability of the Service to conduct prescribed burns and

decreased the number of acres of fuels treatments accomplished. Service personnel responded to 48 wildfires, which consumed 1,446 acres of refuge lands in North and South Dakota. Severe conditions in the central plains of South Dakota prompted the formation of multiple interagency taskforces for initial attack in this area.

In the northern parts of the region, the spring started with good moisture but by July Montana had moved into high fire danger conditions. At one point, Charles M. Russell NWR (CMR) had approximately 60,000 acres of suppression fires burning at once and hosted both a Type 1 Incident Management Team (IMT) on the Black Pulaski Complex and a Type 2 IMT on the Flat Tire Complex. Severity details were needed in Montana to support CMR, the National Bison Range, and Red Rock Lakes NWRs through mid September. By the end of the fire season, there had been at least 27 wildfires which burned roughly 70,570 wildfire acres on FWS lands in Montana alone.

FWS fire staff in all zones participated in numerous interagency sponsored courses as course coordinators, cadre members, steering committee members, and revision subject matter experts. Training was frequently offered to local volunteer fire departments by refuge staff and \$315,647 in monetary support was provided to local cooperators in five states through the Rural Fire Assistance program. Five fire staff in the region were assigned to Type 1 IMTs, one to a Type 2 IMT, one to a Fire Use Management Team, and several others participated regularly on team assignments.

As with all other regions and agencies, Fire Program Analysis (FPA) was a huge impact, and the significant amounts of time and effort invested in completing initial FPA runs in January. This detracted from our

ability to get other planning and treatments done.

Several special projects worth noting were undertaken this year. CMR began preparations to implement a comprehensive wildland fire use strategy in the future with an exploratory pre-planning exercise. In a week long effort, an interagency team of experienced fire use experts assisted the refuge staff in identifying viable possibilities for wildland fire use. The Huron NWR in South Dakota acquired two black-line burners from the National Park Service. These burners, which are mobile incendiary devices manufactured by a South African company, are designed to create black-lines for prescribed burning safely and easily. Reported to be the only two devices of their kind in the United States, their abilities are not yet known. A plan to evaluate their effectiveness was developed by the refuge with field trials to be completed in 2007. Other special projects included fire outreach projects such as fire interpretive panels, pamphlets explaining why we conduct burns, and a major role in coordinating the "Managing the Unexpected" workshop held in Missoula in May.

### **Zone Highlights -- MT/UT/WY ZONE**

The most productive prescribed fire year on record for the Zone was 2006. Roughly 8,625 acres were treated in 43 burns on 11 refuges. A dry spring with good burning conditions allowed for an early prescribed fire season that carried through the fall. All burns were spring or early summer burns except at Fish Springs NWR where fall burning is used. Zone WUI program accomplishments included the completion of six prescribed burns for roughly 645 acres treated and continued planning for at least eight additional projects. A Mechanical Environmental Assessment was initiated for

the Lee Metcalf NWR to help implement future WUI projects.

### **Zone Highlights -- CO/KS/NE ZONE**

In spite of the severity conditions, new starts were contained at the type 4 or type 5 level. The Mid-Plains Interagency Type 2 IA Handcrew was mobilized three times in 2006. This crew continues to provide a high quality training experience for all participants. A week long pre-season training session for the crew was held near Halsey, Nebraska on the Nebraska National Forest in May.

Over 20,000 acres were treated with prescribed fire throughout the zone. Highlights included over 5,000 acres of WUI accomplishments and almost 400 acres of WUI mechanical treatments. Zone resources moved throughout the Zone and Region to assist in meeting regional prescribed fire targets and also assisted several other agencies with over 5,000 acres of prescribed fire projects in Florida, Nebraska, Colorado, Texas, and Wyoming.

Through Interagency participation and cooperation, the National Weather Service has initiated a full fledged Fire Weather Forecast and Red Flag notification process in Kansas for the first time. A similar program is being initiated in eastern and central Nebraska forecast zones in 2007.

### **Zone Highlights -- ND/SD ZONE**

A significant change was made in the ND/SD Zone as the Des Lacs and the J. Clark Salyer Fire Districts were merged into what is now called the Western North Dakota Fire District. This change, initiated due to cuts in refuge operations funding, made it necessary for the fire program to realign and merge the combined organizations into one.

Fuels treatment accomplishments in the Zone included the completion of approximately 146 prescribed burns, totaling 24,756 acres treated. This represents a 17% decrease from 2005 when the Zone accomplished a historical record of 30,061 acres treated. Other treatments include the completion of four mechanical treatments totaling 120 acres; the completion of two WUI projects totaling 695 acres; and the completion of 3 Community Wildfire Protection Plans (CWPPs).

North Dakota resources supported many incidents around the country this year. They took a very active role in fire suppression across the South Dakota state line, especially with the BIA and tribes in that area. The Grand River Ranger District, located in Lemmon, South Dakota, had a long period of severity and North Dakota resources played a huge part in that success.

The North Dakota Interagency Dispatch Center (NDC) supported 554 orders, dispatching 158 employees to 130 incidents in 22 states. NDC filled 11 crew orders, 83 engine orders, and 150 overhead orders. Within the state, 1,134 fires for 57,707 acres were reported and 152 prescribed fire units were completed totaling 28,856 acres. Construction of the new North Dispatch Center was completed and the employees spent the fall getting ready to bring the new center on line for the 2007 fire season.

### **Personnel and Organization**

Personnel moves around the region included Art Canterbury, moving from a Range Technician position at Devils Lake to the Huron FMO job. Nathan Hawkaluk, Range Technician at CMR's Jordan station, accepted the Assistant FMO position for the Tewaukon Fire District, and Brian Haugan was selected to fill the position that he vacated. James Forsythe was selected to

replace Ben Pratt (who took a job with another agency) at the CMR Sand Creek station. Darwin Schultz, formerly of the Forest Service, accepted the Fire Program Technician position at Crescent Lake NWR in the Sandhills Fire Management District. Rich Sterry, Zone WUI Assistant, accepted the Regional Fire Planner position, and Rick

Willoughby's position was changed from the ND/SD Zone field WUI Coordinator to a Regional Fire Management Specialist. We also welcomed Tracy Swenson, into a new position as an Assistant FMO for Utah, stationed at Bear River Migratory Bird Refuge.

## ALASKA REGION

As the rest of the country encountered a record breaking fire season, Alaska experienced a sense of relief. A total of 307 fires burned across Alaska encompassing 266, 268 acres. The fire season had a short period of dry windy weather during the months of May and June. The rest of the season was characterized by wet, cool weather. As a result many Alaska fire resources were mobilized to the lower-48 to assist.

The first fire on Fish and Wildlife Service (FWS) lands was reported on May 31 on the Yukon Delta NWR. The fire was within a limited suppression option area and burned a total of 52,540 acres of which 38,400 acres were on the Refuge. The last fire was recorded on August 8 on the Tetlin NWR for a total size of .2 acre. Two false alarms were reported to the Tetlin NWR. Regionally 14 fires burned 73,099 acres. The Fish and Wildlife accounted for 27% of the acres burned in Alaska. Fish and Wildlife total acres by Alaskan protection options were 68,748 in limited, 4,269 in modified, 82 in full and .1 in critical.

Warming and climate change may be contributing to an increase in fires. The change in conditions has been most notable across Alaska and the Arctic. For example, the Yukon Delta NWR, which usually experiences wet cool weather during the fire season, has experienced an increase in the number and size of fires.

Two fires, one on the Innoko and one on the Yukon Flats, were managed as fire use for a total of 310 acres. Out of the 14 fires recorded on FWS lands three were determined to be human caused relating to unattended camp fires.

Refuge staff provided support to the local Division of Forestry due to their shortage of

resources and participated in many resource orders and special assignments to the lower-48. Four law enforcement personnel were kept busy this year by filling six security specialist type 1 assignments. A total of four FWS personnel were assigned to nine different incidents. Positions filled by Region 7 were division supervisor, equipment time recorder, resource unit leader, situation unit leader, engine crew, firefighter, security specialist Type 1, helicopter crew, helicopter manager, and crew boss. As part of the Alaska Type 2 IMT the Region's fuels specialist wrote the smoke management plan for one of the major fires (Parks Highway) that occurred in Alaska. The Regional fuels specialist performed as the situation unit leader with the Alaska Type 1 team and Bonefeld Eastern Region Fire Use Team on a lower-48 assignment. Twelve fire and non- fire personnel served on interagency Type 2 crews.

Several biologists participated on numerous fire related BAER projects on their respective refuges. These biologists worked on burn severity and first order fire effects monitoring projects. One bio-tech completed the basic training and medical standards to assist with suppression, prescribed burning, and fuel reduction treatments.

Twenty people passed their Medical Standards annual exam and successfully passed the arduous or moderate work capacity test.

The Region had one candidate (Kirk Warrington, Tetlin NWR) apply and be selected for the Technical Fire Leadership Management Training (TFM) program. Karen McGahan (Kenai NWR) a TFM student is near the completion of her TFM requirements.

Regional staff were involved with the review of the Tetlin NWR Comprehensive Conservation Plan (CCP) plan and review of the Yukon Delta Fire Management Plan (FMP). The Yukon Delta FMP was approved.

Both regional and refuge staff represented FWS on Alaska interagency and national committees, task forces, or groups. Region 7 has representatives on the national FWS FireBase, fuels, outreach, operations and safety and the national fire leadership teams. Nationally, on an interagency bases, Region 7 is represented on the FEAT and FIREMON user group, LANDFIRE, and FRCC groups. Regionally, staff members serve on the AK interagency operations, prevention and education, air quality and smoke, fuels, research and fire effects, FPA, safety and health, training, weather committees and the interagency fire plan task group. The Region established a fire management advisory group of deputy refuge managers. The group will provide a management line officer perspective for FPA, and other fire program related issues.

Preparedness and dispatch plans were updated for the refuges and regional office. Fire Management Plans (FMP) are in various stages of progress. The Kanuti FMP is in final stage of formatting and editing, The Arctic FMP is undergoing local review, and the Kodiak and Togiak FMPs are in the beginning stage of development. In addition, five prescribed burn plans and one smoke management plan were completed.

Acquisitions include two ¾ ton pick-ups, a one ton pickup and a 400 and 1,000 gallon slip-on pump unit. Unfortunately one of the ¾ ton pick-ups sustained some damage in a collision with a moose.

Remote Automated Weather Stations (RAWS) are maintained to NFDRS standards. On occasion field personnel must make repairs because the regular radio staff

is unavailable or the field visit is scheduled later in the season. Funding for RAWS maintenance continues to be an issue. Our stations require helicopter access and it is becoming more difficult to cover these costs. One quick deploy FTS weather station was acquired for the McGrath station.

Community Wildfire Protection Plans (CWPP) were completed for the villages of Evansville, Beaver, Tetlin, Huslia, and Hughes. A total of 250 acres were treated including a 100 acre prescribed burn at the village of Beaver. The burn required considerable coordination with the Weather Service, Alaska Fire Service, the Village Council, the fire crew, Regional Airport Manager and the Fish and Wildlife Service. Assistance agreements are the primary method used to provide funding to local communities for fuel reduction projects. A total of five community projects were funded. Bettles provided a service to the Evansville project by contributing city equipment and the fire department helped with the pile burning. The fuels specialist responded to twelve NFPORS data requests from the National Office

The Koyukuk Refuge, for the first time in history, accomplished an early spring prescribed fire. A total of 9,610 acres were treated. Ten percent of the work was contracted with local resources. Following this burn the weather turned wet and cool and the Region was not able to complete any additional prescribed fire other than pile burns.

First order fire effects monitoring were performed on the Three Days of Restoration (prescribed fire) and on the 2004 Bonanza Creek wildfire. A total of 25 plots were sampled.

The Regional fire ecologist was instrumental in leading the interagency efforts to develop

standard monitoring protocols. Thermo-gel, a fire retardant, was evaluated by the Regional ecologist and recommended to not allow use of this product on refuge lands.

In 2005, burn severity and vegetation composition plots were assessed on five fires from 2004 and one from 2003. The fires were located on five different refuges (Kanuti, Innoko, Yukon Flats, Kenai and Tetlin). A total of 341 plots were visited. The data was analyzed with assistance from the regional statistician. The data correlation did not work as anticipated, so extensive assessment of the data quality and potential co-variants were explored. No co-variant provided a “fix” indicating there may be serious problems with the methodology. This is of particular concern because the methodology has been adopted nationally and will be used to provide future burn severity maps for large fires. The ecologist collaborated with interagency colleagues exploring explanations for the poor relationship between the difference in normal burn ratio (dNBR) and composite burn index (CBI). Posters on this subject were presented at several national meetings. The Innoko Refuge evaluated burn severity on 2005 fires. Training and sampling assistance in the field was provided by the ecologist. The Innoko NWR supervisory biologist and the ecologist joined forces to develop a new methodology to assess burn severity using aerial photographs.

### **Preparing to take Plots**

The Kanuti NWR supervisory biologist and the ecologist teamed up to conduct an aerial validation of satellite burn severity. The Kanuti NWR was used to perform a test run of the first phase of a landscape model to estimate FRCC on refuges at a landscape scale. New agreements and contracts were developed to obtain satellite imagery and to develop the FRCC model, and burn severity analysis assistance.

The FWS organized and hosted a meeting of interagency Alaska fire specialists and Joe Scott, lead developer of the new 40 fuel models. The theme was to review the 40 fuel models and how they may be adjusted for Alaska fuels.

Joint Fire Science Program (JFSP) research proposals were reviewed and ranked for the Region. The Innoko NWR lead biologist served on the JFSP review board and the ecologist served as a peer reviewer and collaborator on four active research projects. Assistance was provided to Tetlin NWR to develop a JFSP proposal for submittal. The regional ecologist serves as the federal cooperator and co-principal investigator (PI) funded research project to merge fire occurrence and climate change model with FRCC. A good working relationship has established with the University of Fairbanks on the development of these projects.

The Region is active in prompting fire use or the appropriate management response. Alaska fire use messages were prepared by the regional fuel specialist. The fuels specialist led the interagency education group in the preparation of a fire use in Alaska article for the publication *Fire Management Today*.

The Tetlin Village Council and the Tok Area Division of Forestry Tetlin Village joined with the Tetlin NWR staff to develop the Refuge CCP. In addition, a cooperative agreement between Tetlin NWR and Tetlin Village Council for village fuel reduction was completed.

Tetlin NWR fire related environmental education activities and a refuge sponsored community action “weed-pull” drew over 300 participants from the local area. Tetlin NWR staff participated in the Tok 4<sup>th</sup> of July parade. Participants were John Grafft as the “Blue Goose”, Connie Friend, and the Refuge Type VI Engine.

In cooperation with Alaska State Forestry-Tok and Tok Volunteer Fire Department (VFD), the Tetlin NWR hosted a FireWise workshop. Over 20 local people attended the evening meeting/bar-b-que to learn what they could do to help make their homes as safe as possible from wildfire. Free FireWise t-shirts were given to all residents who signed up for a home inspection. The fire department held a fire extinguisher demonstration. FWS and AK State fire brochures and newsletters were circulated.

Koyukuk/Nowitna prepared and delivered two fire prevention public service announcements on the local radio station. A local communications plan for the refuge was completed and continued with one-on-one fire outreach work in the seven villages bordering the refuge. Three village fuels reduction news articles were written and published in one Alaska native paper and in two Service publications. The FMO along with the RFMC and the FMO from the State SW Zone presented a "Fire Orientation" for the Resource Information Technician (RIT) workshop held in Bethel on February 9, 2006. The intention was to get the RITs involved in helping with outreach. Copies of the communication plan, wildland fire definitions, and the FWS Role of Fire Curriculum was distributed to the RIT. The RFMC gave a brief fire presentation at the Regions annual refuge managers meeting.

Staff prepared and presented a synopsis on fire use at the interagency fall fire review. The Irish Channel and Fox Creek fire use fires were used for this case study.

A poster on FWS WUI projects was displayed at the National Fuels Conference. Rural fire assistance (RFA) grants were awarded to the Anchor Point, Tok, Seward, Hope and Kachemak Emergency Services. Grant funds were used to purchase wildland fire equipment. In addition, refuge fire personnel provided GIS and mapping

support for Tok VFD and Tok EMS.

Karen Murphy has been designated as the Regional BAER coordinator. She guided the Innoko, Kanuti and Yukon Flats Refuges on monitoring procedures for the BAER program and the development of Emergency Stabilization, Rehabilitation, and Post-fire assessment plans. The Region met all NFPORS deadlines and accomplished BAER projects under-budget. A Comprehensive Invasive Plant Treatment Guide was completed. Work continued on the invasive species treatment and investigation of the 2004 fires in coordination with the Alaska Natural Heritage Program.

Cultural resource sites were visited on Kanuti and Yukon Flats to determine if actions were needed to reduce further degradation to the sites following the fires. Innoko Refuge also looked for the historic Iditarod Trail to determine if any hazard tree removal was required. They determined since so little activity has occurred on the trail in recent years it is no longer identifiable in the summer. One winter trail on Kanuti was treated to remove hazardous trees.

Yukon Flats NWR staff conducted several BAER field projects. These projects included an overall plan development and assessment, surveys of potentially invasive plant species in recently burned and suppression staging areas, assessment of danger trees along trails in recently burned areas, evaluation of wildland fire damage to known cultural resources, and analysis of burn severity using remote sensing, field data, and GIS applications.

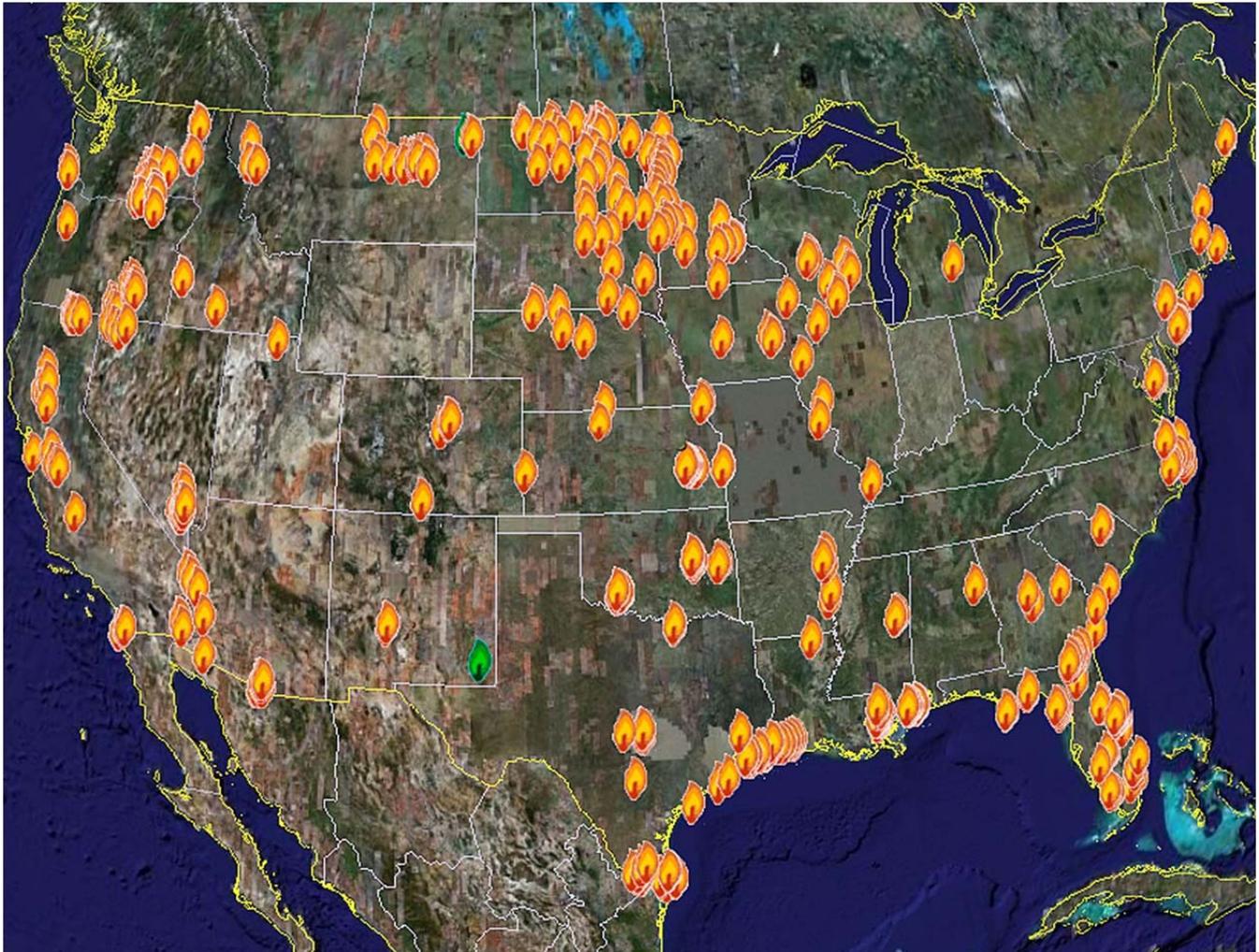
Kanuti NWR staff conducted several BAER field projects. The project initially included using burn severity maps to assess fire related impacts to critical wildlife resources, historic sites, and cultural resources. One of

the findings verified that considerable lowland caribou lichen habitat had been consumed. Additional assessment of the presence/absence of non-native invasive plants was conducted in burned sites and at the staging areas of suppression resources. Low numbers of a single invasive plant species were located and removed from area around the Kanuti Lake administrative cabin. Six burned sites were inventoried on the Koyukuk/Nowitna NWR for invasive species.

The Regional Coordinator completed a Regional Cabin Protection Policy and a memorandum of agreement between the FWS and BLM for fire related services. Both documents were approved by the Regional Director.

Personnel changes for the year were the reassignment of Sam Patten to the migration and prevention (outreach and WUI) position and filling the Fire Planner position with Jan Passek.

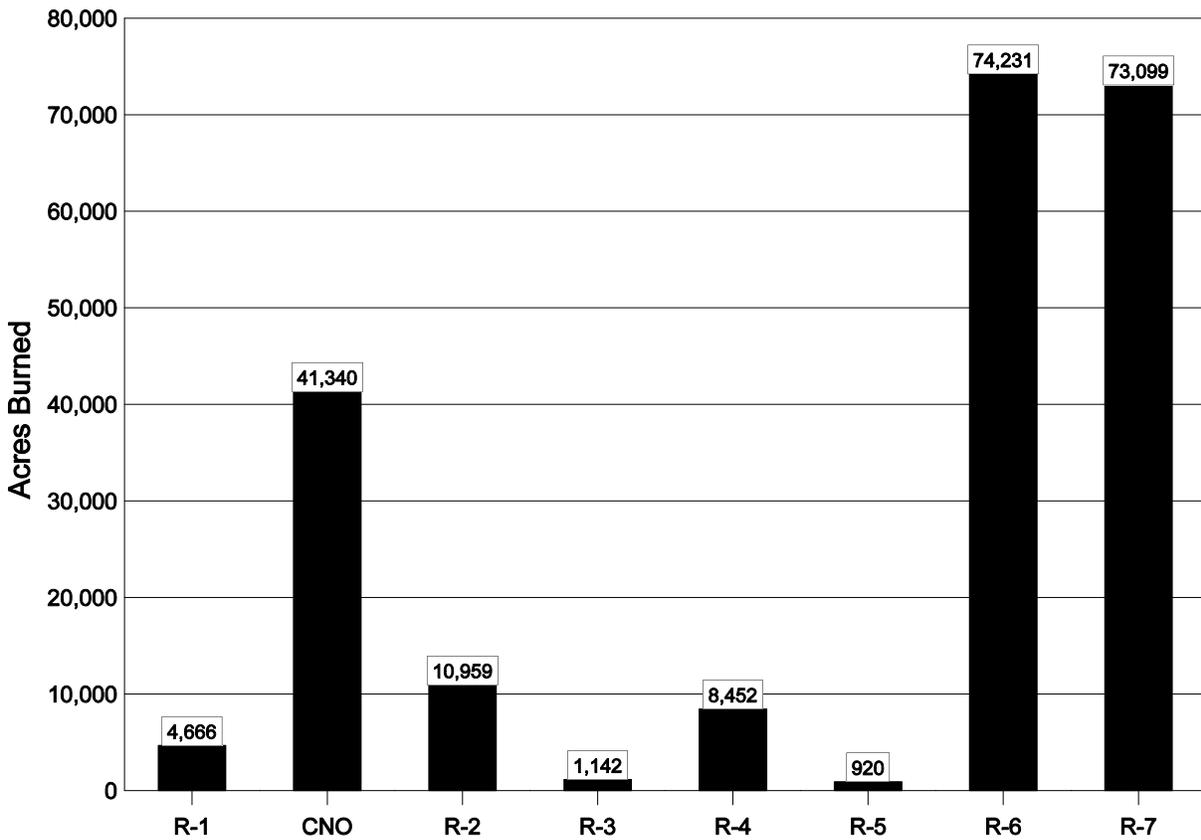
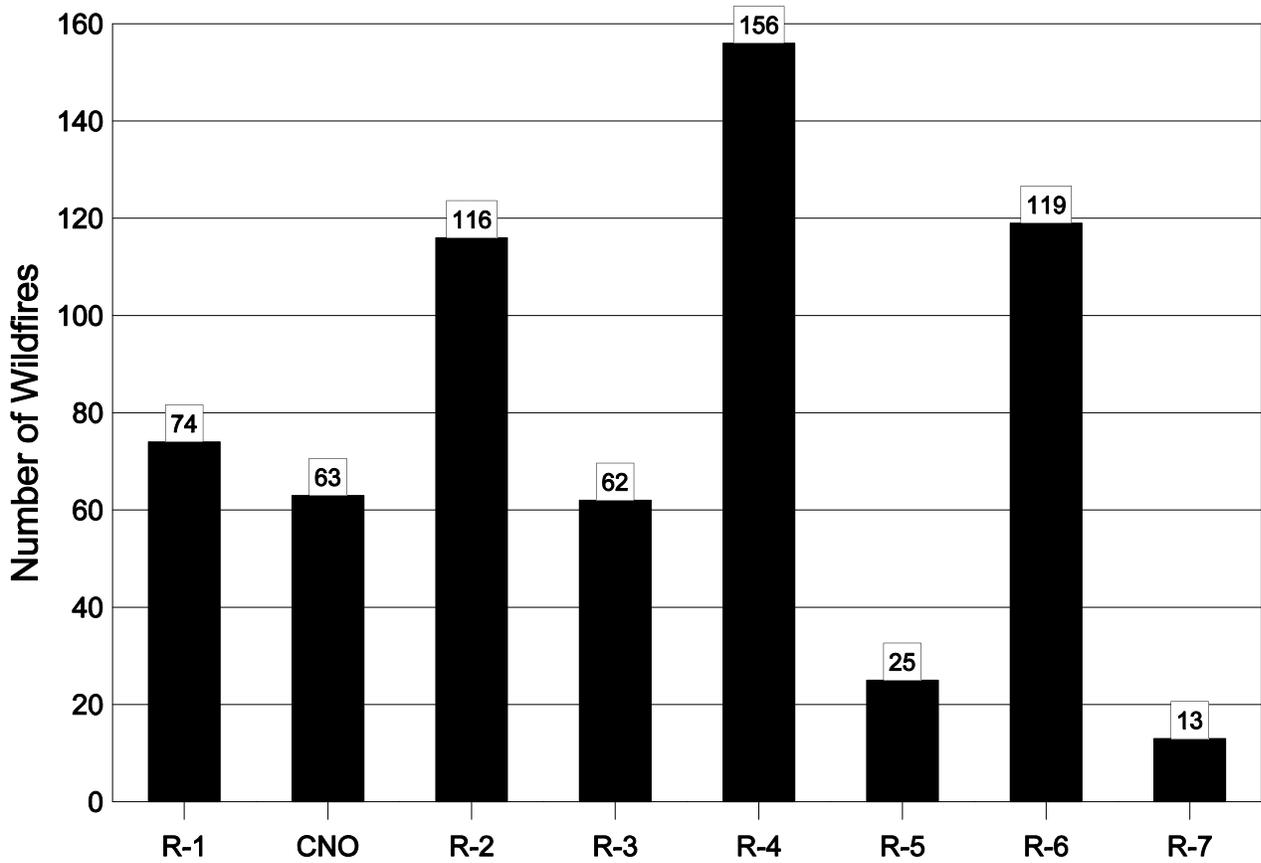
# 2006 WILDFIRE ACTIVITY



Yellow Flames = Wildland Fires  
Green Flames = Fire Use Fires

# WILDFIRES

## 2006



# WILDFIRES

## by State

### 2006

<u>State</u>	<u># Fires</u>	<u>FWS Acres</u>	<u>Other Owner Acres</u>	<u>TOTAL ACRES</u>
Alabama	1	0.1		0.1
Alaska	13	73,099.1		73,099.1
Arizona	19	6,194.0		6,194.0
Arkansas	6	28.5	1.0	29.5
California	32	185.1	51.4	236.5
Colorado	5	959.9	140.0	1,099.9
Florida	55	4,232.7	5,179.0	9,411.7
Georgia	16	289.8		289.8
Idaho	5	87.3	28.0	115.3
Illinois	2	13.0		13.0
Iowa	7	586.5		586.5
Kansas	27	874.5	125.0	999.5
Louisiana	32	3,144.1	1,529.0	4,673.1
Maine	4	2.4	6.0	8.4
Maryland	3	282.0	3.0	285.0
Massachusetts	2	6.0		6.0
Michigan	1	1.5		1.5
Minnesota	37	307.4	42.0	349.4
Mississippi	24	272.4	205.7	478.1
Missouri	3	177.0	0.0	177.0
Montana	26	69,976.8	34,201.0	104,177.8
Nebraska	4	207.3		207.3
Nevada	37	41,325.6		41,325.6
New Jersey	11	48.5		48.5
New Mexico	3	757.1	4,063.0	4,820.1
New York	1	2.2		2.2
North Carolina	14	444.0		444.0
North Dakota	46	1,988.8	3,094.0	5,082.8
Oklahoma	28	487.7	8,280.0	8,767.7
Oregon	21	4,182.2		4,182.2
Pennsylvania	1	1.0		1.0
Puerto Rico	6	78.0		78.0
South Carolina	4	5.6	1.5	7.1
South Dakota	10	213.4	49.0	262.4

Texas	64	3,499.6	889.0	4,388.6
Virginia	1	535.0		535.0
Washington	44	246.3	8,400.0	8,646.3
Wisconsin	12	56.7	0.3	57.0
Wyoming	1	10.0		10.0
<b>Total</b>	<b>628</b>	<b>214,809.1</b>	<b>66,287.9</b>	<b>281,097.0</b>

## WILDFIRES Pacific Refuges

<u>Refuge</u>	<u># Fires</u>	<u>FWS Acres</u>	<u>Other Owner Acres</u>	<u>Total Acres</u>
Ankeny NWR	1	1.0		1.0
Columbia NWR	7	34.5	500.0	534.5
Deer Flat NWR	4	86.8	28.0	114.8
Hagerman NFH	1	0.5		0.5
Hanford /Saddle Mtn. NWR	5	34.4		34.4
Hart Mtn. Natl. Antelope Refuge	5	1.5		1.5
Little Pend Oreille NWR	4	0.4		0.4
Malheur NWR	7	4,177.0		4,177.0
McKay Creek NWR	3	0.3		0.3
McNary NWR	17	103.5	7,900.0	8,003.5
Mid-Columbia River NWRC	1	13.0		13.0
Sheldon NWR	4	150.4		150.4
Turnbull NWR	4	0.4		0.4
Umatilla NWR	8	11.3		11.3
Willapa NWR	3	51.2		51.2
<b>Total</b>	<b>74</b>	<b>4,666.2</b>	<b>8,428.0</b>	<b>13,094.2</b>

# WILDFIRES

## California/Nevada Operations Refuges

<u>Refuge</u>	<u># Fires</u>	<u>FWS Acres</u>	<u>Other Owner Acres</u>	<u>Total Acres</u>
Antioch Dunes NWR	1	11.0		11.0
Clear Lake NWR	1	108.3	49.8	158.1
Desert National Wildlife Range	1	8.0		8.0
Desert NWRC	29	41,167.0		41,167.0
DE San Francisco Bay NWR	1	1.0		1.0
Lower Klamath NWR	1	6.7	1.4	8.1
Merced NWR	2	1.1		1.1
Pahrnagat NWR	3	0.2		0.2
Red Bluff Fish & Wildlife Office	1	0.2		0.2
Sacramento NWR	3	7.2	0.2	7.4
Sacramento River NWR	4	0.4		0.4
San Diego Bay NWR	2	0.2		0.2
San Diego NWR	3	0.3		0.3
San Joaquin River NWR	2	1.1		1.1
San Luis NWR	1	10.0		10.0
Tijuana Slough NWR	1	0.1		0.1
Tule Lake NWR	7	17.0		17.0
<b>Total</b>	<b>63</b>	<b>41,339.8</b>	<b>51.4</b>	<b>41,391.2</b>

## WILDFIRES

### Southwest Refuges

<u>Refuge</u>	<u># Fires</u>	<u>FWS Acres</u>	<u>Other Owner Acres</u>	<u>Total Acres</u>
Anahuac NWR	7	245.1		245.1
Balcones Canyonlands NWR	6	24.1		24.1
Bill Williams River NWR	1	350.0		350.0
Bosque Del Apache NWR	2	755.1	4,063.0	4,818.1
Brazoria NWR	1	95.0		95.0
Buenos Aires NWR	9	40.4		40.4
Cabeza Prieta NWR	1	30.0		30.0
Cibola NWR	3	5,330.3		5,330.3
Deep Fork NWR	8	303.1	3,008.0	3,311.1
Hagerman NWR	3	40.0	320.0	360.0
Havasu NWR	5	12.8		12.8
Imperial NWR	1	20.0		20.0
Kofa NWR	1	431.0		431.0
Laguna Atoscosa NWR	5	5.2		5.2
Lower Rio Grande NWR	19	1,041.6		1,041.6
Matagorda Island NWR	1	350.0		350.0
McFaddin NWR	11	687.4	569.0	1,256.4
San Andres NWR	1	2.0		2.0
Sequoyah NWR	2	175.0	4,200.0	4,375.0
Trinity River NWR	1	1.0		1.0
Texas Midcoast Refuges Complex	1	9.0		9.0
Texas Point NWR	9	1,001.2		1,001.2
Wichita Mountains Wildlife Rfg	18	9.6	1,072.0	1,081.6
<b>Total</b>	<b>116</b>	<b>10,958.9</b>	<b>13,232.0</b>	<b>24,190.9</b>

# WILDFIRES

## Great Lakes-Big Rivers Refuges

<u>Refuge</u>	<u># Fires</u>	<u>FWS Acres</u>	<u>Other Owner Acres</u>	<u>Total Acres</u>
Agassiz NWR	1	1.2		1.2
Big Stone NWR	1	2.0		2.0
Cypress Creek NWR	1	5.0		5.0
Detroit Lakes WMD	10	83.1	33.0	116.1
Driftless Area NWR	1	23.0		23.0
Fergus Falls WMD	4	30.0		30.0
Great River NWR	1	100.0		100.0
Horicon NWR	2	0.4		0.4
Iowa WMD	1	13.0		13.0
Leopold WMD	5	49.8	0.3	50.1
Litchfield WMD	1	17.0		17.0
Meredosia NWR	1	8.0		8.0
Minnesota Valley NWR	12	53.9	8.0	61.9
Morris WMD	5	63.2		63.2
Necedah NWR	5	6.5		6.5
Port Louisa NWR	4	550.0		550.0
Sherburne NWR	2	3.0		3.0
Shiawassee NWR	1	1.5		1.5
Squaw Creek NWR	2	77.0		77.0
Upper MS River/Savanna Dist.	1	0.5		0.5
Windom WMD	1	54.0	1.0	55.0
<b>Total</b>	<b>62</b>	<b>1,142.1</b>	<b>42.3</b>	<b>1,184.4</b>

# WILDFIRES

## Southeast Refuges

<u>Refuge</u>	<u># Fires</u>	<u>FWS Acres</u>	<u>Other Owner Acres</u>	<u>Total Acres</u>
Alligator River NWR	5	302.5		302.5
ARM Loxahatchee NWR	4	1,823.0		1,823.0
Bayou Sauvage NWR	3	23.0		23.0
Big Branch Marsh NWR	11	586.3	37.0	623.3
Blackbeard Island NWR	1	120.0	0.0	120.0
Bogue Chitto NWR	5	239.0	60.0	299.0
Bond Swamp NWR	1	2.3		2.3
Cabo Rojo NWR	1	8.0		8.0
Cache River NWR	4	18.5		18.5
Cameron Prairie NWR	3	52.0		52.0
Caribbean Islands Refuges	2	40.0		40.0
Carolina Sandhills NWR	2	5.0	1.5	6.5
Currituck NWR	1	44.0		44.0
D'Arbonne NWR	1	14.0		14.0
Desecheo NWR	1	25.0		25.0
Ernest F. Hollings Ace Basin NWR	1	0.1		0.1
Florida Panther NWR	5	442.2	2.0	444.2
Grand Bay NWR	8	86.8	117.2	204.0
Hobe Sound NWR	2	83.0	38.0	121.0
Lacassine NWR	5	1,427.0		1,427.0
Lake Wales Ridge NWR	4	29.2	4.0	33.2
Lake Woodruff NWR	7	28.8		28.8
Lower Suwannee NWR	8	59.6		59.6
Merritt Island NWR	12	1,426.6		1,426.6
MS Sandhill Crane NWR	12	112.4	28.5	140.9
Mountain Longleaf NWR	1	0.1		0.1

Noxubee NWR	3	3.2		3.2
Okefenokee NWR	11	61.9		61.9
Pelican Island NWR	1	60.0	2.0	62.0
Piedmont NWR	2	0.6		0.6
Pocosin Lakes NWR	6	54.5		54.5
Sabine NWR	4	558.8		558.8
Savannah-Pickney Natl Wildlife Rfg	1	0.5		0.5
St. Johns NWR	6	272.2	5,133.0	5,405.2
St. Marks NWR	3	3.6		3.6
St. Vincent NWR	3	4.5		4.5
Upper Ouachita NWR	1	314.0	1,492.0	1,806.0
Vieques NWR	2	5.0		5.0
Wassaw NWR	1	105.0		105.0
White River NWR	2	10.0	1.0	11.0
<b>Total</b>	<b>156</b>	<b>8,452.2</b>	<b>6,916.2</b>	<b>15,368.4</b>

# WILDFIRES

## Northeast Refuges

<u>Refuge</u>	<u># Fires</u>	<u>FWS Acres</u>	<u>Other Owner Acres</u>	<u>Total Acres</u>
Chesapeake Marshlands NWR	3	282.0	3.0	285.0
Edwin B. Forsythe NWR	9	48.1		48.1
Eastern Massachusetts NWRC	2	6.0		6.0
Great Dismal Swamp NWR	3	578.0		578.0
Great Swamp NWR	2	0.4		0.4
John Heinz NWR at Tinicum	1	1.0		1.0
Long Island NWRC	1	2.2		2.2
Moosehorn NWR	3	2.2	6.0	8.2
Rachel Carson NWR	1	0.2		0.2
<b>Total</b>	<b>25</b>	<b>920.1</b>	<b>9.0</b>	<b>929.1</b>

# WILDFIRES

## Mountain-Prairie Refuges

<u>Refuge</u>	<u># Fires</u>	<u>FWS Acres</u>	<u>Other Owner Acres</u>	<u>Total Acres</u>
Alamosa NWR	1	0.5		0.5
Arrowwood NWR	1	0.1		0.1
Arrowwood WMD	2	30.8		30.8
Audubon NWR	2	7.7	1,759.0	1,766.7
Charles M. Russell NWR	19	69,717.0	34,201.0	103,918.0
Chase Lake Prairie Project WMD	2	13.1		13.1
Cokeville Meadows NWR	1	10.0		10.0
Des Lacs NWR	4	18.4		18.4
Devils Lake WMD	20	1,607.2	1,315.0	2,922.2
Flint Hills NWR	20	587.3	110.0	697.3
Fort Niobrara NWR	1	4.0		4.0
Huron WMD	1	4.0	10.0	14.0
J. Clark Salyer NWR	7	112.9	20.0	132.9
John W. and Louise Seier NWR	1	0.1		0.1
Kirwin NWR	1	126.0		126.0
Kulm NWR	2	77.5		77.5
Lacreek NWR	3	18.0		18.0
Lake Andes NWR	2	166.0	35.0	201.0
Madison WMD	1	3.4	4.0	7.4
Marais Des Cygnes NWR	6	161.2	15.0	176.2
Medicine Lake NWR	3	258.1		258.1
National Bison Range	3	0.3		0.3
Northwest Montana WMD	1	1.4		1.4
Rainwater Basin WMD	1	203.0		203.0
Rocky Mtn. Arsenal NWR	4	959.4	140.0	1,099.4

Sand Lake NWR	3	22.0		22.0
Tewaukon NWR	4	79.3		79.3
Upper Souris NWR	1	1.8		1.8
Valentine NWR	1	0.2		0.2
Valley City WMD	1	40.0		40.0
<b>Total</b>	<b>119</b>	<b>74,230.7</b>	<b>37,609.0</b>	<b>111,839.7</b>

# WILDFIRES

## Alaska Refuges

<u>Refuge</u>	<u># Fires</u>	<u>FWS Acres</u>	<u>Other Owner Acres</u>	<u>Total Acres</u>
Arctic NWR	2	25,544.4		25,544.4
Innoko NWR	1	230.0		230.0
Kenai NWR	2	2.1		2.1
Yukon Delta NWR	5	42,976.8		42,976.8
Yukon Flats NWR	3	4,345.8		4,345.8
<b>Total</b>	<b>13</b>	<b>73,099.1</b>	<b>0.0</b>	<b>73,099.1</b>

## WILDFIRES by CAUSE 2006

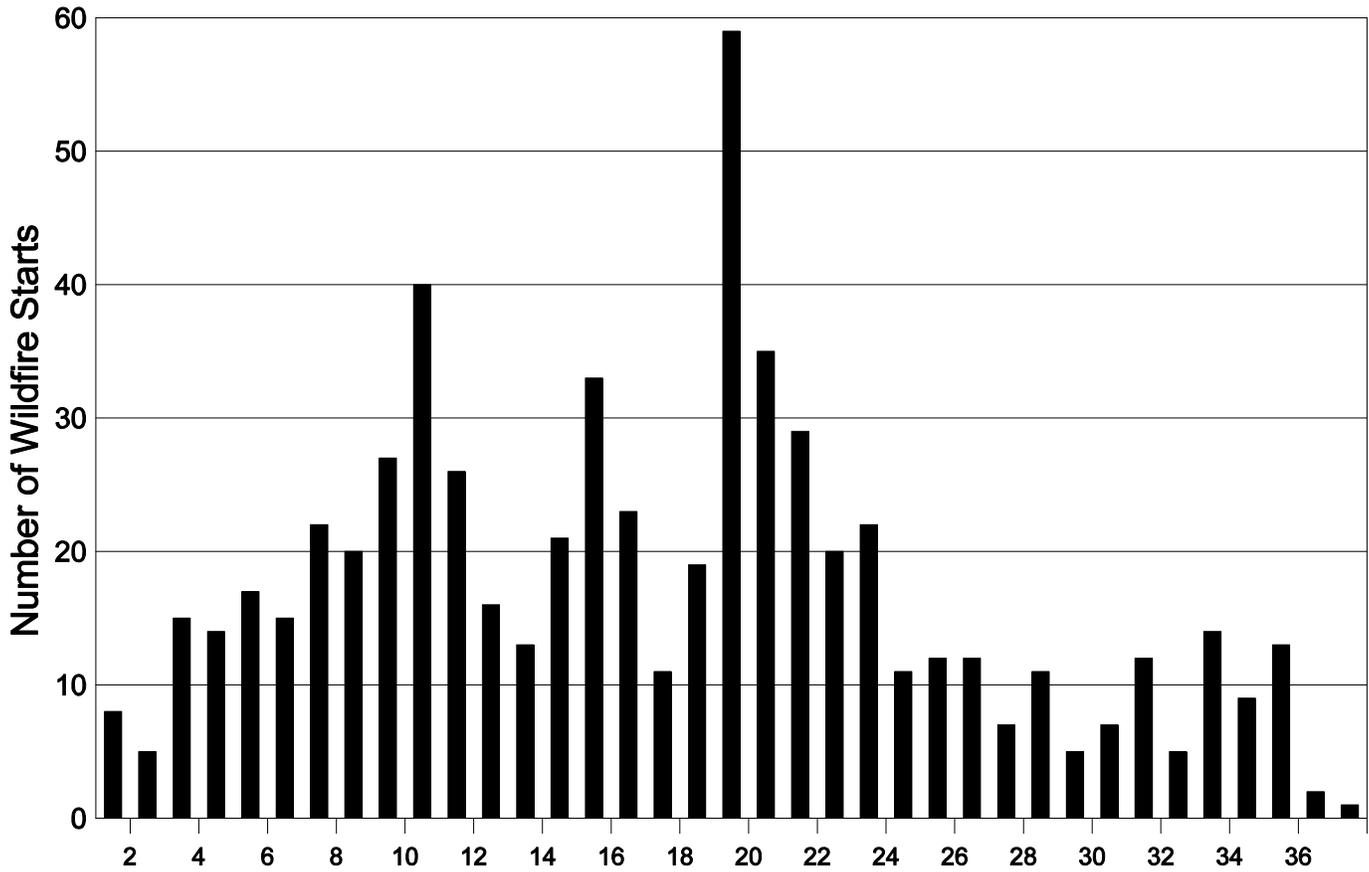
<b>Cause</b>	<b># Fires</b>	<b>FWS Acres</b>	<b>Other Owner Acres</b>	<b>Total</b>
Natural	172	198,071.2	35,377.8	233,449.0
Debris/Vegetation Burn	71	1,736.4	4,701.8	6,438.2
Equipment Use	41	1,101.2	8,271.0	9,372.2
Exceeded RX (prescription)	10	426.0	1.8	427.8
Incendiary	101	6,427.0	7,957.9	14,384.9
Misuse of Fire	30	659.7	46.0	705.7
Open or Outdoor Fire	57	457.9		457.9
Smoking	8	58.6		58.6
Structure	1	0.1		0.1
Other Causes	34	1,252.1	140.0	1,392.1
Undetermined	103	4,618.9	9,791.6	14,410.5
<b>TOTAL</b>	<b>628</b>	<b>214,809.1</b>	<b>66,287.9</b>	<b>281,097.0</b>

## WILDFIRES by SIZE CLASS 2006

<b>Size Class</b>	<b># Fires</b>	<b>FWS Acres</b>	<b>Other Owner Acres</b>	<b>Total Acres</b>
A (0 - .2)	187	20.3	35.0	55.3
B (.3 - 9.9)	239	611.8	3,235.9	3,847.7
C (10 - 99.9)	120	4,190.4	3,919.2	8,109.6
D (100 - 299.9)	42	6,791.7	18,517.8	25,309.5
E (300 - 999.9)	21	9,954.0	6,379.0	16,333.0
F (1000 -	10	24,722.5	483.0	25,205.5
G (5000 +)	9	168,518.4	33,718.0	202,236.4
<b>TOTAL</b>	<b>628</b>	<b>214,809.1</b>	<b>66,287.9</b>	<b>281,097.0</b>

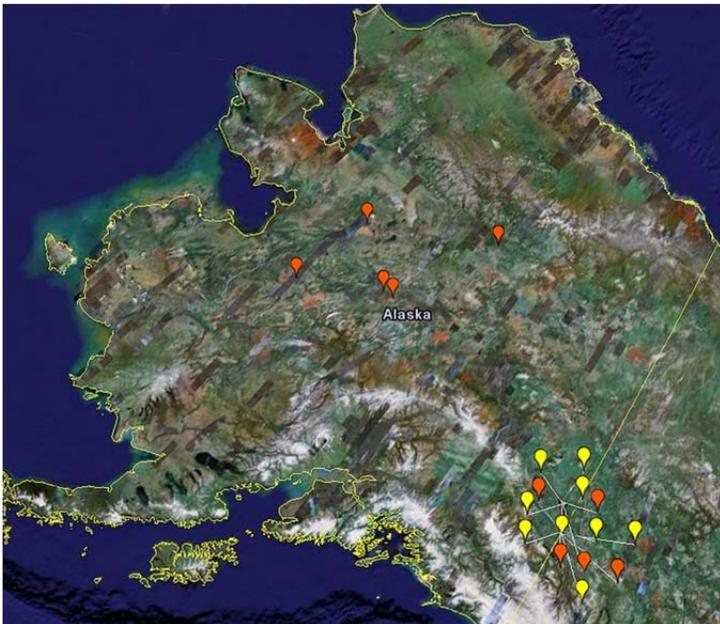
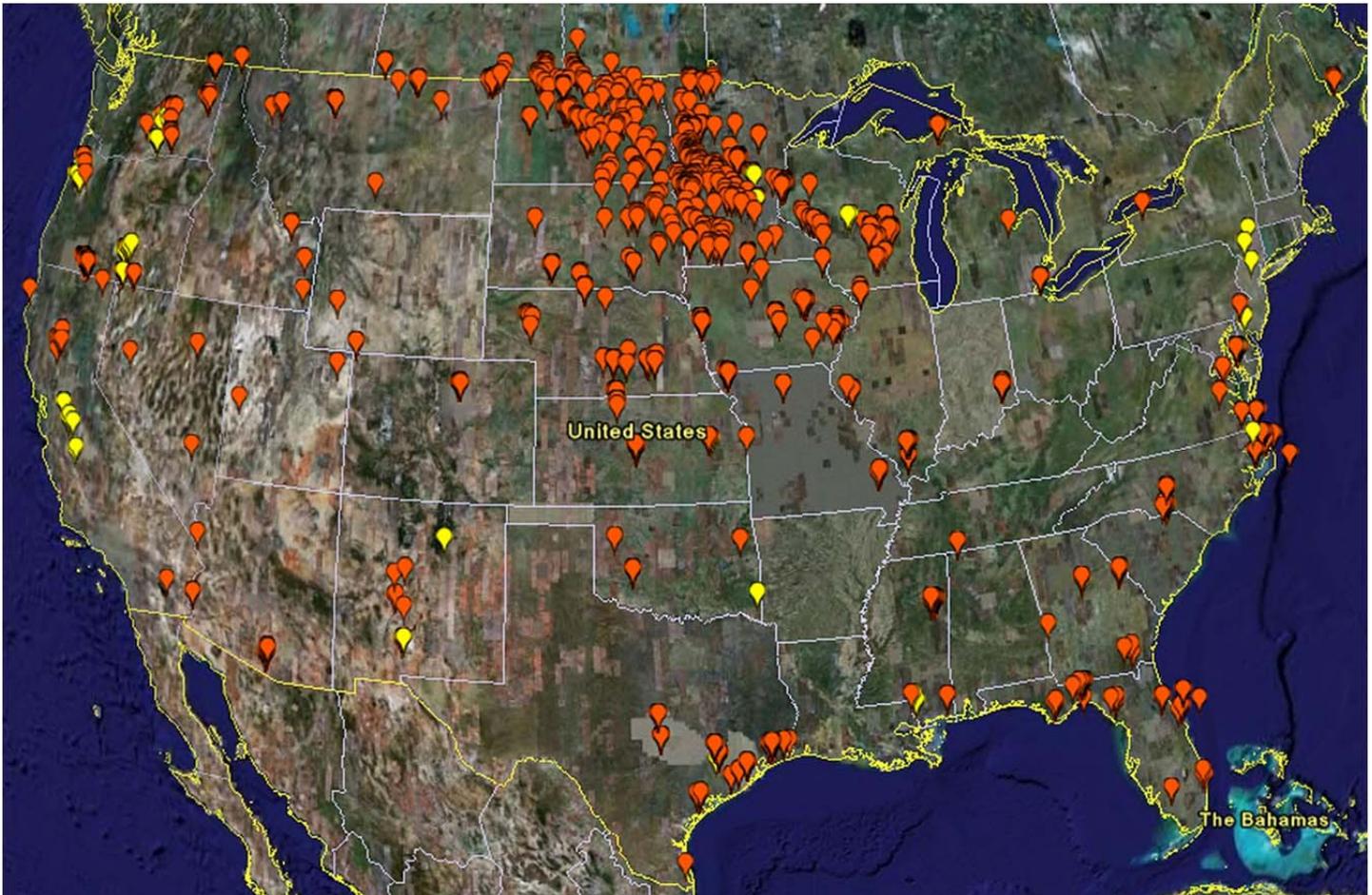
# WILDFIRE STARTS - 2006

## 10-Day Period



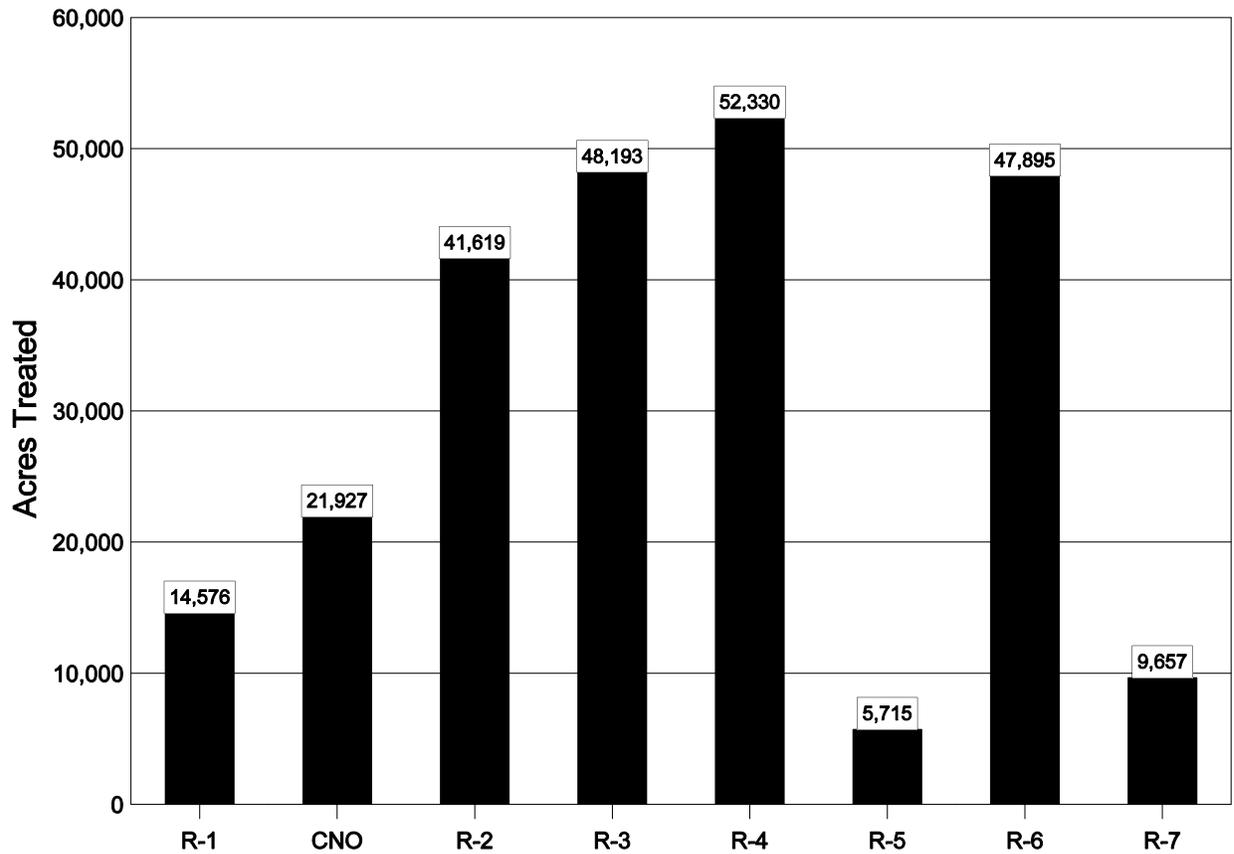
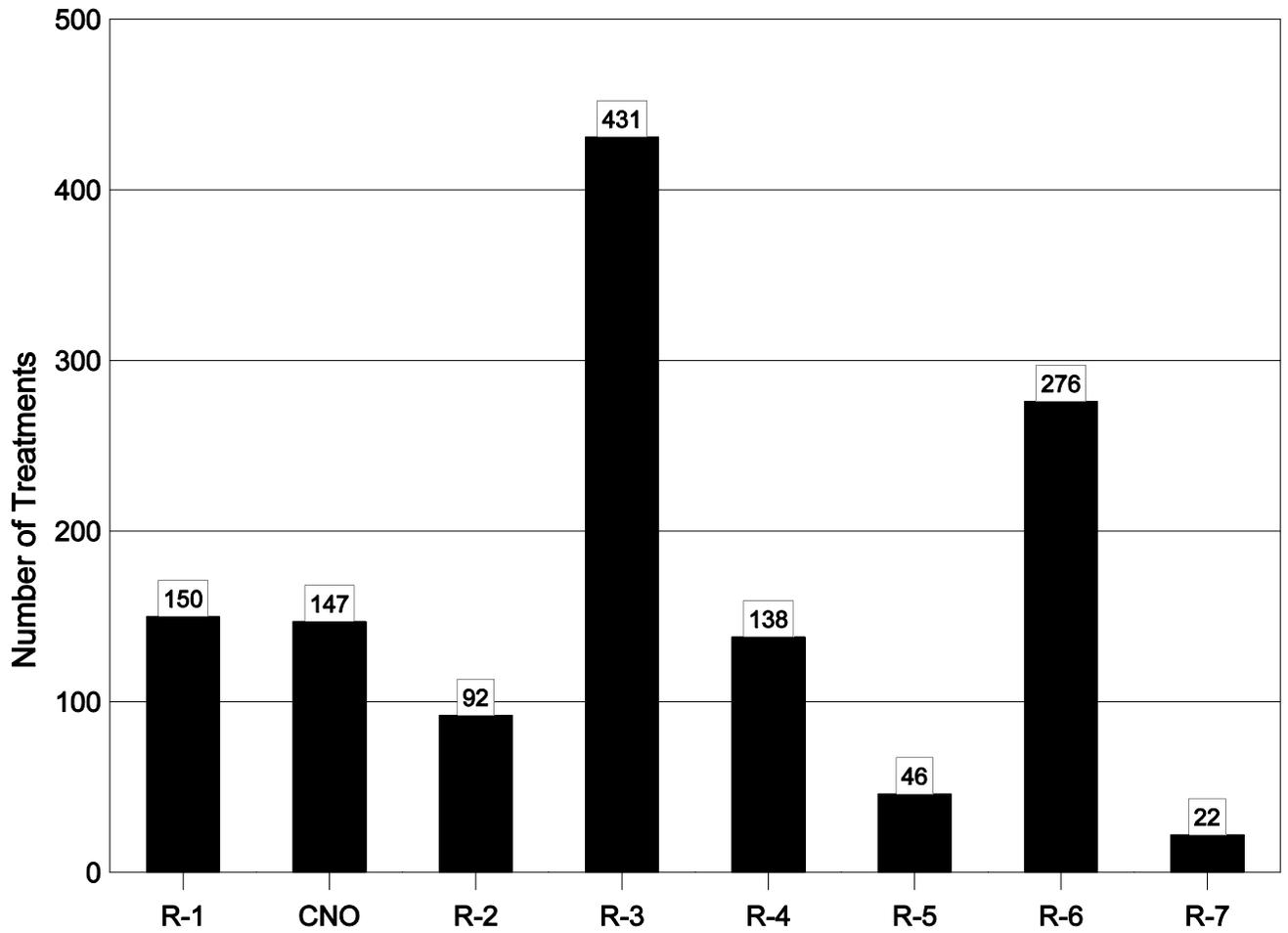
<u>Period</u>	<u>Dates</u>	<u>Period</u>	<u>Dates</u>	<u>Period</u>	<u>Dates</u>
1	Jan 01 - Jan 10	13	May 01 - May 10	25	Aug 29 - Sep 07
2	Jan 11 - Jan 20	14	May 11 - May 20	26	Sep 08 - Sep 17
3	Jan 21 - Jan 30	15	May 21 - May 30	27	Sep 18 - Sep 27
4	Jan 31 - Feb 09	16	May 31 - June 09	28	Sep 28 - Oct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

# 2006 NON-WUI TREATMENTS



Orange = Fire Treatments  
Yellow = Mechanical Treatments

# NON-WUI TREATMENTS



## NON-WUI TREATMENTS by State 2006

<u>State</u>	<u>Number</u>	<u>RX Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Alabama	2	192.0			192.0
Alaska	23	9,633.0	1,344.0		10,977.0
Arizona	13	10,971.0			10,971.0
California	118	17,710.6	621.0	240.0	18,571.6
Colorado	9	553.5			553.5
Delaware	1		20.0		20.0
Florida	41	17,170.0			17,170.0
Georgia	14	9,630.0	144.0		9,774.0
Idaho	6	3,342.0			3,342.0
Illinois	18	1,012.0			1,012.0
Indiana	12	6,827.0			6,827.0
Iowa	80	6,885.0	65.0		6,950.0
Kansas	27	6,554.0	10.0		6,564.0
Louisiana	3	286.0	228.0		514.0
Maine	6	92.4			92.4
Maryland	23	3,531.0	139.0	14.0	3,684.0
Michigan	20	1,821.4	60.0		1,881.4
Minnesota	200	25,615.4	101.0		25,716.4
Mississippi	23	5,250.0	289.0		5,539.0
Missouri	26	1,098.0			1,098.0
Montana	39	6,718.5			6,718.5
Nebraska	48	6,087.0			6,087.0
Nevada	11	500.0	41.2		541.2
New Jersey	8	197.6	605.0	460.0	1,262.6
New Mexico	10	5,383.9	655.1		6,039.0
New York	2	140.5	0.0		140.5
North Carolina	43	16,533.0	20.0		16,553.0
North Dakota	114	19,521.0	43.0		19,564.0
Ohio	1	93.0			93.0

Oklahoma	6	339.5	1.0		340.5
Oregon	93	4,237.3	2,085.0		6,322.3
South Carolina	12	2,263.0	325.0		2,588.0
South Dakota	44	7,320.5			7,320.5
Texas	63	24,155.8	96.0	16.2	24,268.0
Utah	4	1,172.0			1,172.0
Virginia	6	458.0		57.0	515.0
Washington	68	3,593.8	2,672.0	140.0	6,405.8
Wisconsin	64	3,982.0	410.0	18.0	4,410.0
Wyoming	1	120.0			120.0
<b>Total</b>	<b>1,302</b>	<b>230,990.7</b>	<b>9,974.3</b>	<b>945.2</b>	<b>241,910.2</b>

Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

## NON-WUI TREATMENTS Pacific Region

<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Ankeny NWR	6	34.0	365.0		399.0
Baskett Slough NWR	13	271.0	51.0		322.0
Bear Lake NWR	1	2,140.0			2,140.0
Camas NWR	2	72.0			72.0
Columbia NWR	16	291.9		40.0	331.9
Grays Lake NWR	1	1,076.0			1,076.0
Hanford Reach /Saddle Mtn	9	20.0	3,337.0	100.0	3,457.0
Hart Mtn Natl Antelope Refuge	14	264.0	1,089.0		1,353.0
Kootenai NWR	2	54.0			54.0
Little Pend Oreille NWR	16	367.0	200.0		567.0
McNary NWR	8	374.9	105.0		479.9
Sheldon NWR	6	187.0	20.0		207.0
Sheldon-Hart Mtn. NWRC	2	261.0	21.2		282.2
Toppenish NWR	1	0.1			0.1
Turnbull NWR	20	2,540.0	350.0		2,890.0
Umatilla NWR	7	20.1	180.0		200.1
William L Finley NWR	26	345.0	400.0		745.0
<b>Total</b>	<b>150</b>	<b>8,318.0</b>	<b>6,118.2</b>	<b>140.0</b>	<b>14,576.2</b>

Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

## NON-WUI TREATMENTS California/Nevada Operations

<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Colusa NWR	2	55.0			55.0
Delevan NWR	1	25.0			25.0
Humboldt Bay NWR	1	2.0			2.0
Lower Klamath NWR	53	11,469.0			11,469.0
Merced NWR	2		100.0	240.0	340.0
Modoc NWR	1	300.0			300.0
Pahrnagat NWR	1	26.0			26.0
Ruby Lake NWR	1	1.0			1.0
Sacramento NWRC	2	2.0	1.0		3.0
Sacramento River NWR	3	7.0	286.0		293.0
San Joaquin River NWR	3		72.0		72.0
San Luis NWR	6	50.0	162.0		212.0
Sonny Bono Salton Sea NWR	1	25.0			25.0
Stillwater NWR	1	25.0			25.0
Tule Lake NWR	69	9,078.7			9,078.7
<b>Total</b>	<b>147</b>	<b>21,065.7</b>	<b>621.0</b>	<b>240.0</b>	<b>21,926.7</b>

Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

## NON-WUI TREATMENTS

### Southwest Region

<u>Refuge</u>	<u>Number</u>	<u>RX Acres</u>	<u>Mech Acres</u>	<u>Oth Acres</u>	<u>Total Acres</u>
Anahuac NWR	19	7,729.6			7,729.6
Aransas NWR	5	4,661.0			4,661.0
Aransas/Matagorda Island NWRC	1	426.0			426.0
Attwater Prairie Chicken NWR	18	1,019.0	96.0		1,115.0
Balcones Canyonlands NWR	7	607.2		16.2	623.4
Big Boggy NWR	2	423.0			423.0
Bosque Del Apache NWR	3	58.6			58.6
Brazoria NWR	4	1,885.0			1,885.0
Buenos Aires NWR	10	10,815.0			10,815.0
Havasu NWR	1	45.0			45.0
Imperial NFH	2	111.0			111.0
Laguna Atascosa NWR	1	3.0			3.0
Las Vegas NWR	1		630.0		630.0
Little River NWR	1		1.0		1.0
McFaddin NWR	2	4,736.0			4,736.0
San Andres NWR	5	5,325.0	25.1		5,350.1
San Bernard NWR	2	671.0			671.0
Sequoyah NWR	1	310.0			310.0
Sevilleta NWR	1	0.3			0.3
Texas Midcoast Refuges Complex	1	85.0			85.0
Texas Point NWR	1	1,910.0			1,910.0
Washita NWR	1	16.0			16.0
Wichita Mtns Wildlife Refuge	3	13.5			13.5
<b>Total</b>	<b>92</b>	<b>40,850.2</b>	<b>752.1</b>	<b>16.2</b>	<b>41,618.5</b>

Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

## NON-WUI TREATMENTS

### Great Lakes - Big Rivers Region

<u>Refuge</u>	<u>Number</u>	<u>RX Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Agassiz NWR	13	3,905.0			3,905.0
Big Oaks NWR	12	6,827.0			6,827.0
Big Stone NWR	15	2,265.0			2,265.0
Crab Orchard NWR	8	543.0			543.0
Crane Meadows NWR	15	112.0			112.0
Cypress Creek NWR	3	70.0			70.0
Desoto NWR	21	493.0			493.0
Detroit Lakes WMD	19	2,423.0			2,423.0
Driftless Area NWR	2	36.0			36.0
Fergus Falls WMD	31	4,144.0			4,144.0
Fox River NWR	12	95.0			95.0
Glacial Ridge NWR	2	1,495.0			1,495.0
Great River NWR	3	342.0			342.0
Hamden Slough NWR	2	247.0			247.0
Horicon NWR	8	1,267.5			1,267.5
Iowa WMD	1	43.0			43.0
Leopold WMD	18	872.4			872.4
Litchfield WMD	24	3,588.0			3,588.0
Mingo NWR	5	171.0			171.0
Minnesota Valley NWR	8	339.1	50.0		389.1
Morris WMD	25	2,986.2			2,986.2
Neal Smith NWR	16	2,445.0	36.0		2,481.0
Necedah NWR	3		410.0		410.0
Ottawa NWR	5	246.0			246.0
Port Louisa NWR	45	3,654.0	11.0		3,665.0

Rice Lake NWR	2	1,886.0			1,886.0
Seney NWR	15	1,598.4	60.0		1,658.4
Sherburne NWR	6	25.0	51.0		76.0
Shiawassee NWR	1	70.0			70.0
Squaw Creek NWR	17	654.0			654.0
St Croix WMD	13	1,543.0		18.0	1,561.0
Swan Lake NWR	2	153.0			153.0
Tamarac NWR	4	5.1			5.1
Trempealeau NWR	6	137.6			137.6
Union Slough NWR	7	459.0	18.0		477.0
Upper MS River-La Crosse Dist.	4	66.5			66.5
Upper MS River-Savanna Dist.	4	137.0			137.0
Upper MS River-Winona Dist.	6	69.0			69.0
Windom WMD	28	2,126.0			2,126.0
<b>Total</b>	<b>431</b>	<b>47,538.8</b>	<b>636.0</b>	<b>18.0</b>	<b>48,192.8</b>

Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

## NON-WUI TREATMENTS

### Southeast Region

<u>Refuge</u>	<u>Number</u>	<u>RX Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Alligator River NWR	18	7,490.0			7,490.0
ARM Loxahatchee NWR	3	59.0			59.0
Bogue Chitto NWR NWR	4	286.0	517.0		803.0
Carolina Sandhills NWR	12	2,263.0	325.0		2,588.0
Cedar Island NWR	1		20.0		20.0
Currituck NWR	1	50.0			50.0
Eufaula NWR	1	400.0			400.0
Florida Panther NWR	2	1,009.0			1,009.0
Key Cave NWR	2	192.0			192.0
Lake Woodruff NWR	8	1,869.0			1,869.0
Lower Suwannee NWR	5	404.0			404.0
Mackay Island NWR	8	1,413.0			1,413.0
Merritt Island NWR	6	6,200.0			6,200.0
MS Sandhill Crane NWR	2	784.0			784.0
Noxubee NWR	20	4,466.0			4,466.0
Okefenokee NWR	3	3,038.0			3,038.0
Pea Island NWR	3	573.0			573.0
Pee Dee NWR	6	815.0			815.0
Piedmont NWR	10	6,192.0	144.0		6,336.0
St. Marks NWR	11	5,639.0			5,639.0
St. Vincent NWR	6	1,990.0			1,990.0
Swanquarter NWR	6	6,192.0			6,192.0
<b>Total</b>	<b>138</b>	<b>51,324.0</b>	<b>1,006.0</b>	<b>0.0</b>	<b>52,330.0</b>

Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

## NON-WUI TREATMENTS Northeast Region

<u>Refuge</u>	<u>Number</u>	<u>RX Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Bombay Hook NWR	1		20.0		20.0
Chesapeake Marshlands NWRC	23	3,531.0	139.0	14.0	3,684.0
Edwin B. Forsythe NWR	2			360.0	360.0
Eastern Virginia Rivers NWRC	4	375.0		57.0	432.0
Great Dismal Swamp NWR	2	83.0			83.0
Great Swamp NWR	1		225.0		225.0
Iroquois NWR	2	140.5			140.5
Moosehorn NWR	6	92.4			92.4
Supawna Meadows NWR	3	197.6		100.0	297.6
Wallkill River NWR	2		380.0		380.0
<b>Total</b>	<b>46</b>	<b>4,419.5</b>	<b>764.0</b>	<b>531.0</b>	<b>5,714.5</b>

Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

## NON-WUI TREATMENTS

### Mountain-Prairie Region

<u>Refuge</u>	<u>Number</u>	<u>RX Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Arrowwood NWR	3	1,365.0			1,365.0
Arrowwood WMD	3	276.0			276.0
Audubon NWR	17	2,351.0			2,351.0
Benton Lake NWR	7	2,249.0			2,249.0
Bowdoin NWR	10	1,649.0			1,649.0
Boyer Chute NWR	6	509.0			509.0
Browns Park NWR	2	20.0			20.0
Charles M. Russell NWR	2	70.0			70.0
Chase Lake Prairie Proj. WMD	5	954.0			954.0
Crescent Lake NWR	7	892.0			892.0
Crosby WMD	3	202.0			202.0
Des Lacs NWR	10	2,816.5			2,816.5
Devils Lake WMD	18	2,886.0			2,886.0
Fish Springs NWR	1	850.0			850.0
Flint Hills NWR	6	1,930.0	10.0		1,940.0
Fort Niobrara NWR	7	956.0			956.0
Huron WMD	7	688.0			688.0
J. Clark Salyer NWR	13	1,418.0			1,418.0
Kirwin NWR	10	1,811.0			1,811.0
Kulm WMD	3	352.0			352.0
Lacreek NWR	9	2,033.0			2,033.0
Lake Andes NWR	4	435.0			435.0
Long Lake NWR	11	1,322.0			1,322.0
Lostwood NWR	4	1,656.0			1,656.0

Lostwood WMD	4	1,075.5			1,075.5
Madison WMD	6	1,000.0			1,000.0
Marais Des Cygnes NWR	1	227.0			227.0
Medicine lake NWR	18	2,584.5			2,584.5
National Bison Range	2	166.0			166.0
Ouray NWR	3	322.0			322.0
Quivira NWR	10	2,586.0			2,586.0
Rainwater Basin WMD	17	3,300.0			3,300.0
Rocky Mountain Arsenal NWR	7	533.5			533.5
Sand Lake NWR	10	2,376.5			2,376.5
Seedskadee NWR	1	120.0			120.0
Tewaukon NWR	5	1,438.0			1,438.0
Upper Souris NWR	10	865.0	43.0		908.0
Valentine NWR	1	225.0			225.0
Valley City WMD	5	544.0			544.0
Waubay NWR	8	788.0			788.0
<b>Total</b>	<b>276</b>	<b>47,841.5</b>	<b>53.0</b>	<b>0.0</b>	<b>47,894.5</b>

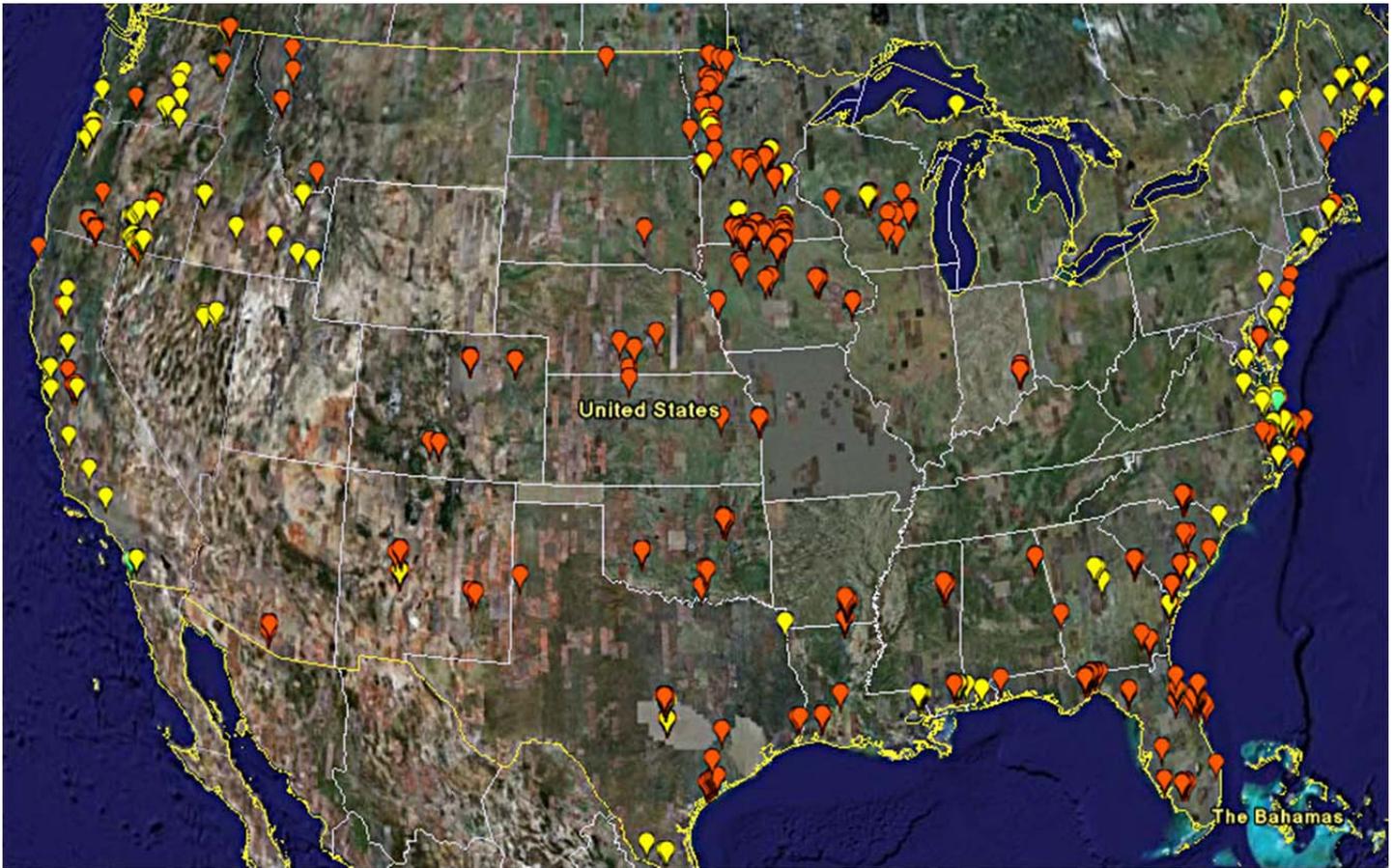
Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

## NON-WUI TREATMENTS Alaska Region

<u>Refuge</u>	<u>Number</u>	<u>RX Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Innoko NWR	1	5.0			5.0
Koyukuk NWR	1	9,610.0			9,610.0
Nowitna NWR	2	6.0			6.0
Tetlin NWR	18	12.0	24.0		36.0
<b>Total</b>	<b>22</b>	<b>9,633.0</b>	<b>24.0</b>	<b>0.0</b>	<b>9,657.0</b>

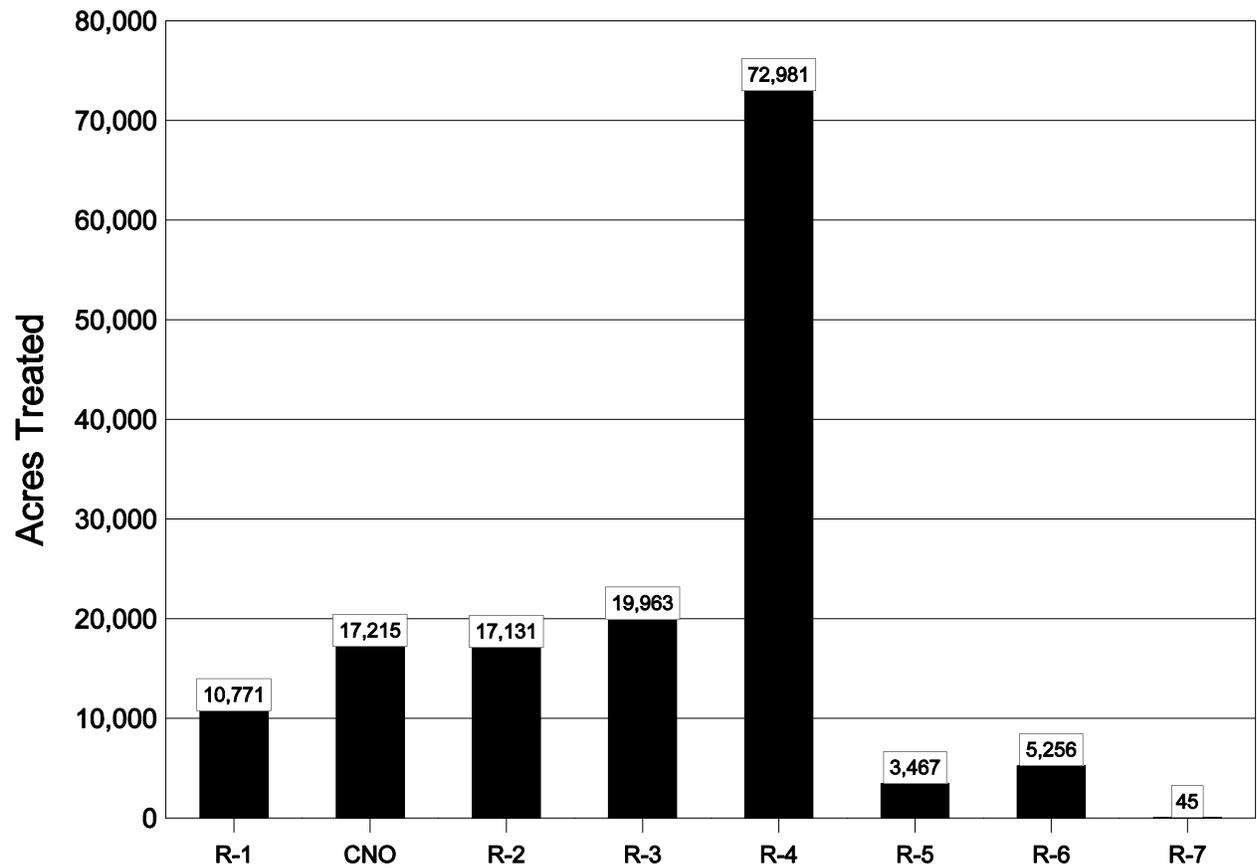
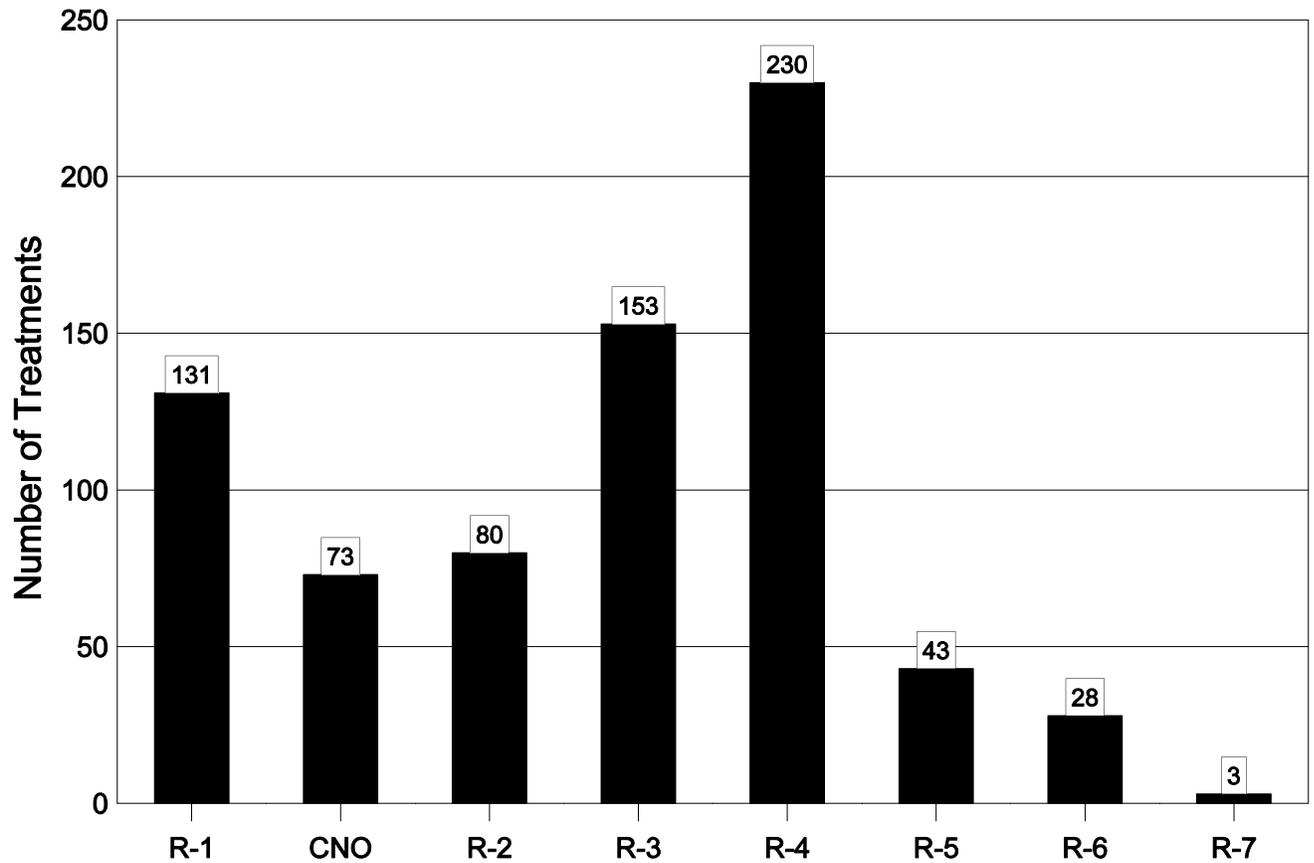
Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

# 2006 WUI TREATMENTS



Orange = Fire Treatments  
Yellow = Mechanical Treatments  
Green = Other Treatments

# WILDLAND URBAN INTERFACE Treatments - 2006



## WUI TREATMENTS by State 2006

<u>State</u>	<u>Number</u>	<u>RX Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Alabama	4	2,252.0	7.0		2,259.0
Alaska	3	5.0	40.0		45.0
Arizona	3	1,736.0			1,736.0
Arkansas	11	3,690.0			3,690.0
California	55	9,617.6	4,886.0	2,233.0	16,736.6
Colorado	10	1,750.5			1,750.5
Delaware	2		50.0	400.0	450.0
Florida	74	27,115.0	120.0		27,235.0
Georgia	24	6,952.0	606.0		7,558.0
Hawaii	1			100.0	100.0
Idaho	13	66.0	1,331.0		1,397.0
Indiana	6	3,221.0			3,221.0
Iowa	53	4,142.0			4,142.0
Kansas	6	943.0			943.0
Louisiana	21	2,091.0	1,707.0		3,798.0
Maine	19	33.0	410.0		443.0
Maryland	4	555.0			555.0
Michigan	1		90.0		90.0
Minnesota	68	7,972.0	35.0	1.0	8,008.0
Mississippi	25	5,081.0	231.0		5,312.0
Montana	6	655.0			655.0
Nebraska	4	1,293.0			1,293.0
Nevada	34	2,366.0	185.0		2,551.0
New Jersey	3	130.0	210.0		340.0

New Mexico	16	1,881.1	1.0		1,882.1
New York	1			75.0	75.0
North Carolina	40	12,053.0	309.6	150.0	12,512.6
North Dakota	1	174.0			174.0
Oklahoma	11	2,420.0			2,420.0
Oregon	60	2,060.0	1,885.4	20.0	3,965.4
Pennsylvania	1			120.0	120.0
Rhode Island	4	38.5	40.0	0.6	79.1
South Carolina	32	10,748.0	18.5		10,766.5
South Dakota	1	440.0			440.0
Texas	50	10,690.3	386.9	15.3	11,092.5
Vermont	1		110.0		110.0
Virginia	7		222.0	923.0	1,145.0
Washington	41	971.0	2,243.7	21.0	3,235.7
Wisconsin	25	3,699.9	802.0		4,501.9
<b>Total</b>	<b>741</b>	<b>126,841.9</b>	<b>15,927.1</b>	<b>4,058.9</b>	<b>146,827.9</b>

Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

## WUI TREATMENTS Pacific Region

<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Ankeny NWR	3	44.0	115.0		159.0
Baskett Slough NWR	7	50.0	607.0		657.0
Bear Lake NWR	1		100.0		100.0
Camas NWR	4	66.0	266.0		332.0
Columbia NWR	2		45.0	21.0	66.0
Conboy Lake NWR	2	50.0	100.0		150.0
Deer Flat NWR	5		440.0		440.0
Hagerman NFH	1		50.0		50.0
Hakalau Forest NWR	1			100.0	100.0
Hanford Reach /Saddle Mtn	1		60.0		60.0
Hart Mtn Natl Antelope Refuge	15	5.0	729.0		734.0
Little Pend Oreille NWR	13	548.0	131.0		679.0
Malheur NWR	4	1,600.0	10.0		1,610.0
McKay Creek NWR	1		4.8		4.8
McNary NWR	1		40.7		40.7
Sheldon NWR	1		75.0		75.0
Oxford Slough	1		400.0		400.0
Sheldon NWR	30	2,366.0	38.0		2,404.0
Turnbull NWR	22	373.0	1,867.0		2,240.0
Umatilla NWR	3		11.6		11.6
William L. Finley NWR	13	30.0	408.0	20.0	458.0
<b>Total</b>	<b>131</b>	<b>5,132.0</b>	<b>5,498.1</b>	<b>141.0</b>	<b>10,771.1</b>

Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

## WUI TREATMENTS California/Nevada Operations

<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Bear Valley NWR	13	326.0			326.0
Bitter Creek NWR	1		45.0		45.0
Don Edwards San Francisco NWR	2		25.0		25.0
Ellicott Slough NWR	2		10.0	40.0	50.0
Hopper Mountain NWRC	1		10.0		10.0
Humboldt Bay NWR	1	20.0			20.0
Klamath Marsh NWR	1	5.0			5.0
Merced NWR	8	1,020.0	75.0		1,095.0
Ruby Lake NWR	4		147.0		147.0
Sacramento NWR	1	1.0	1.0		2.0
Sacramento River NWR	3		1,431.0	786.0	2,217.0
San Diego Bay NWR	4		7.0	7.0	14.0
San Diego NWR	4		372.0		372.0
San Luis NWR	1	175.0			175.0
San Luis NWRC	1		120.0		120.0
Stone Lakes NWR	3	1,400.0	2,710.0	1,400.0	5,510.0
Tijuana Slough NWR	1		80.0		80.0
Tule Lake NWR	22	7,001.6			7,001.6
<b>Total</b>	<b>73</b>	<b>9,948.6</b>	<b>5,033.0</b>	<b>2,233.0</b>	<b>17,214.6</b>

Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

## WUI TREATMENTS

### Southwest Region

<u>Refuge</u>	<u>Number</u>	<u>RX Acres</u>	<u>Mech Acres</u>	<u>Oth Acres</u>	<u>Total Acres</u>
Attwater Prairie Chicken NWR	1	136.0			136.0
Balcones Canyonlands NWR	25	864.3	291.9	15.3	1,171.5
Bitter Lake NWR	3	407.0			407.0
Bosque Del Apache NWR	9	530.0	1.0		531.0
Buenos Aires NWR	3	1,736.0			1,736.0
Caddo Lake NWR	1		35.0		35.0
Deep Fork NWR	5	1,240.0			1,240.0
Hagerman NWR	1	62.0			62.0
Lower Grande Valley NWR	2		35.0		35.0
Matagorda Island NWR	18	9,516.0			9,516.0
Muleshoe NWR	1	112.0			112.0
Santa Ana NWR	1		25.0		25.0
Sevilleta NWR	4	944.1			944.1
Tishomingo NWR	2	418.0			418.0
Wichita Mtns Wildlife Refuge	4	762.0			762.0
<b>Total</b>	<b>80</b>	<b>16,727.4</b>	<b>387.9</b>	<b>15.3</b>	<b>17,130.6</b>

Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

## WUI TREATMENTS

### Great Lakes - Big Rivers Region

<u>Refuge</u>	<u>Number</u>	<u>RX Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Agassiz NWR	4	84.0			84.0
Big Oaks NWR	6	3,221.0			3,221.0
Big Stone NWR	2	193.0			193.0
Detroit Lakes WMD	10	1,278.0			1,278.0
Fergus Falls WMD	9	764.0	8.0		772.0
Horicon NWR	4	671.2			671.2
Iowa WMD	45	3,300.0			3,300.0
Leopold WMD	6	398.4			398.4
Litchfield WMD	4	516.0			516.0
Minnesota Valley NWR	4	105.0			105.0
Morris WMD	1	52.0			52.0
Necedah NWR	14	2,628.5	802.0		3,430.5
Port Louisa NWR	8	842.0			842.0
Rydell NWR	4	97.0			97.0
Seney NWR	1		90.0		90.0
Sherburne NWR	20	4,575.0	10.0		4,585.0
Trempealeau NWR	1	1.8			1.8
Windom WMD	10	308.0	17.0	1.0	326.0
<b>Total</b>	<b>153</b>	<b>19,034.9</b>	<b>927.0</b>	<b>1.0</b>	<b>19,962.9</b>

Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

## WUI TREATMENTS

### Southeast Region

<u>Refuge</u>	<u>Number</u>	<u>RX Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Alligator River NWR	21	8,643.0	91.6		8,734.6
ARM Loxahatchee NWR	1	1.0			1.0
Big Branch Marsh NWR	11	296.0	1,707.0		2,003.0
Bon Secour NWR	1		7.0		7.0
Bond Swamp NWR	1		10.0		10.0
Cameron Prairie NWR	4	1,255.0			1,255.0
Cape Romain NWR	1	192.0			192.0
Carolina Sandhills NWR	13	3,850.0			3,850.0
Cedar Island NWR	8	1,014.0	65.0		1,079.0
D'Arbonne NWR	5	206.0			206.0
Ernest F. Hollings Ace Basin NWR	8	5,402.0			5,402.0
Eufaula NWR	1	360.0			360.0
Felsenthal NWR	11	3,690.0			3,690.0
Florida Panther NWR	8	3,279.0			3,279.0
Grand Bay NWR	1		8.0		8.0
Harris Neck NWR	8	912.0			912.0
J. N. Ding Darling NWR	3	35.0			35.0
Lacassine NWR	1	334.0			334.0
Lake Woodruff NWR	16	6,002.0	120.0		6,122.0
Lower Suwannee NWR	5	613.0			613.0
Mackay Island NWR	1	13.0			13.0
Merritt Island NWR	16	10,754.0			10,754.0
Mississippi Sandhill Crane NWR	17	3,657.0	223.0		3,880.0
Mountain Longleaf NWR	2	1,892.0			1,892.0
Noxubee NWR	7	1,424.0			1,424.0

Okefenokee NWR	5	2,134.0			2,134.0
Piedmont NWR	9	3,806.0	596.0		4,402.0
Pocosin Lakes NWR	9	2,383.0	153.0		2,536.0
Santee NWR	4	308.0	14.0		322.0
Savannah-Pickney Natl Wildl Rfgs	5	1,096.0			1,096.0
St. Marks NWR	25	6,431.0			6,431.0
Waccamaw NWR	2		4.5		4.5
<b>Total</b>	<b>230</b>	<b>69,982.0</b>	<b>2,999.1</b>	<b>0.0</b>	<b>72,981.1</b>

Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

## WUI TREATMENTS

### Northeast Region

<u>Refuge</u>	<u>Number</u>	<u>RX Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Back Bay NWR	2		6.0	500.0	506.0
Cape May NWR	1		200.0		200.0
Chesapeake Marshlands NWRC	4	555.0			555.0
Chincoteague NWR	1			150.0	150.0
Edwin B. Forsythe NWR	2	130.0	10.0		140.0
Eastern Virginia Rivers NWRC	2		116.0	193.0	309.0
Great Dismal Swamp NWR	3		100.0	230.0	330.0
John Heinz NWR at Tinicum	1			120.0	120.0
Long Island NWRC	1			75.0	75.0
Maine Coastal Islands NWR	2	11.0	0.8		11.8
Moosehorn NWR	4	3.0	177.3		180.3
Prime Hook NWR	2		50.0	400.0	450.0
Rachel Carson NWR	3		49.2		49.2
Rhode Island NWRC	4	38.5	40.0	0.6	79.1
Silvo O. Conte Natl Fish & Wildl Rfg	1		110.0		110.0
Sunkhaze Meadows NWR	10	19.0	182.7		201.7
<b>Total</b>	<b>43</b>	<b>756.5</b>	<b>1,042.0</b>	<b>1,668.6</b>	<b>3,467.1</b>

Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

# WUI TREATMENTS

## Mountain-Prairie Region

<u>Refuge</u>	<u>Number</u>	<u>RX Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Alamosa NWR	2	1,350.0			1,350.0
Boyer Chute NWR	1	525.0			525.0
Flint Hills NWR	1	180.0			180.0
J. Clark Salyer NWR	1	174.0			174.0
Kirwin NWR	2	204.0			204.0
Lake Andes NWR	1	440.0			440.0
Lee Metcalf NWR	3	145.0			145.0
Marais Des Cygnes NWR	3	559.0			559.0
Monte Vista NWR	1	58.4			58.4
National Bison Range	1	170.0			170.0
Northwest Montana WMD	1	140.0			140.0
Rainwater Basin WMD	3	768.0			768.0
Red Rock Lakes NWR	1	200.0			200.0
Rocky Mountain Arsenal NWR	7	342.1			342.1
<b>Total</b>	<b>28</b>	<b>5,255.5</b>	<b>0.0</b>	<b>0.0</b>	<b>5,255.5</b>

Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

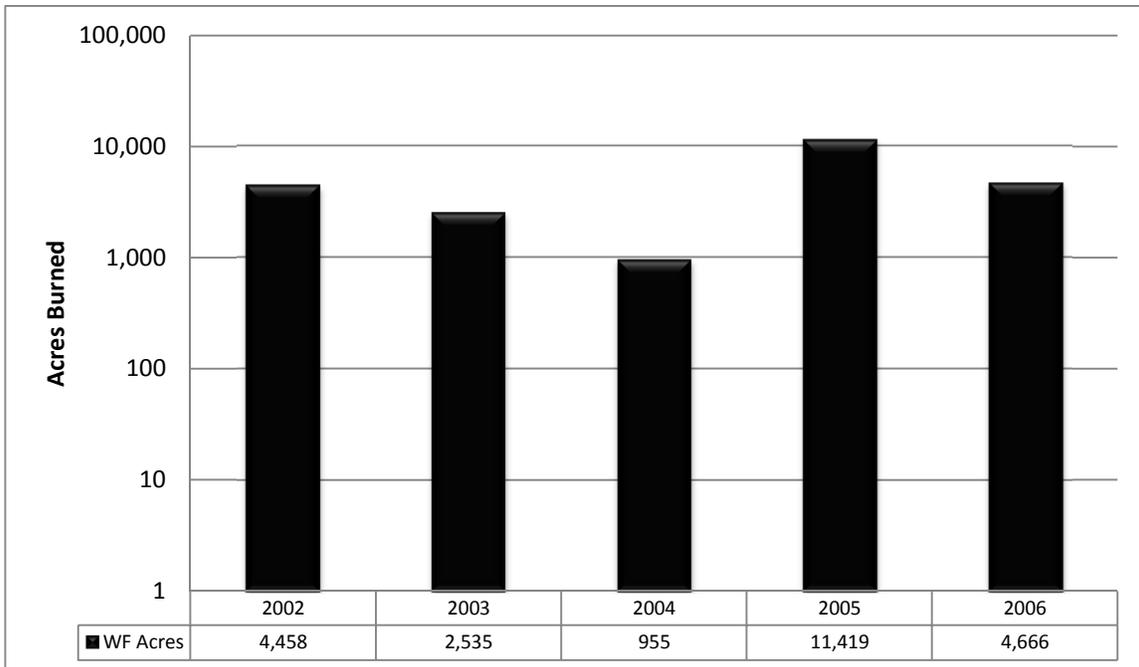
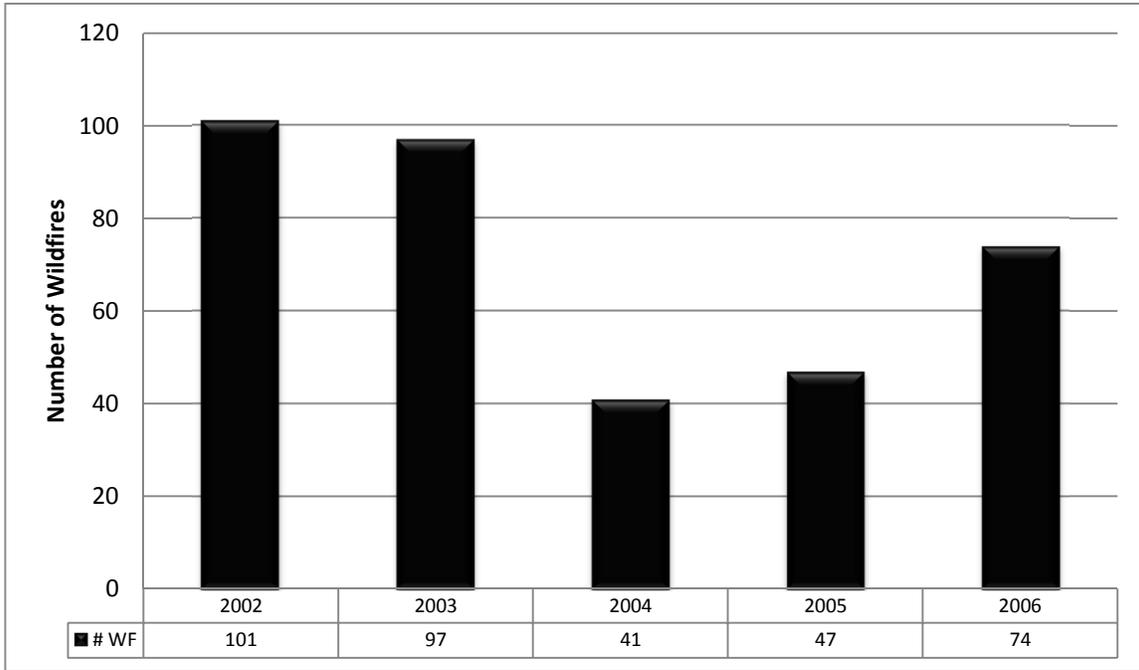
# WUI TREATMENTS

## Alaska Region

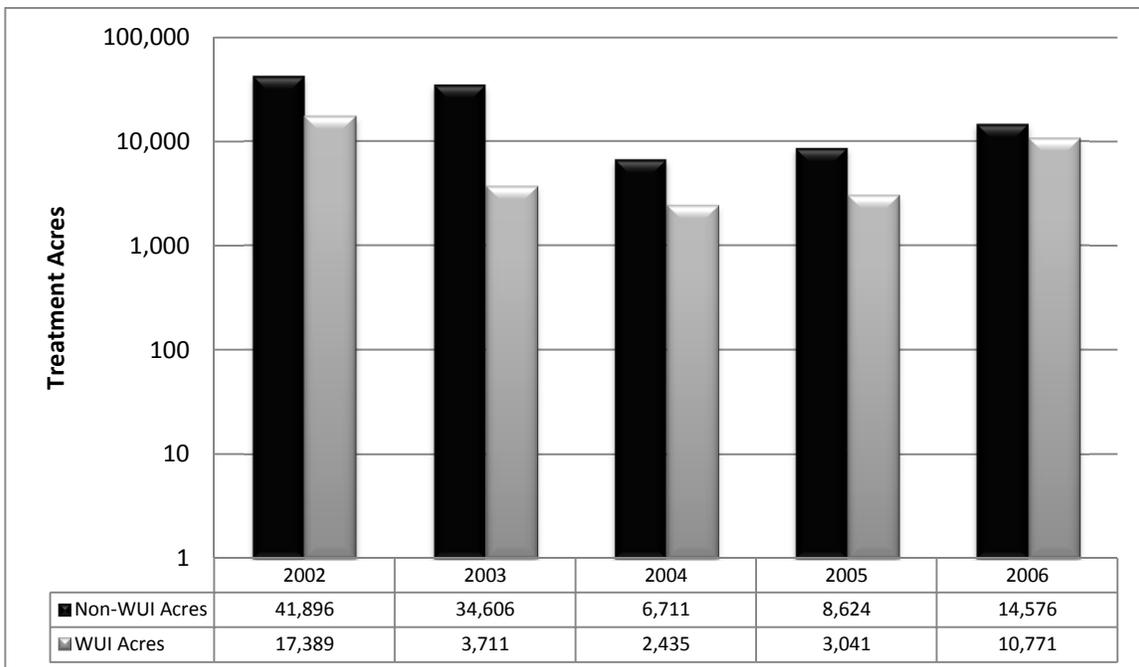
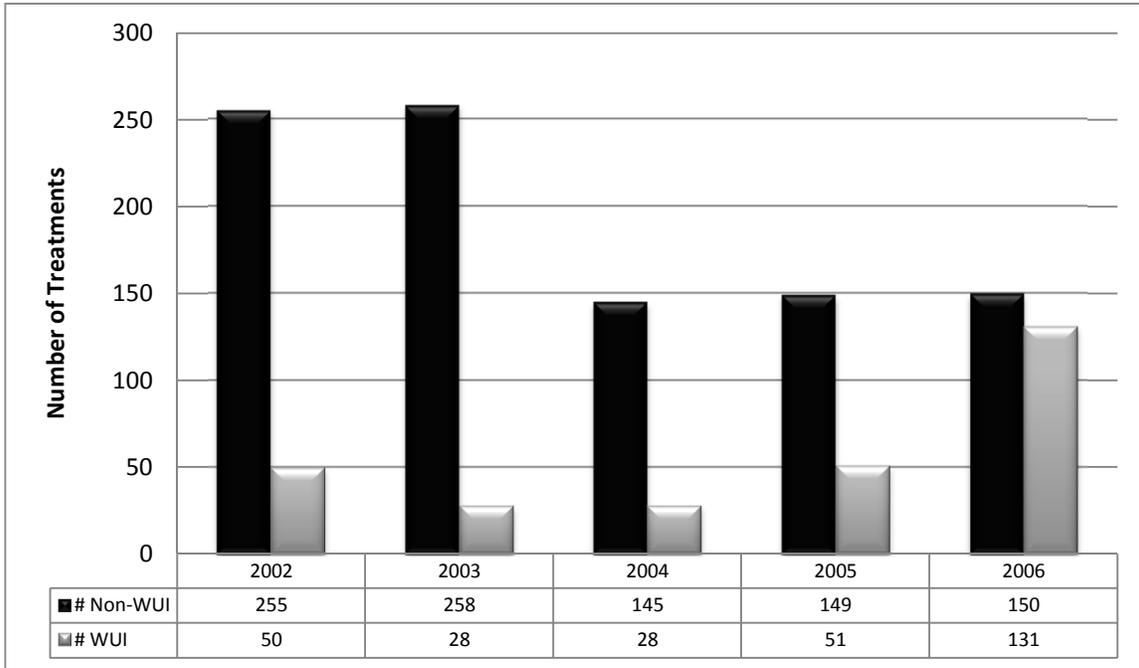
<u>Refuge</u>	<u>Number</u>	<u>RX Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Tetlin NWR	3	5.0	40.0		45.0
<b>Total</b>	<b>3</b>	<b>5.0</b>	<b>40.0</b>	<b>0.0</b>	<b>45.0</b>

Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

# PACIFIC REGION Wildfires 2002-2006

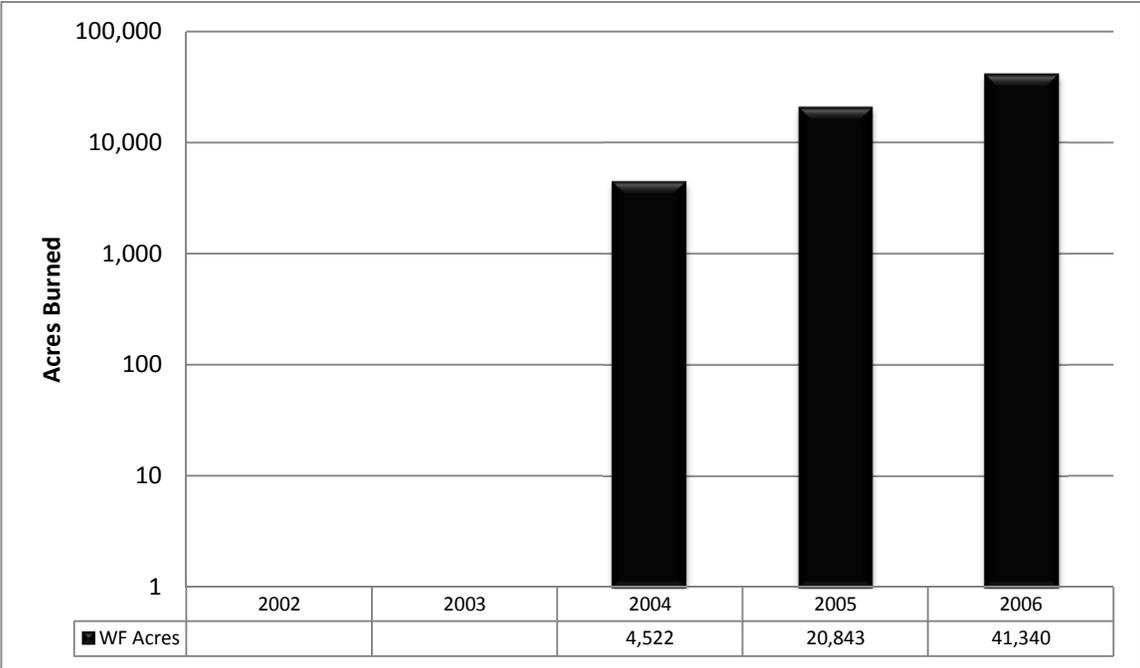
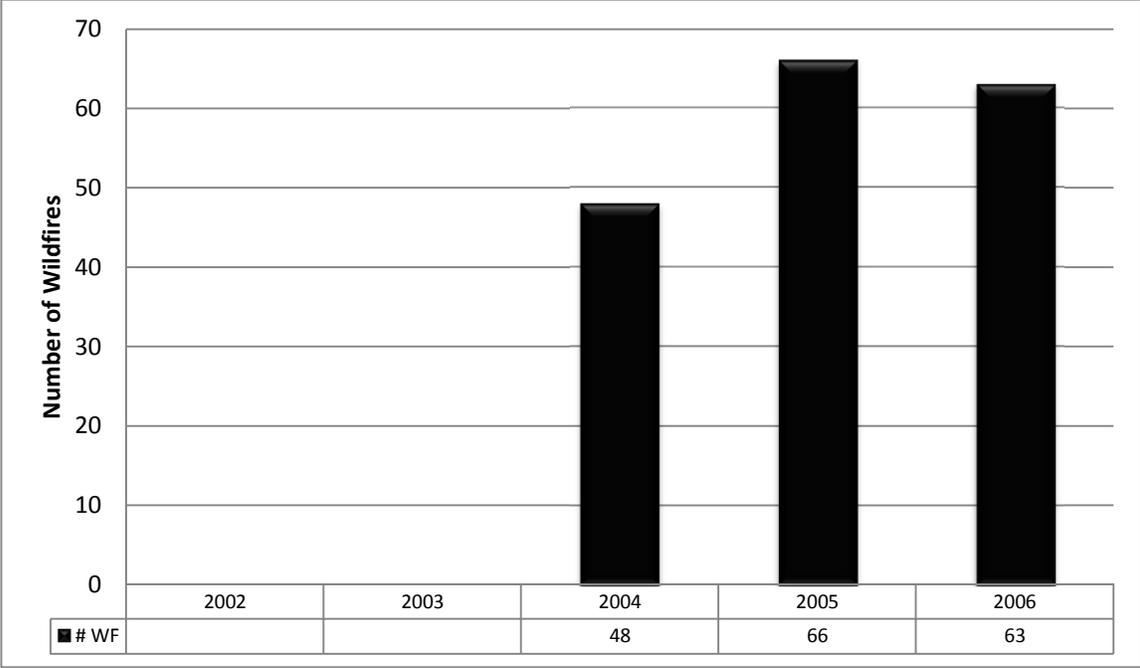


# PACIFIC REGION Treatments 2002-2006

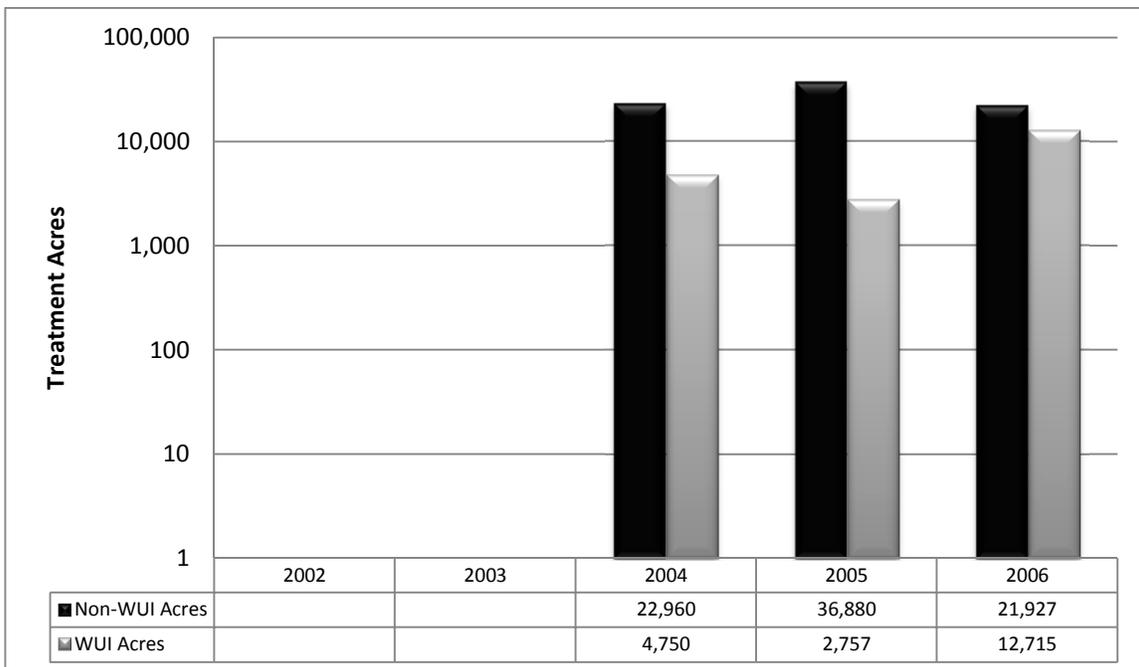
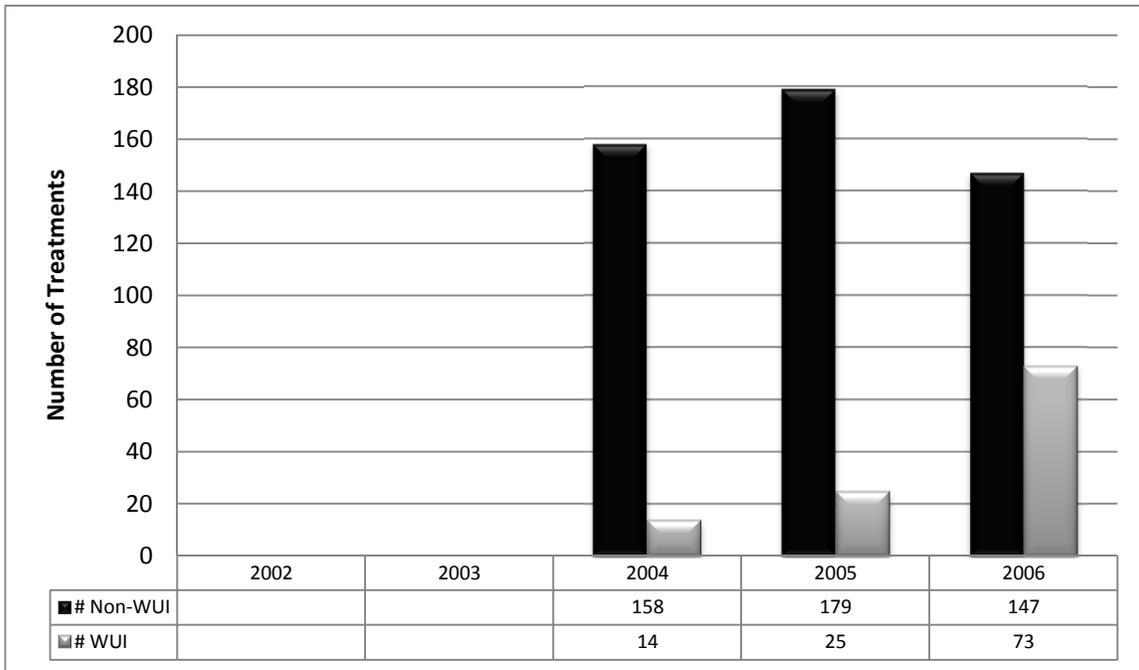


WUI = Wildland Urban Interface

# CA/NV Operations Wildfires 2002-2006



# CA/NV Operations Treatments 2002-2006

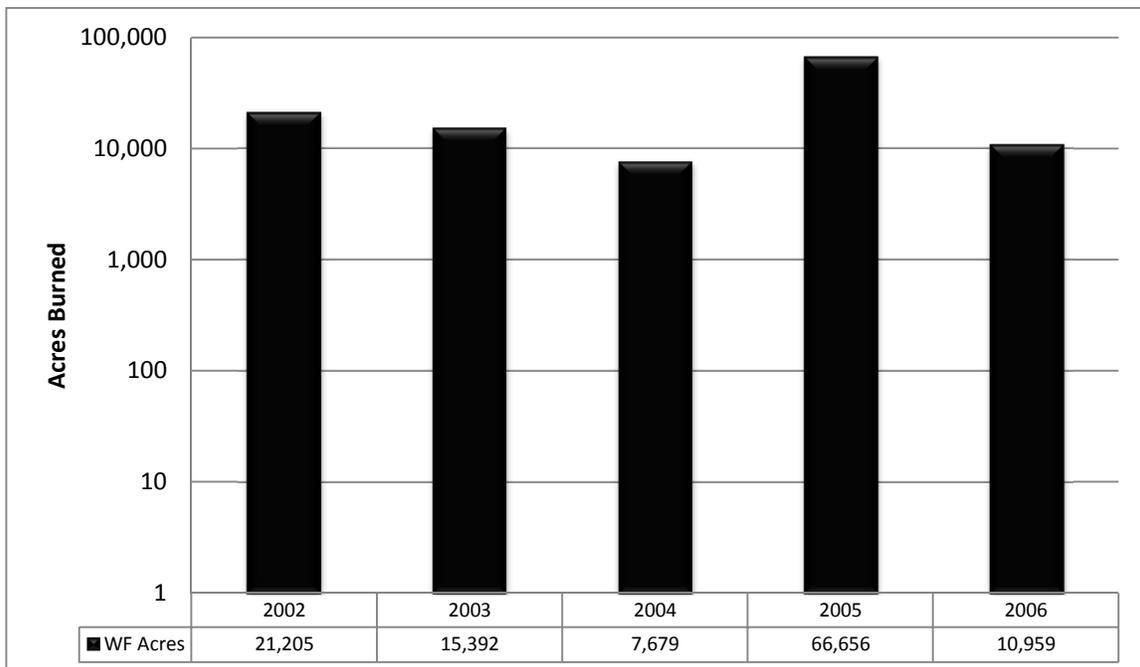
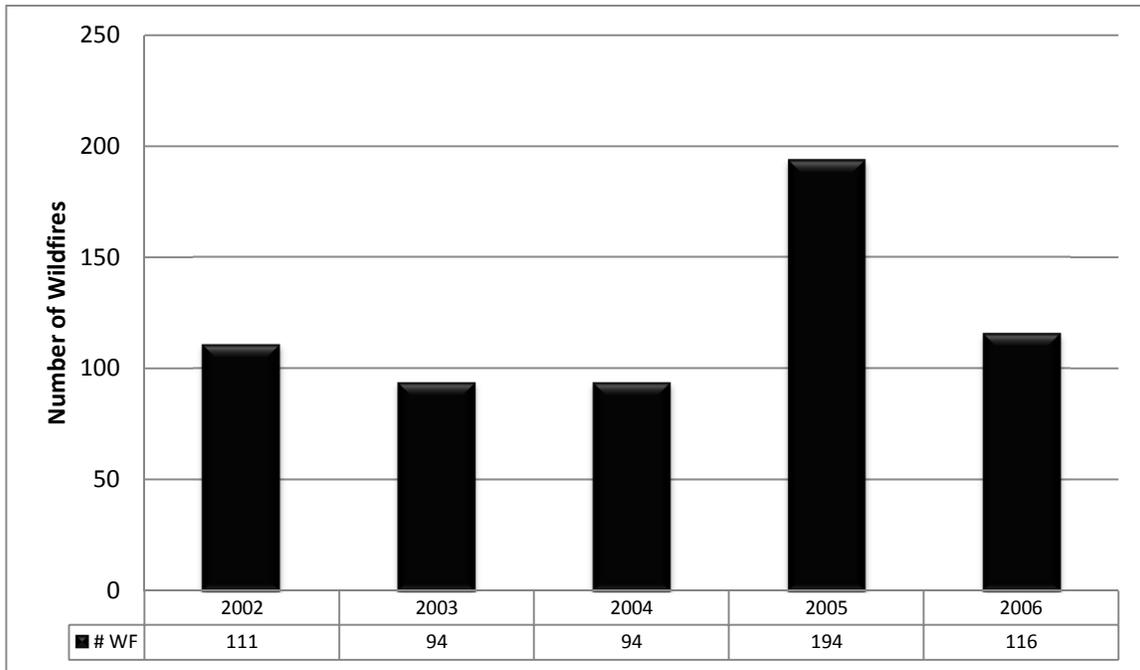


WUI = Wildland Urban Interface

# SOUTHWEST REGION

## Wildfires

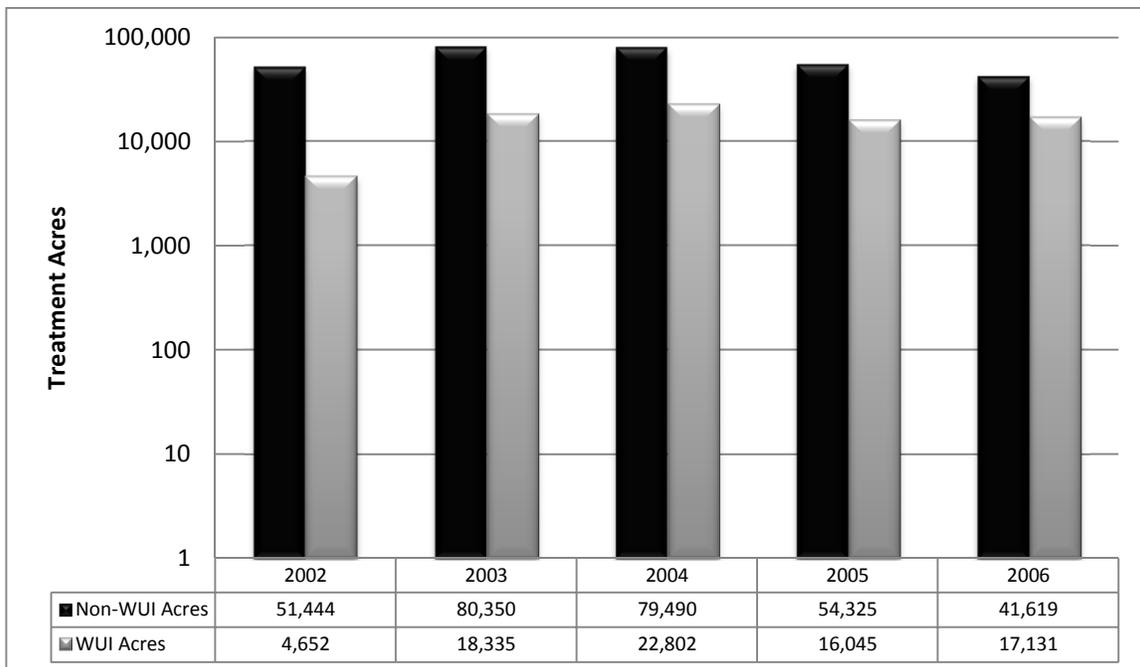
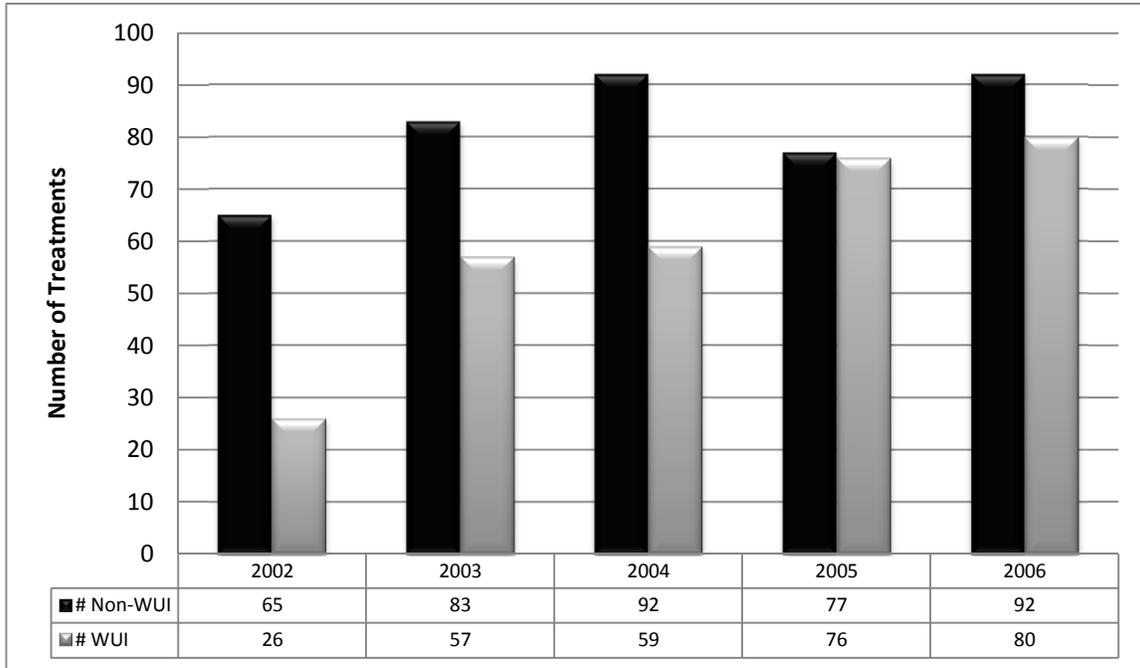
### 2002-2006



# SOUTHWEST REGION

## Treatments

### 2002-2006

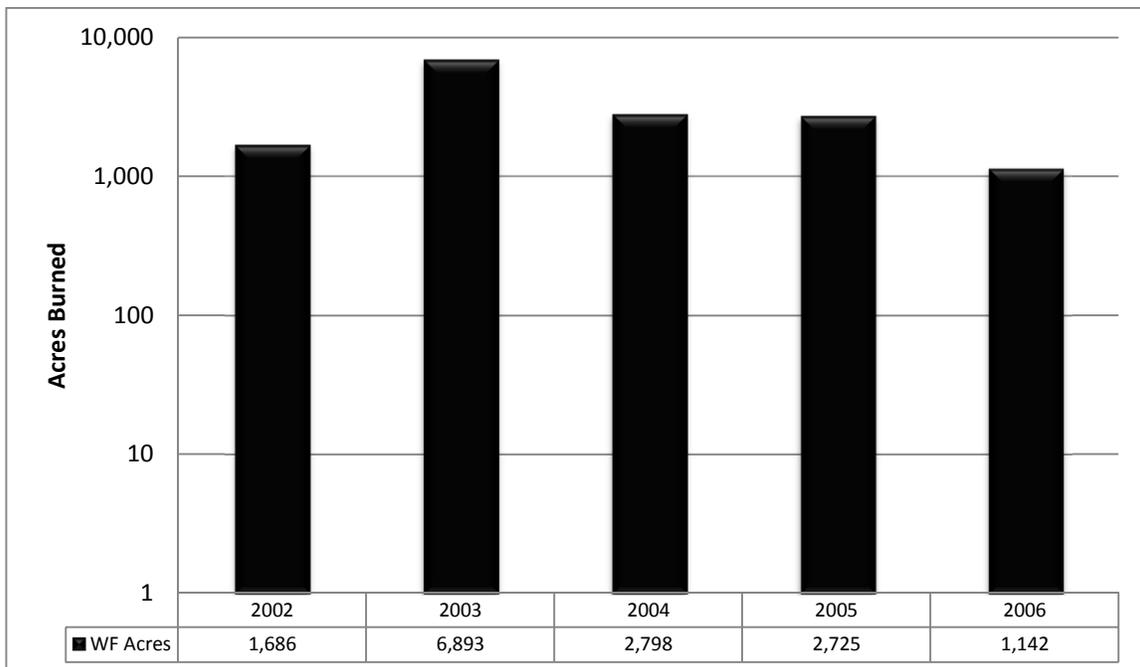
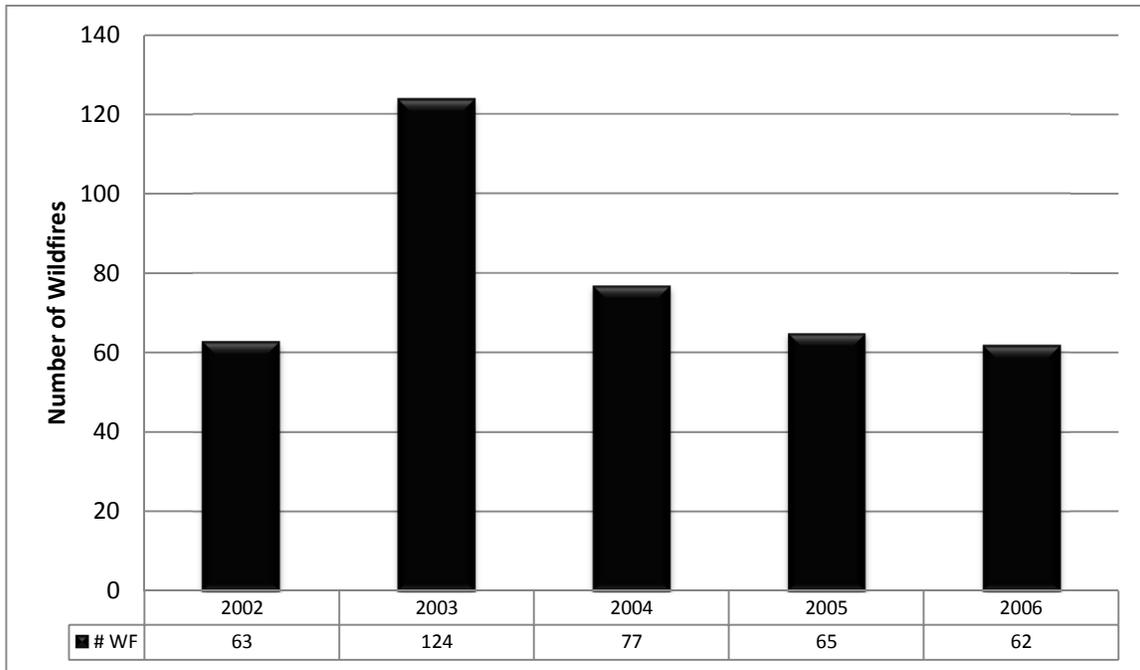


WUI = Wildland Urban Interface

# MIDWEST REGION

## Wildfires

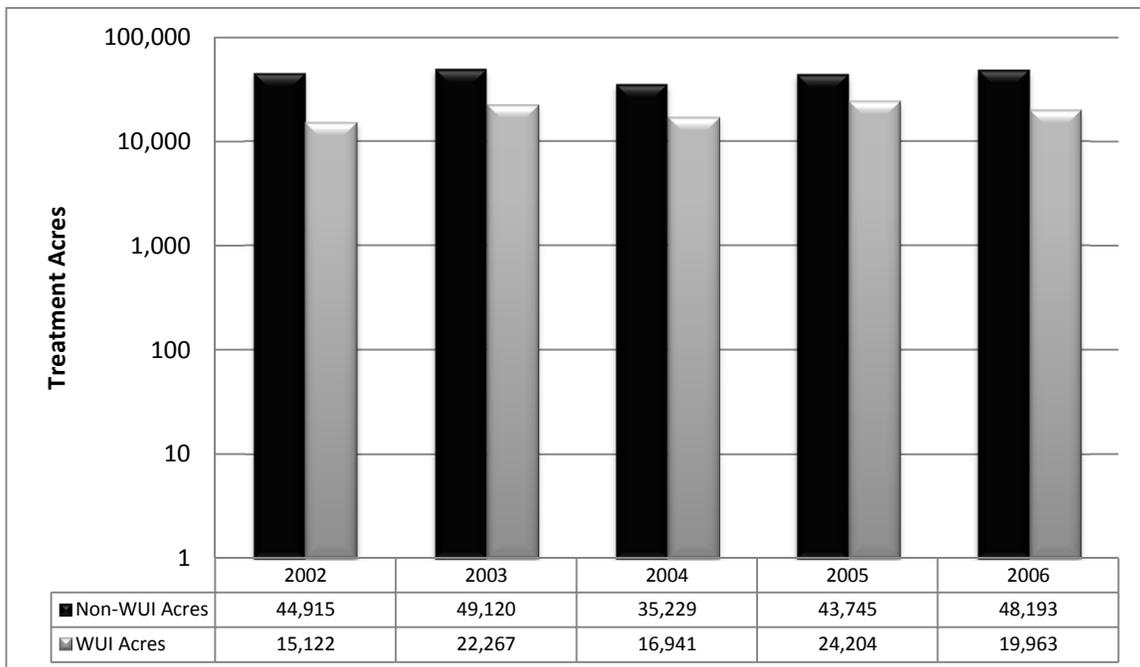
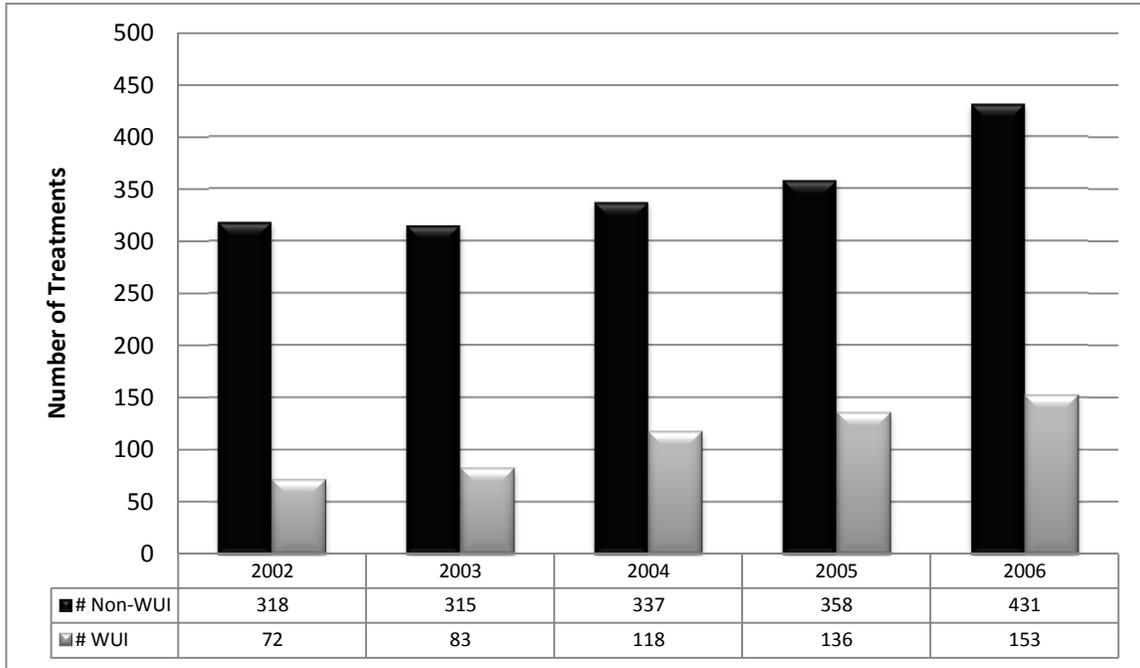
### 2002-2006



# MIDWEST REGION

## Treatments

### 2002-2006

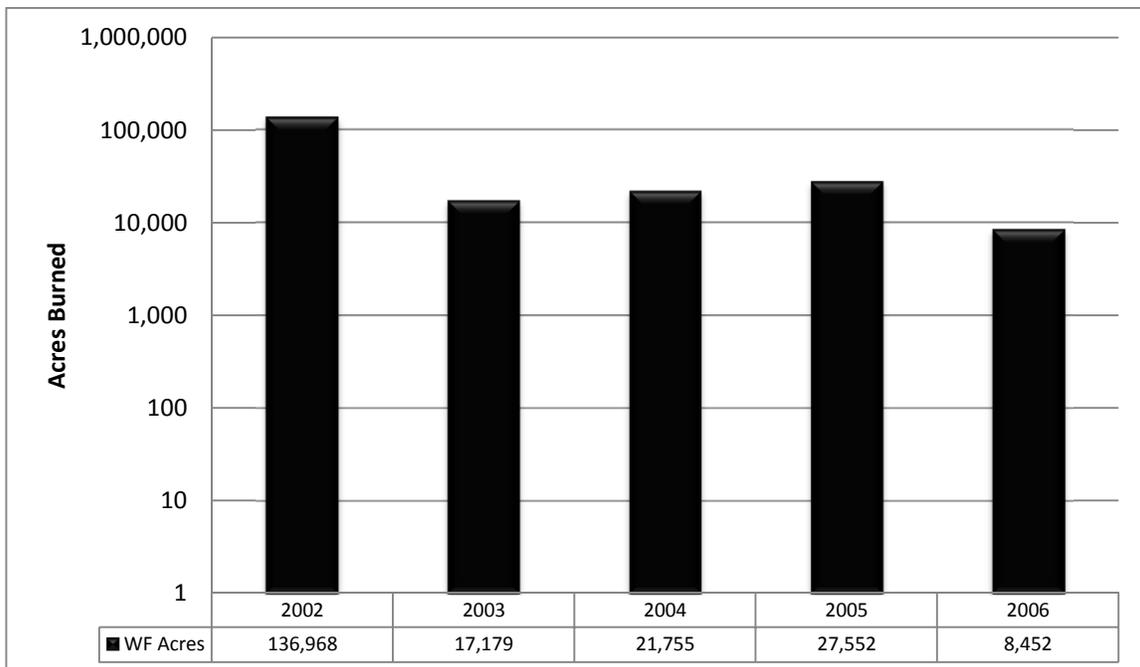
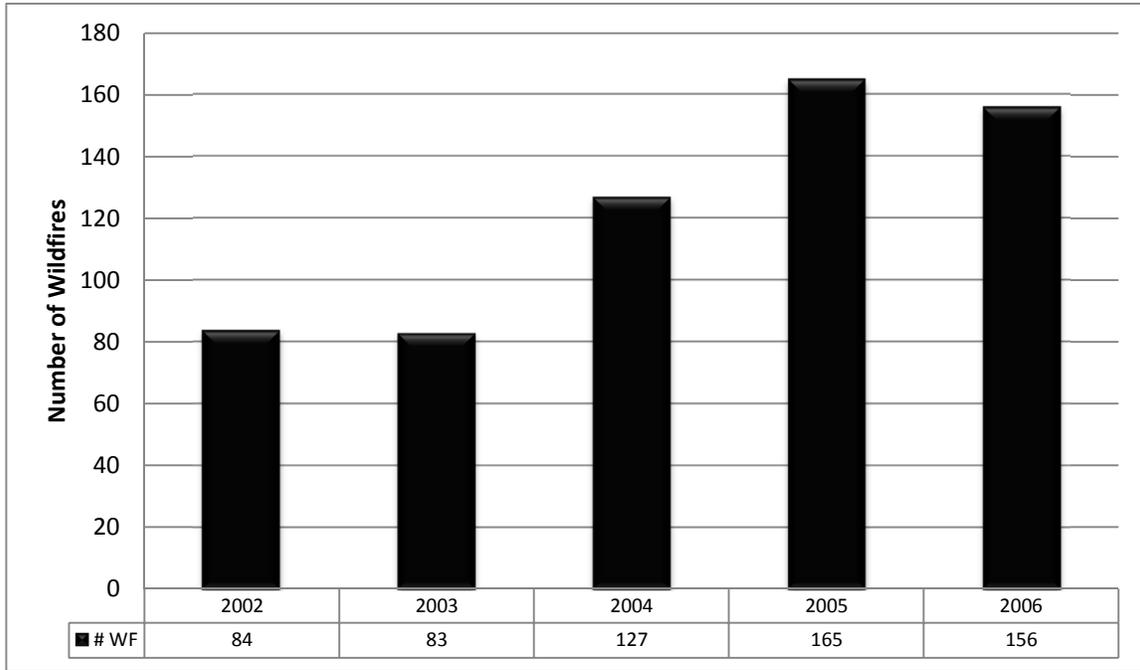


WUI = Wildland Urban Interface

# SOUTHEAST REGION

## Wildfires

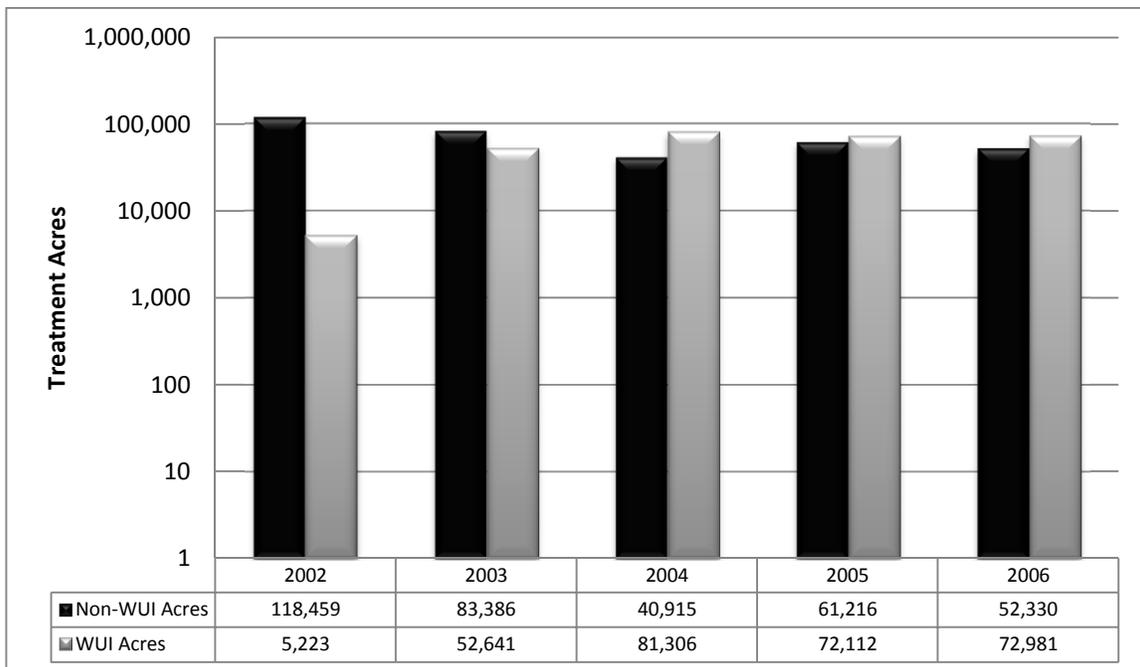
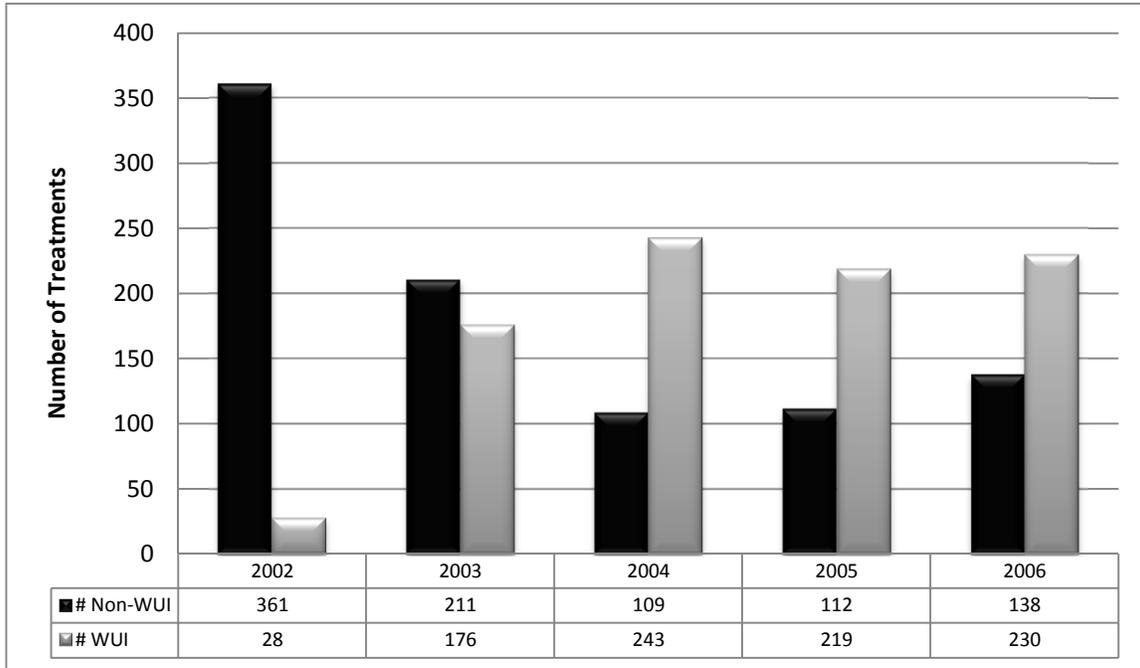
### 2002-2006



# SOUTHEAST REGION

## Treatments

### 2002-2006

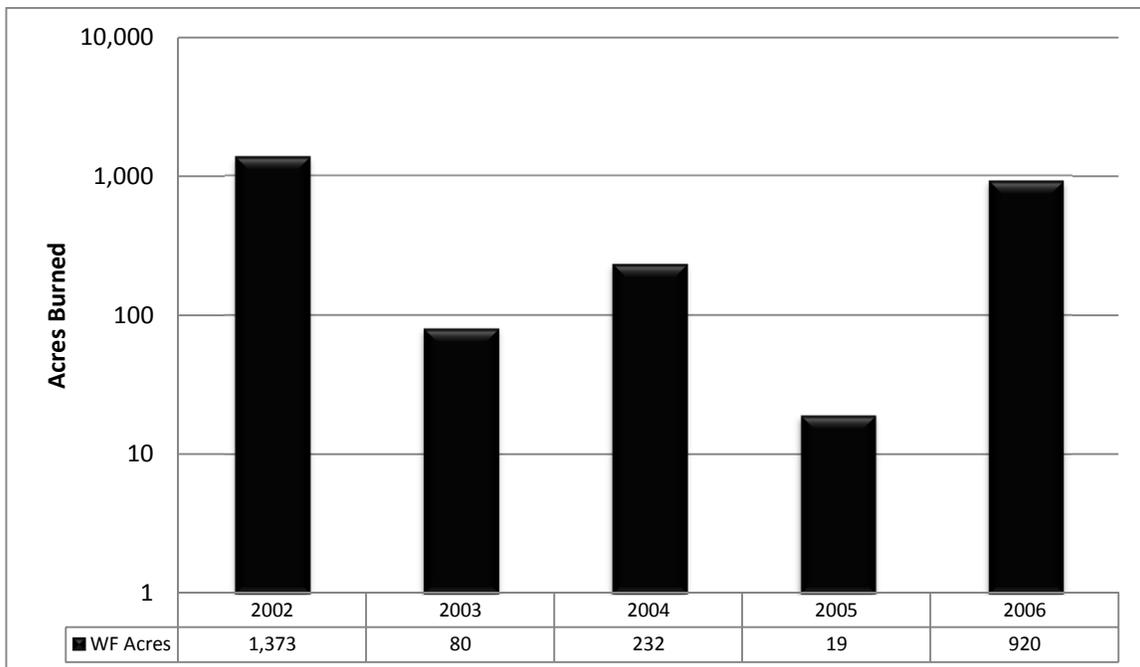
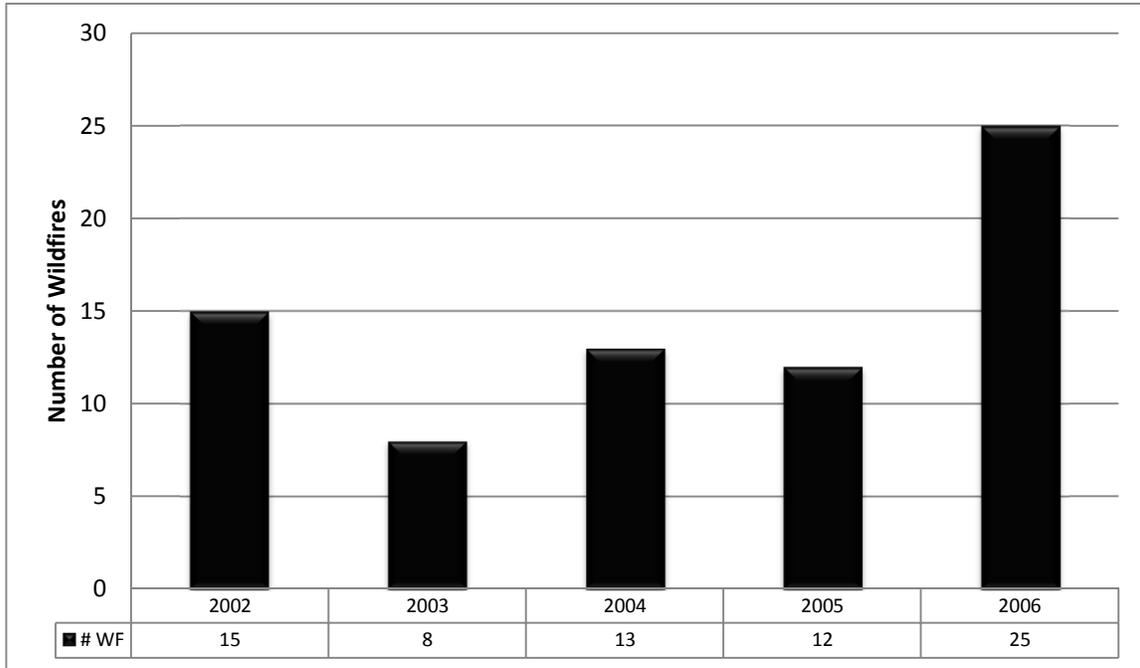


WUI = Wildland Urban Interface

# NORTHEAST REGION

## Wildfires

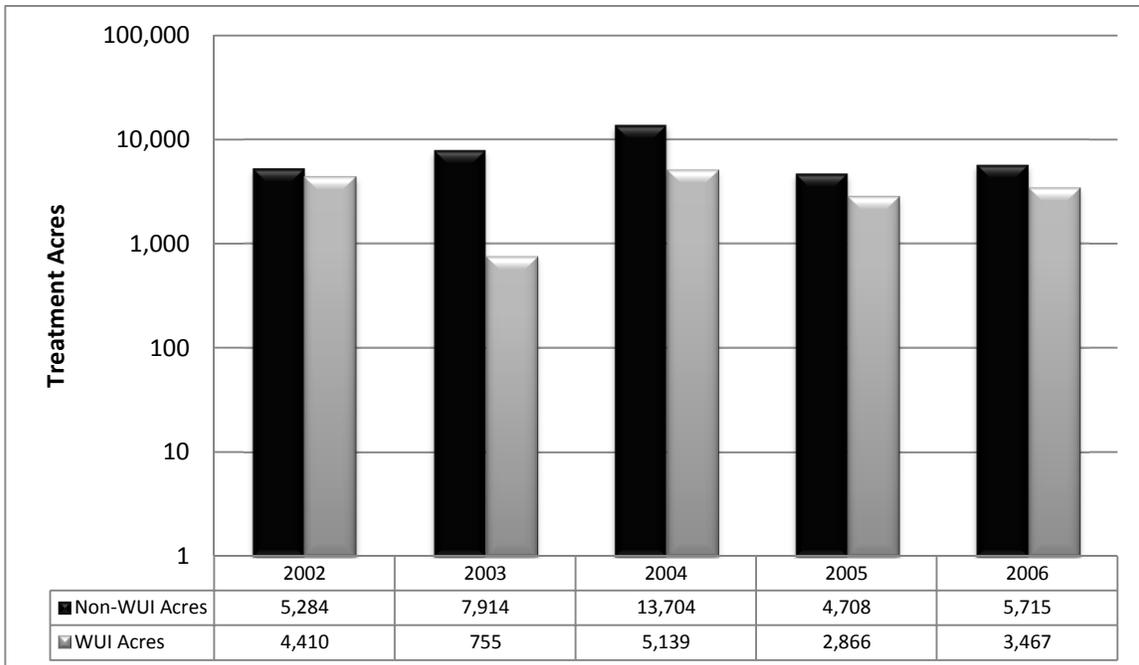
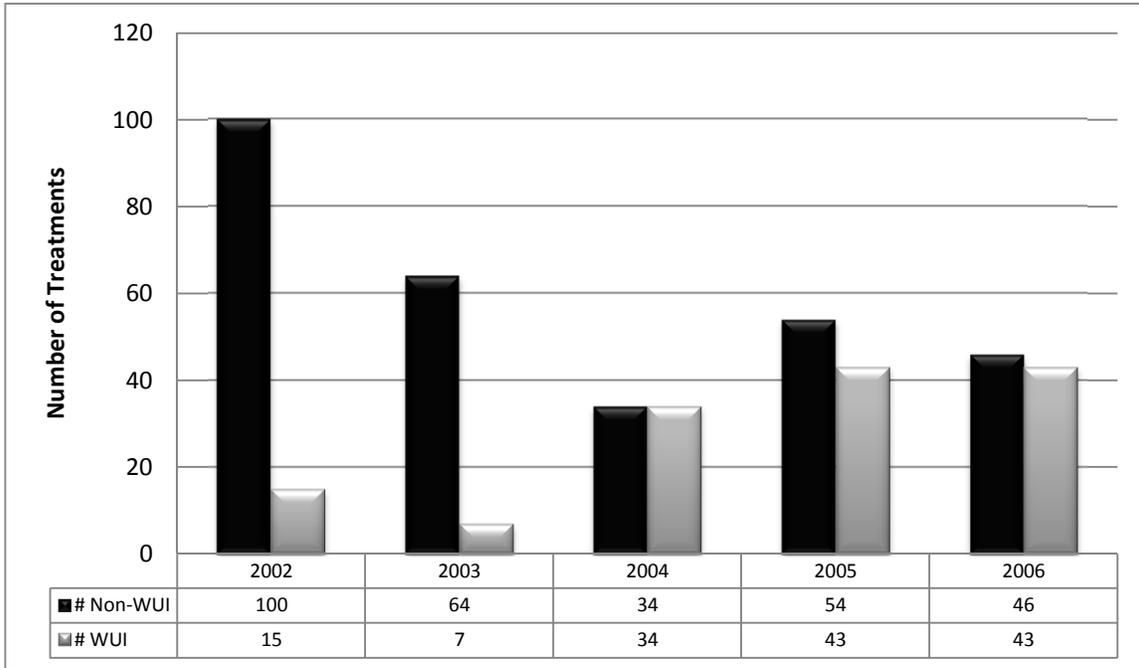
### 2002-2006



# NORTHEAST REGION

## Treatments

### 2002-2006

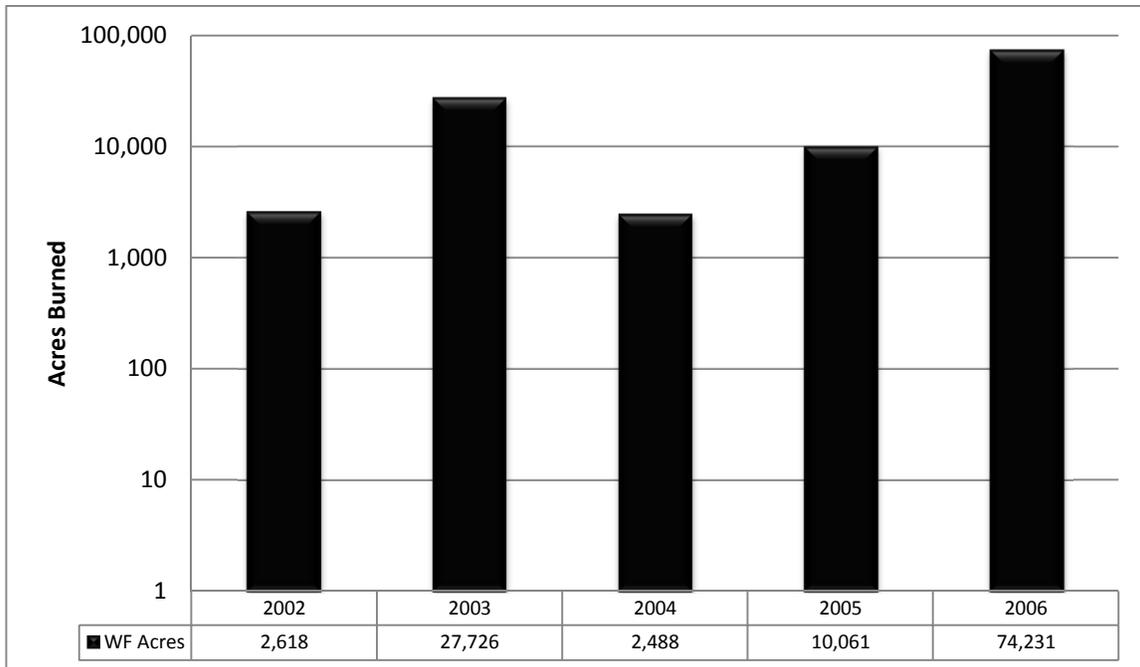
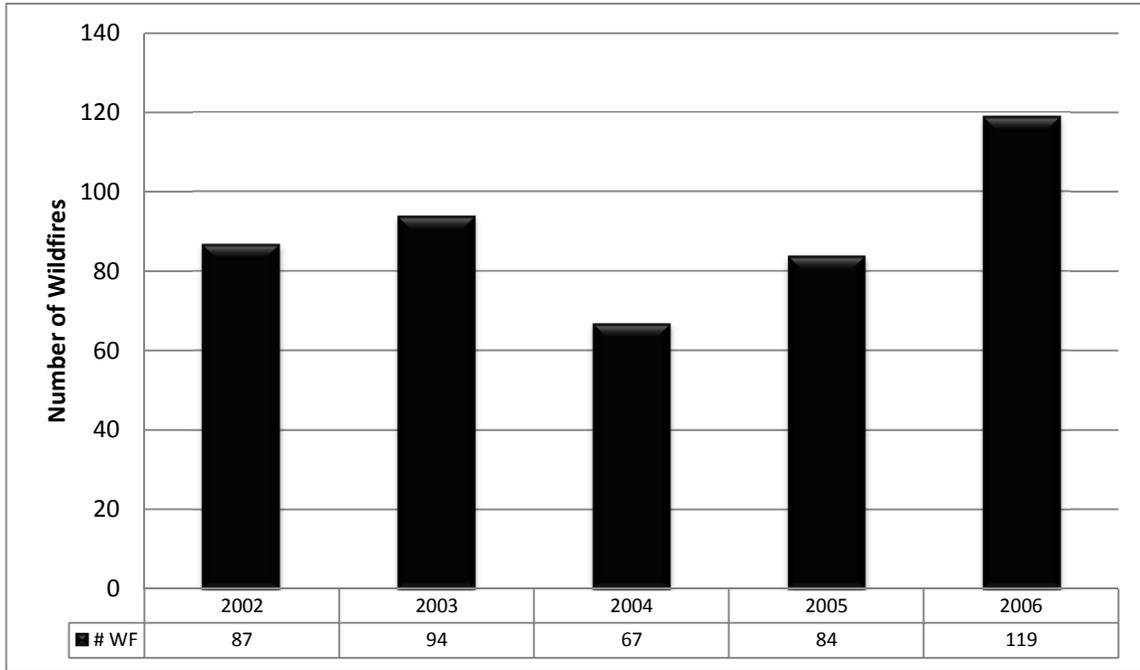


WUI = Wildland Urban Interface

# MOUNTAIN - PRAIRIE REGION

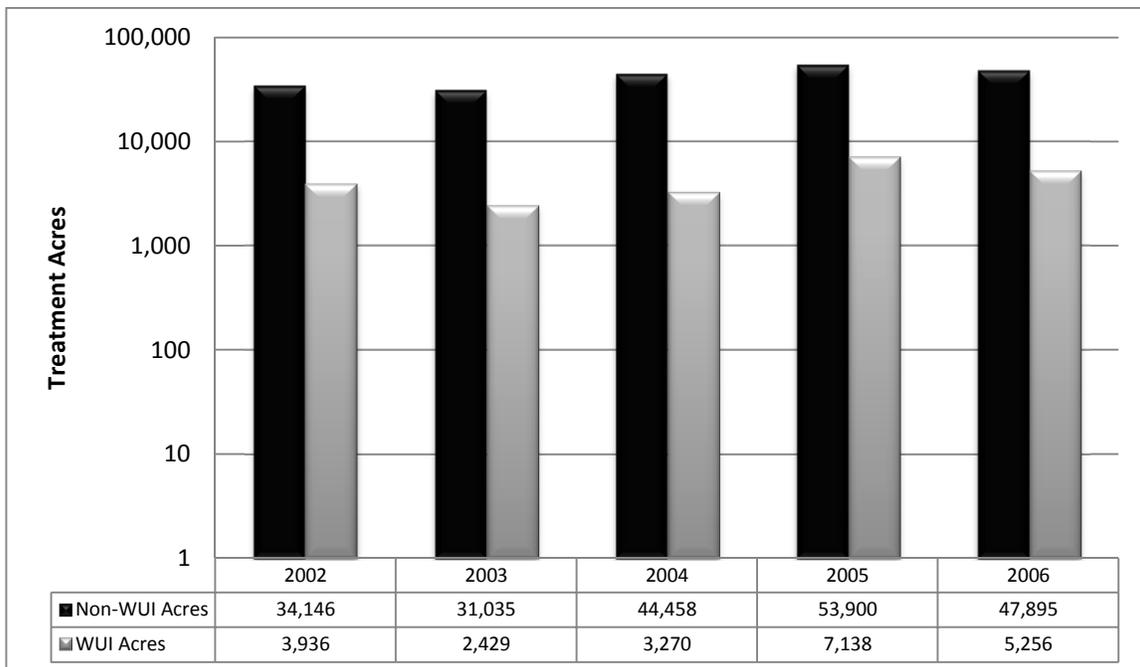
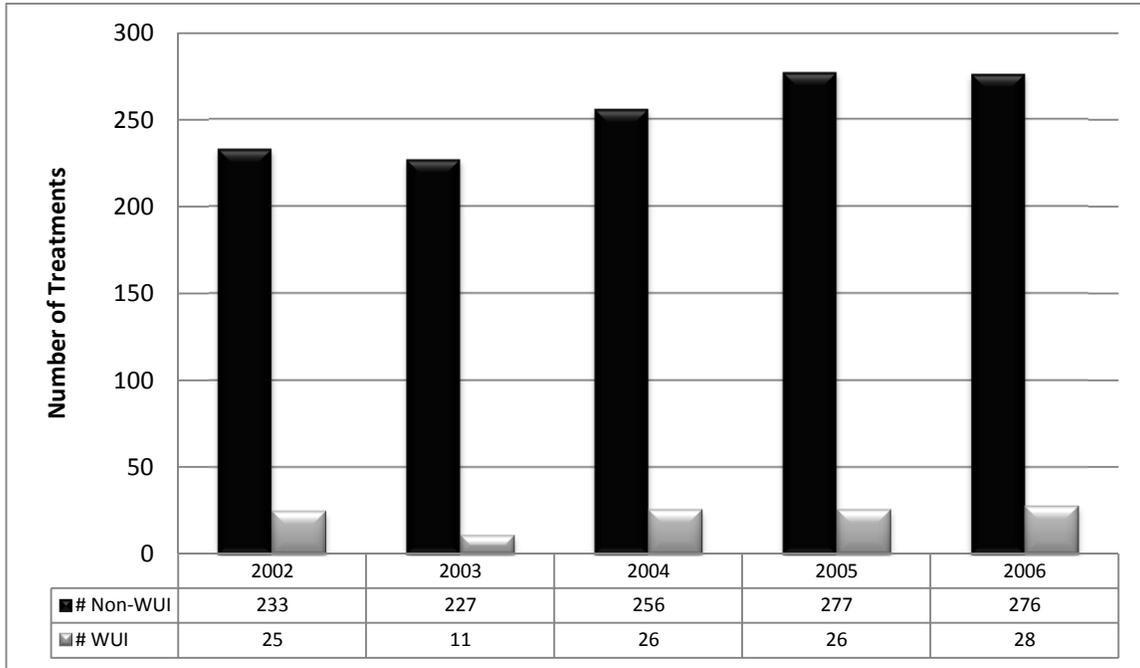
## Wildfires

### 2002-2006



# MOUNTAIN - PRAIRIE REGION

## Treatments 2002-2006

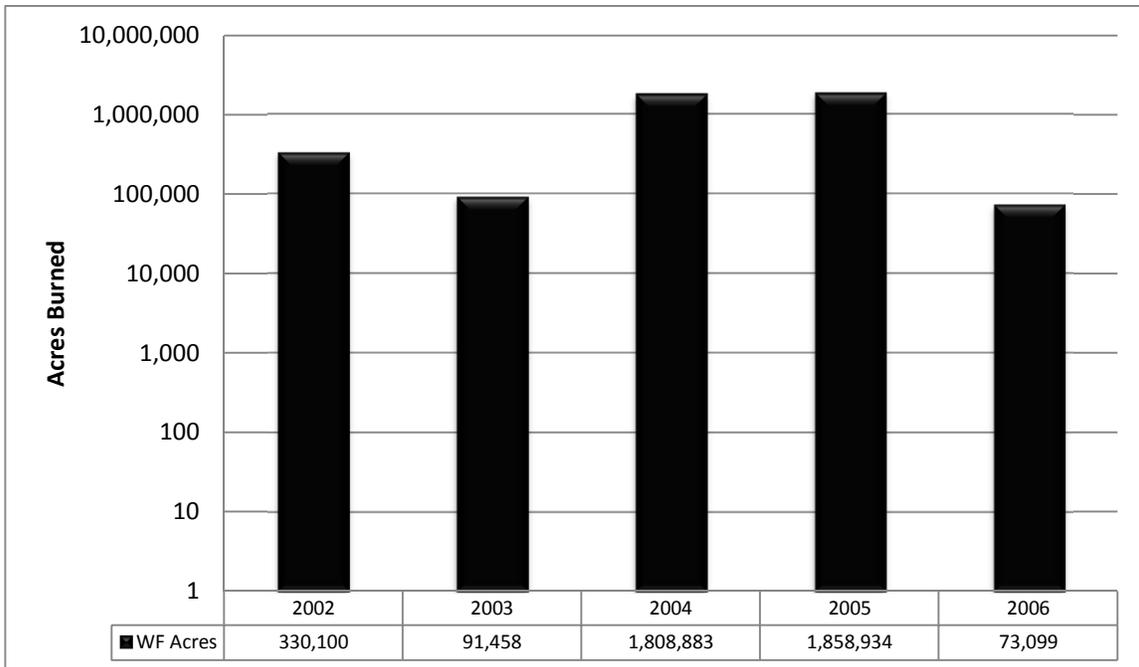
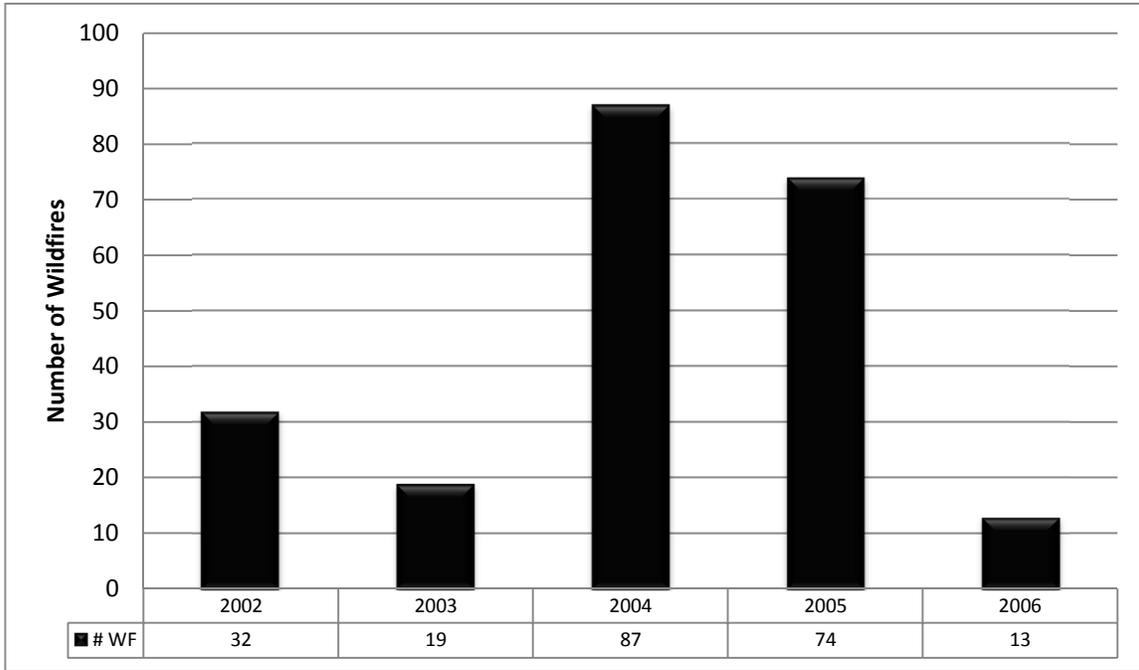


WUI = Wildland Urban Interface

# ALASKA REGION

## Wildfires

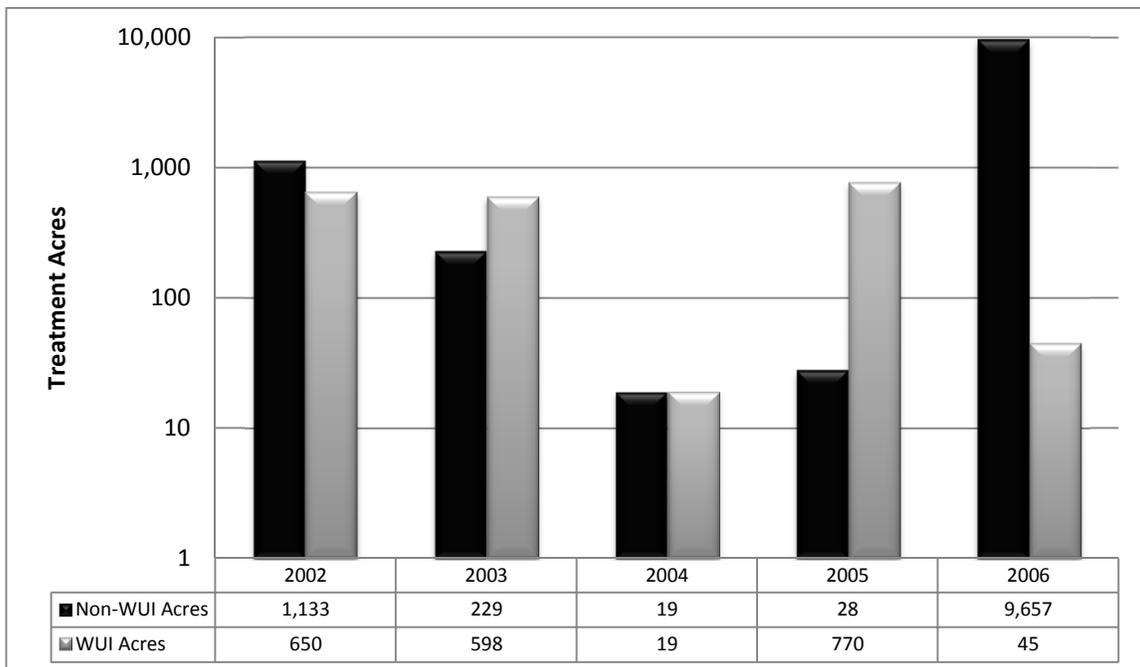
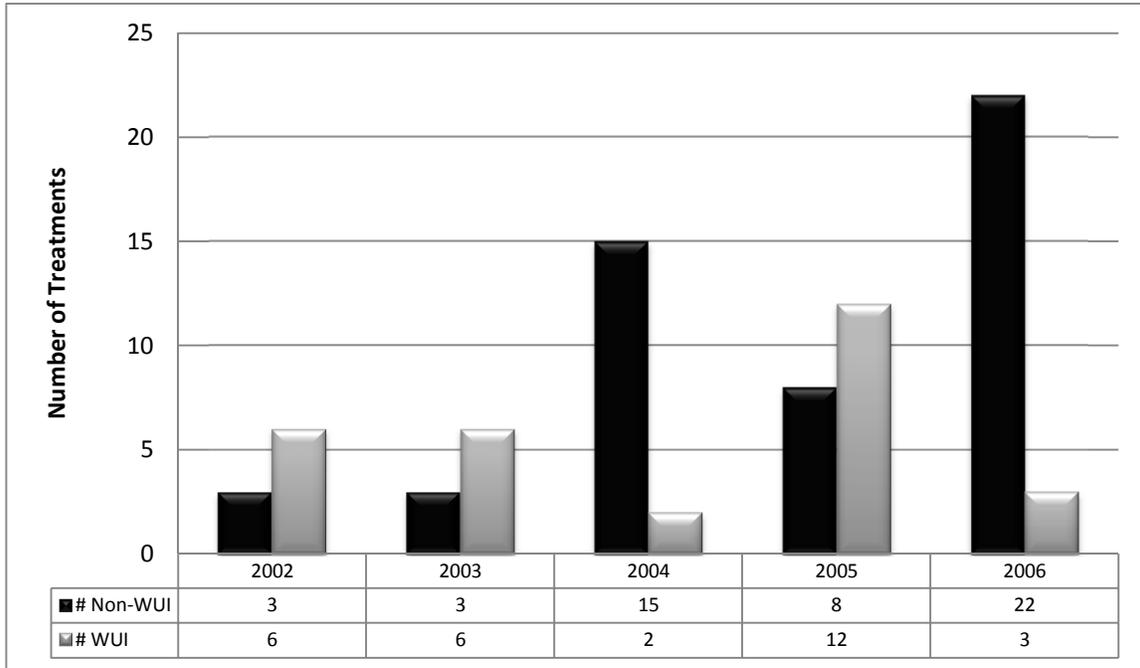
### 2002-2006



# ALASKA REGION

## Treatments

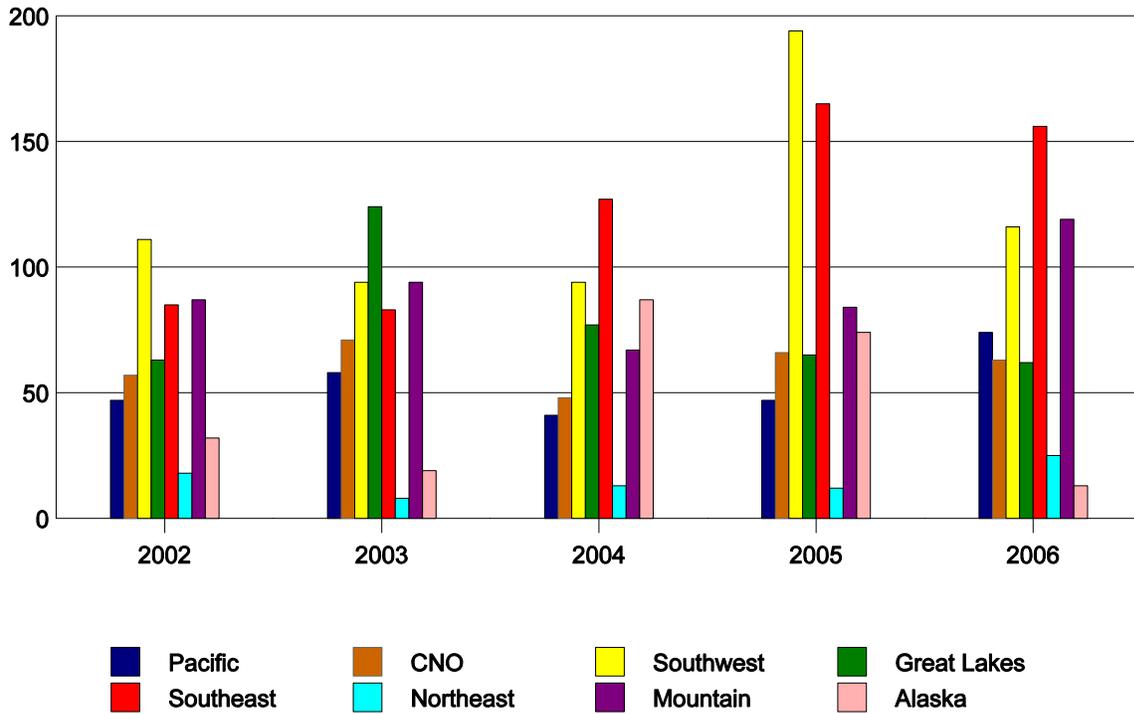
### 2002-2006



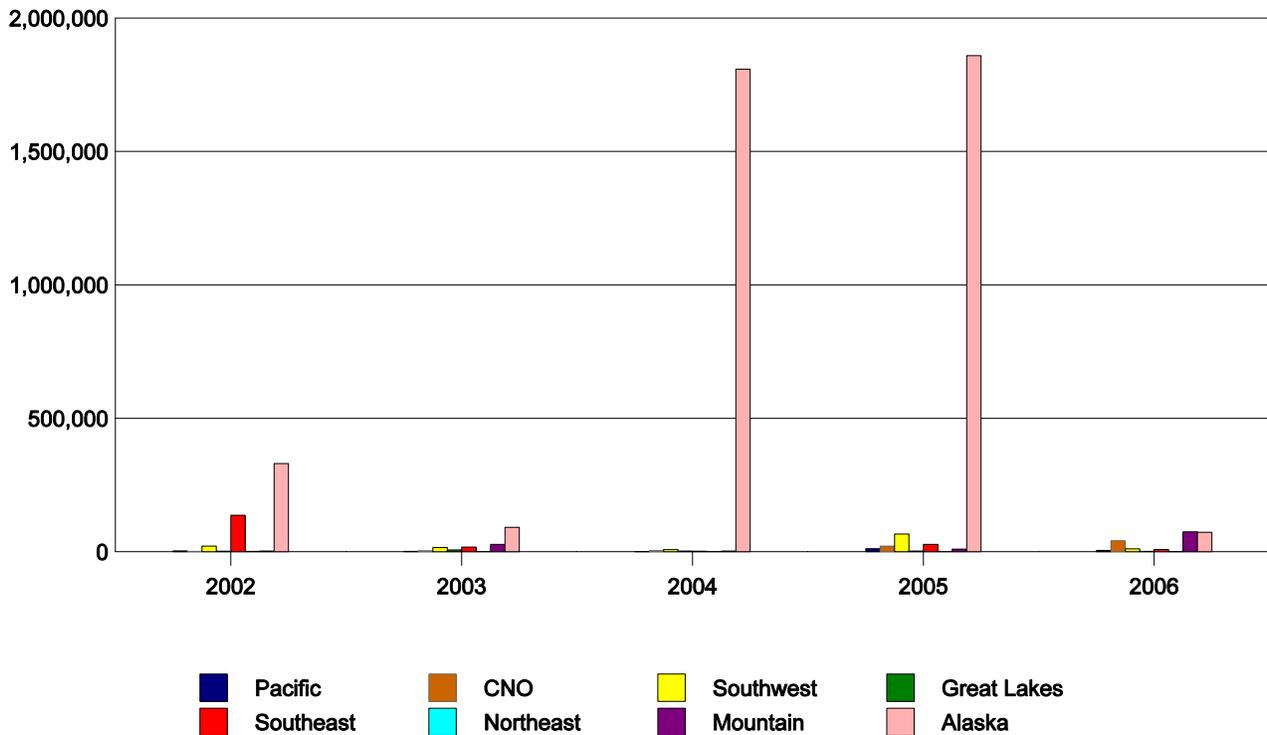
WUI = Wildland Urban Interface

# WILDFIRES 2002 - 2006

## Number of Wildfires

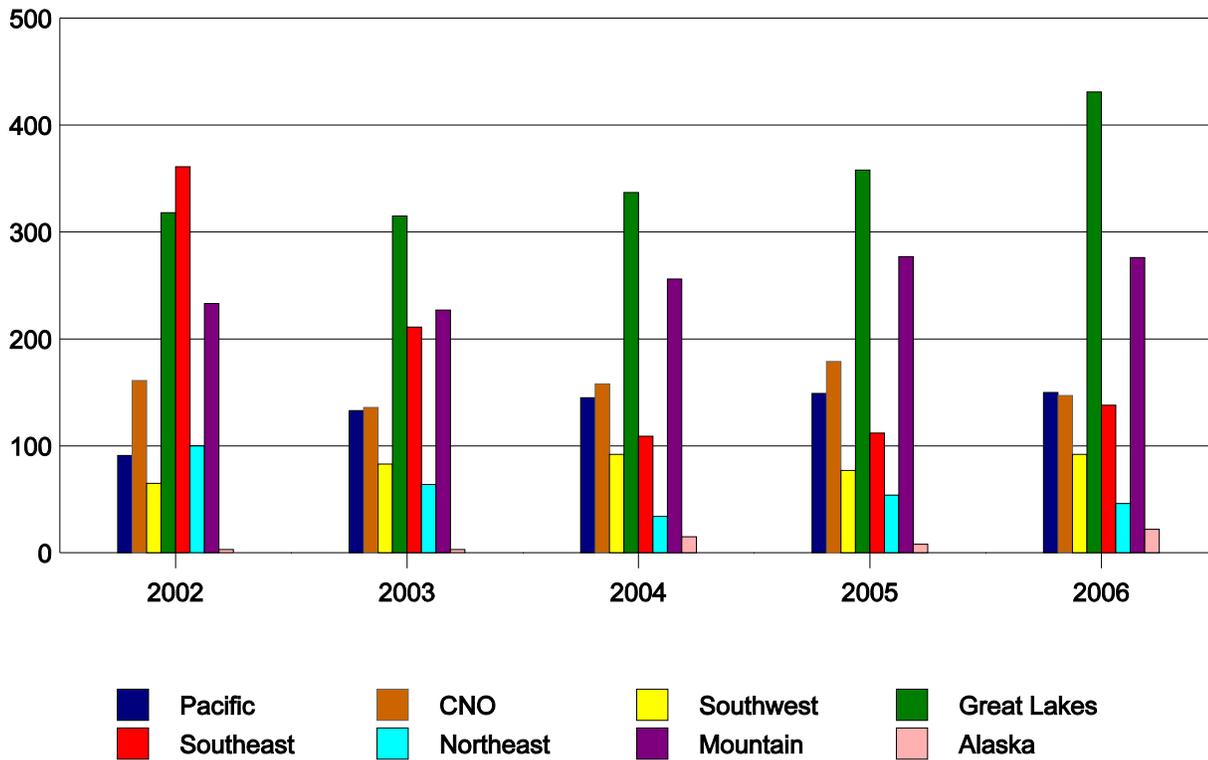


## Number of Acres Burned

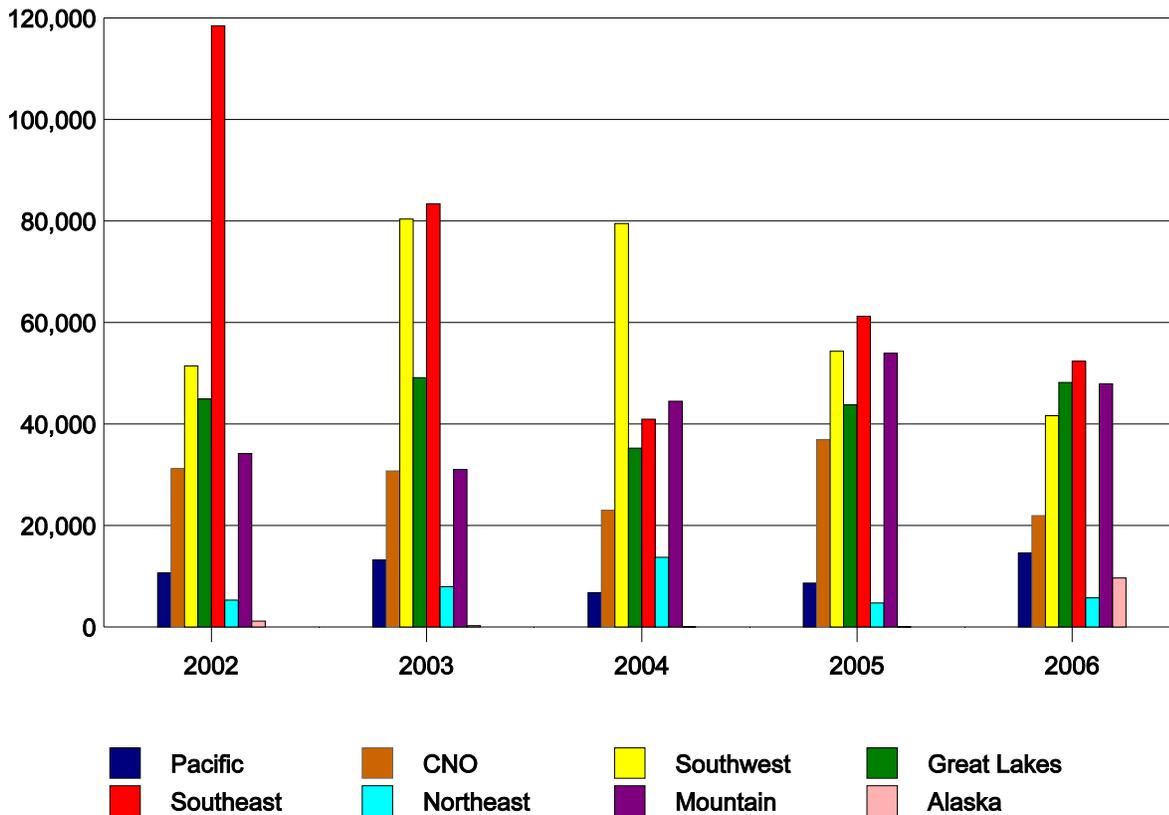


# NON-WUI TREATMENTS 2002 - 2006

## Number of Treatments

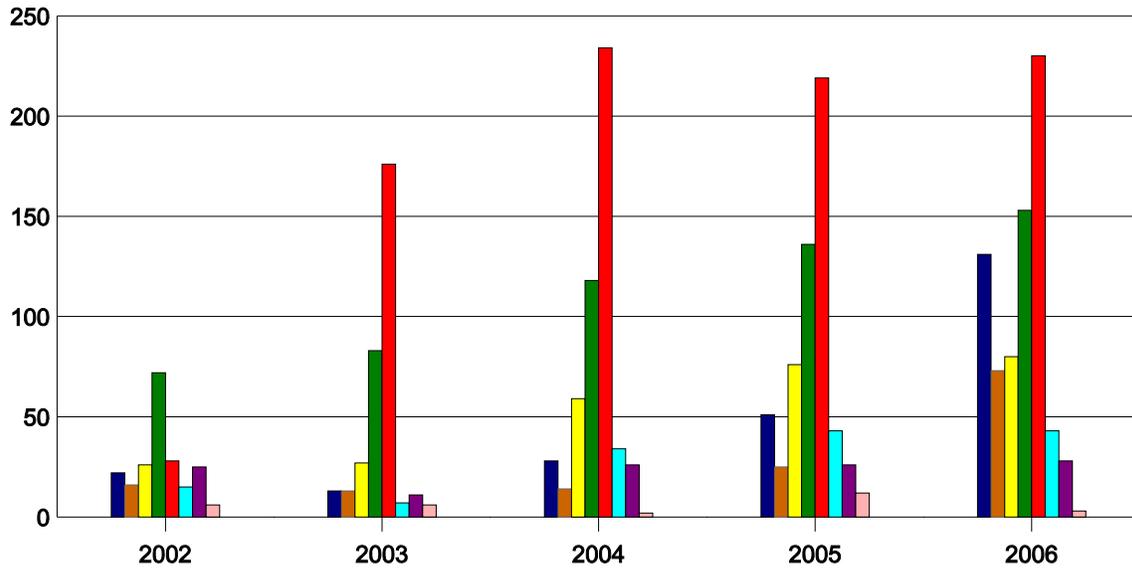


## Number of Acres Treated

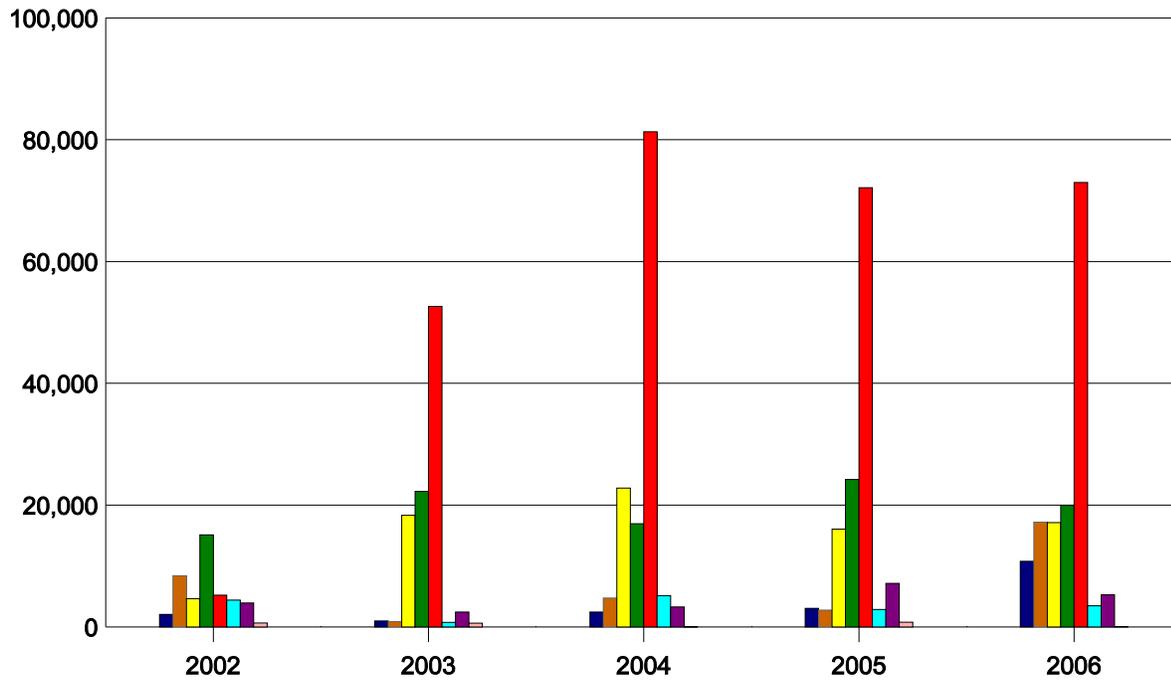


# WUI TREATMENTS 2002 - 2006

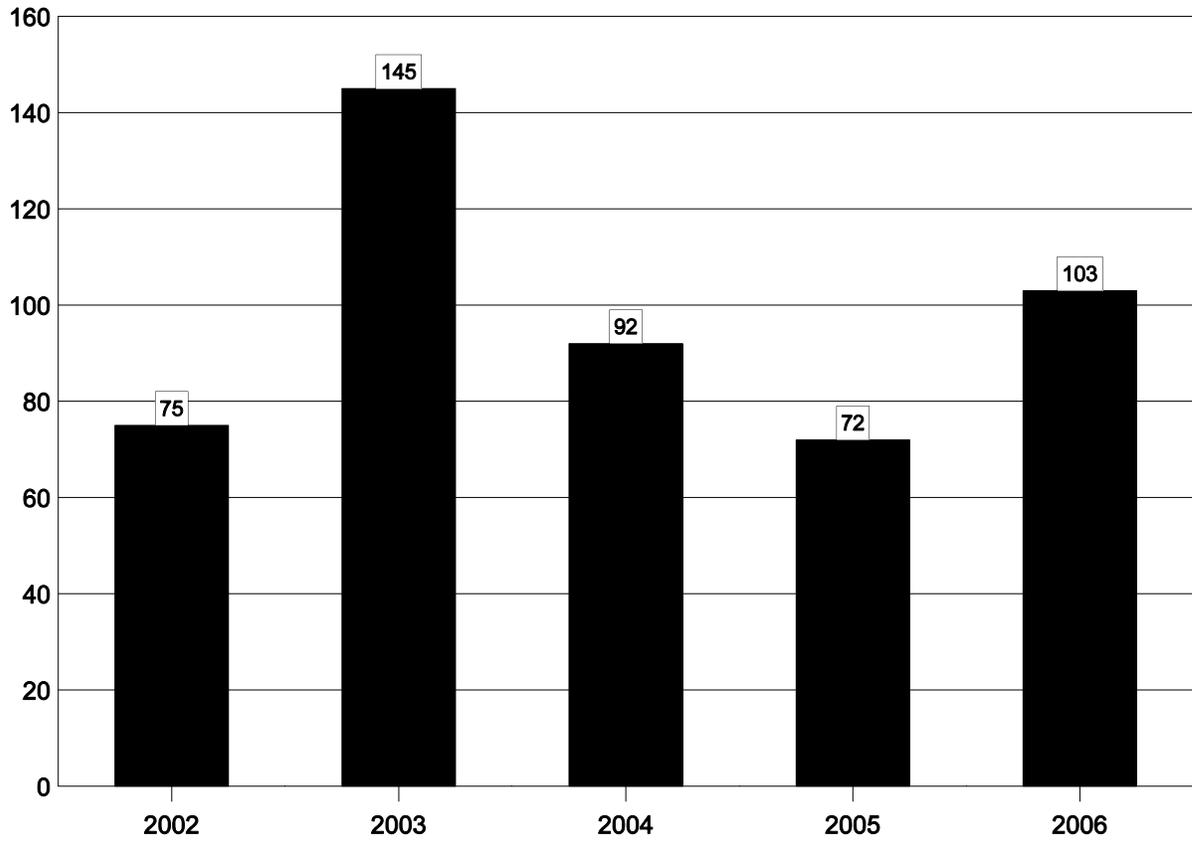
## Number of Treatments



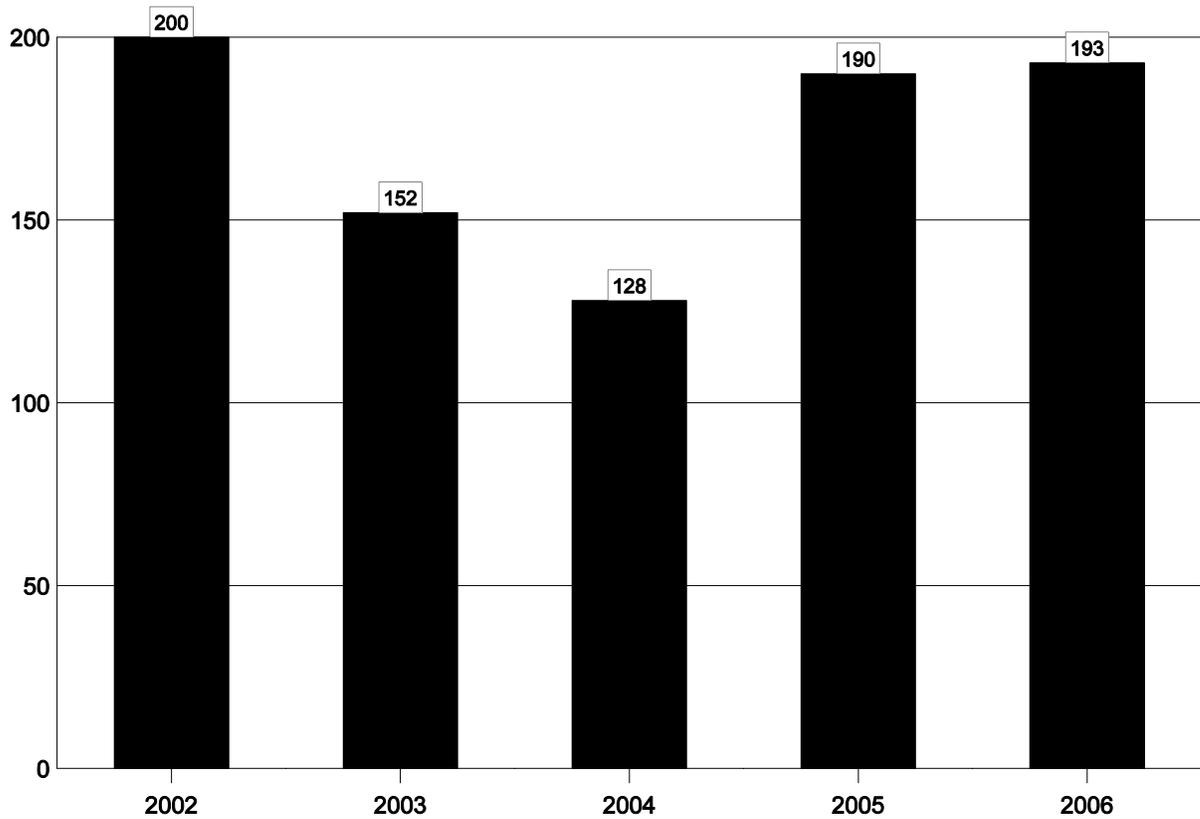
## Number of Acres Treated



## FALSE ALARMS 2002 - 2006

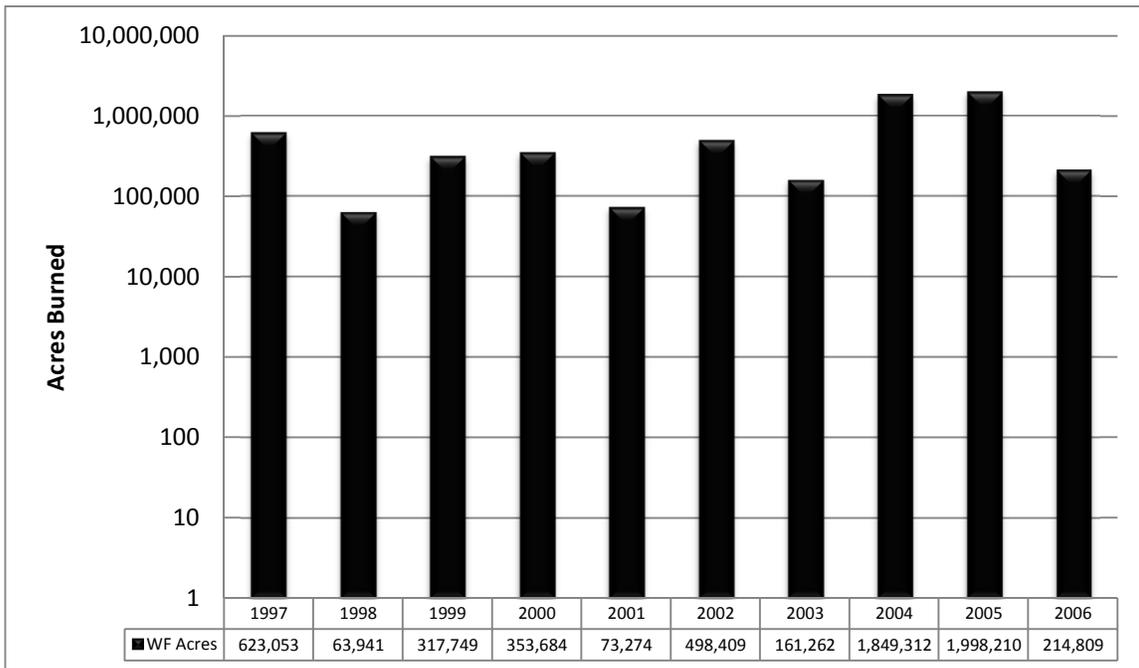
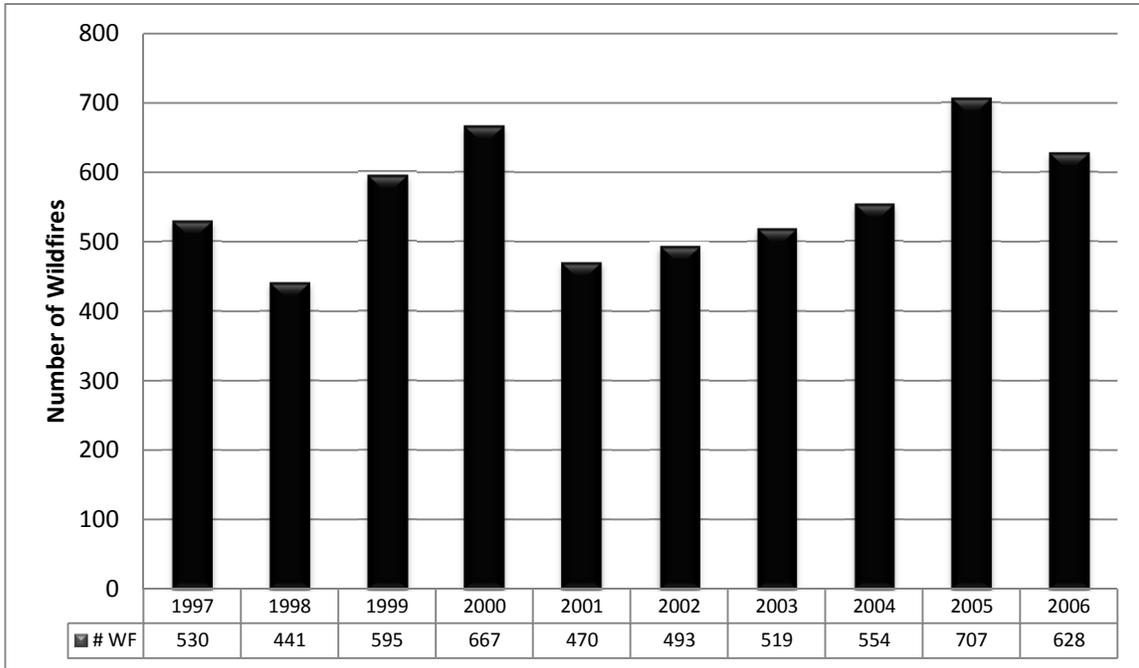


## SUPPORT ACTIONS



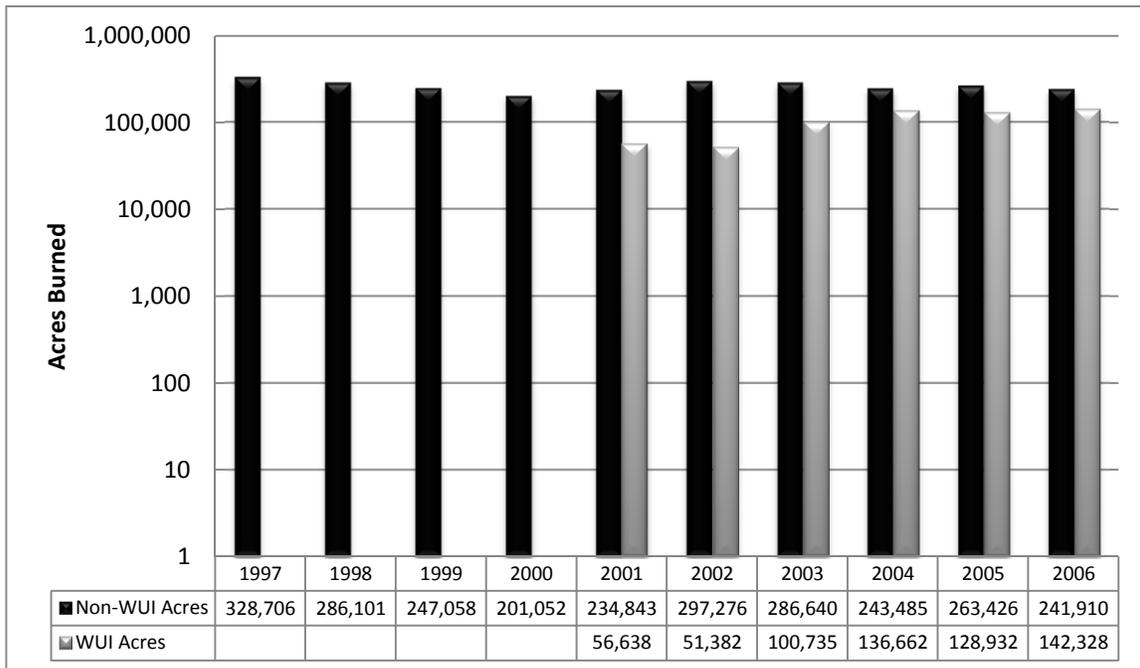
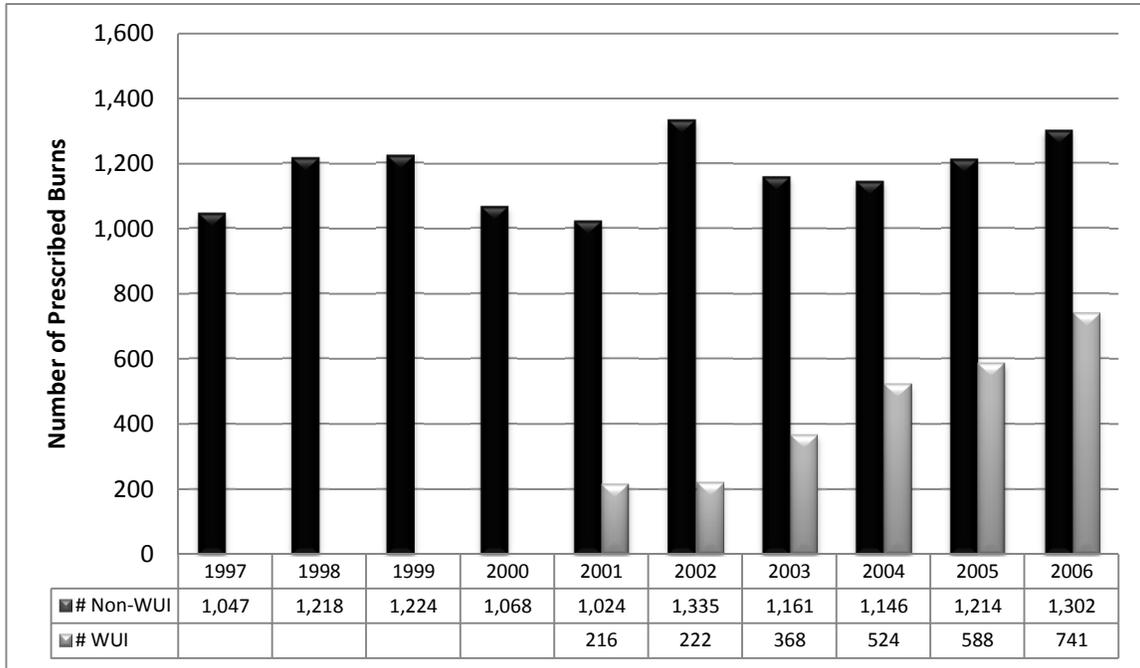
# WILDFIRES

## 1997 - 2006



# TREATMENTS

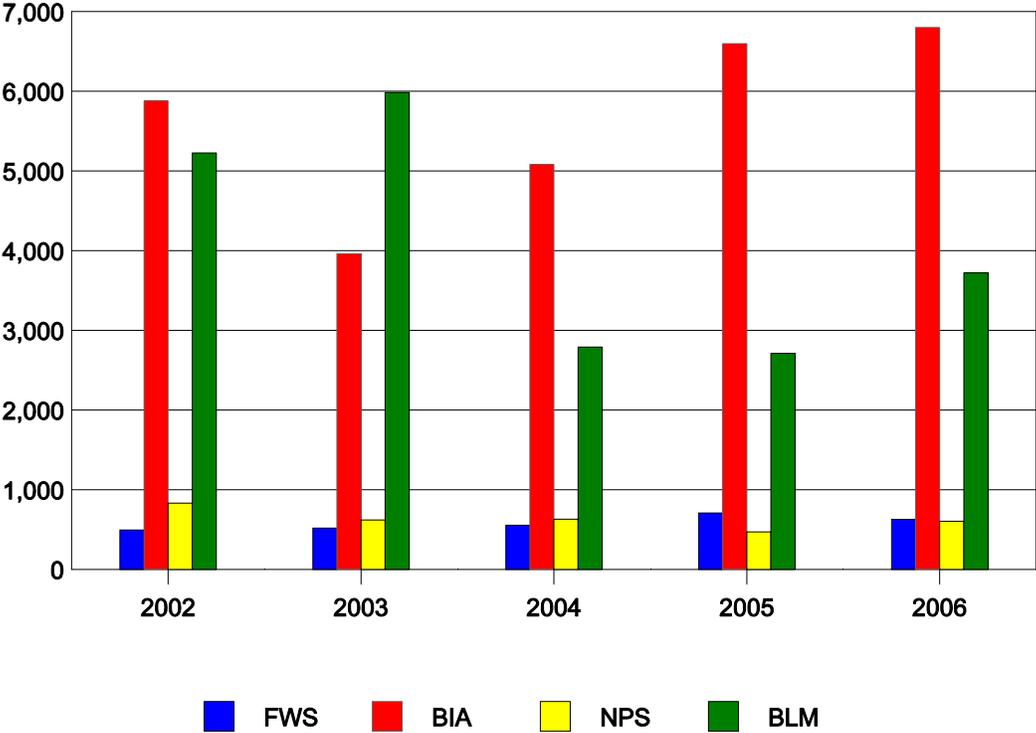
## 1997 - 2006



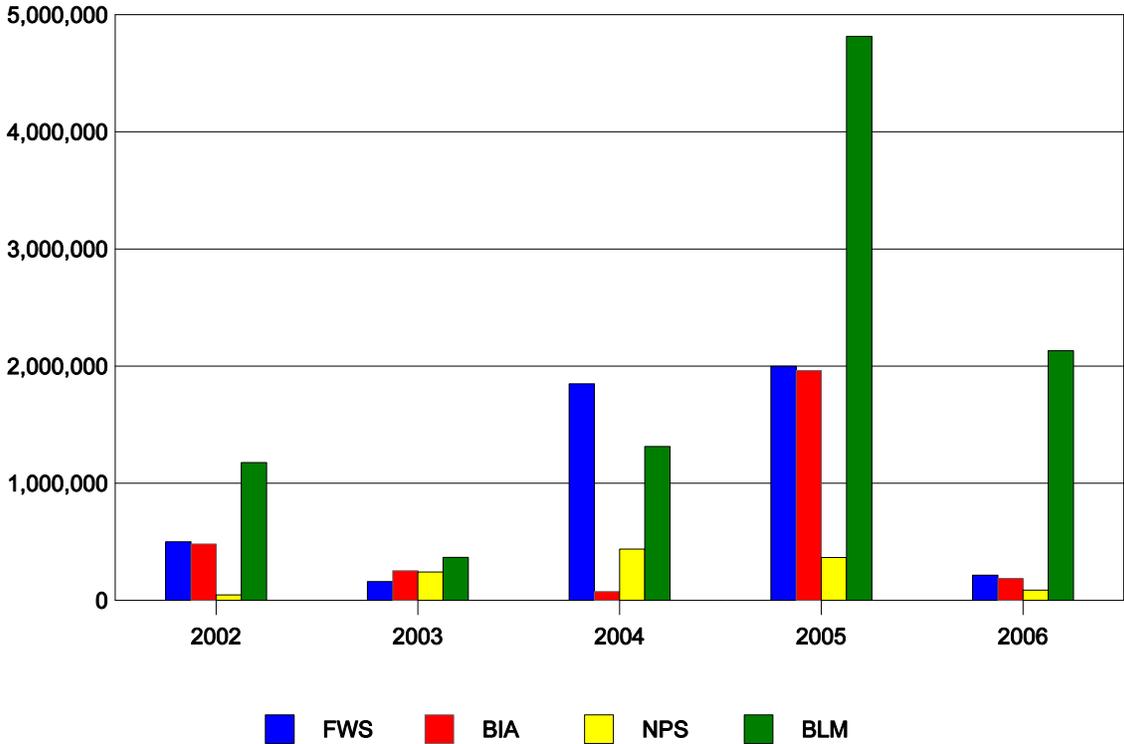
WUI = Wildland Urban Interface

# DEPARTMENT OF THE INTERIOR 2002 - 2006

## Number of Wildfires

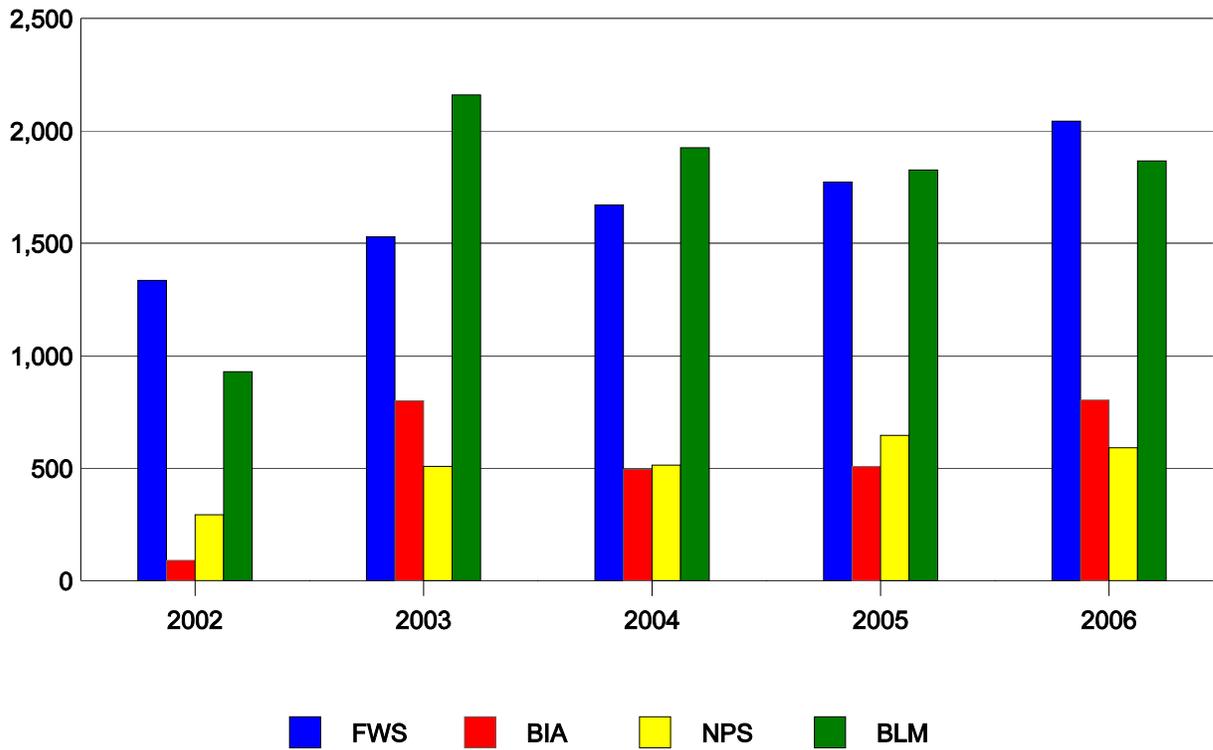


## Number of Acres Burned

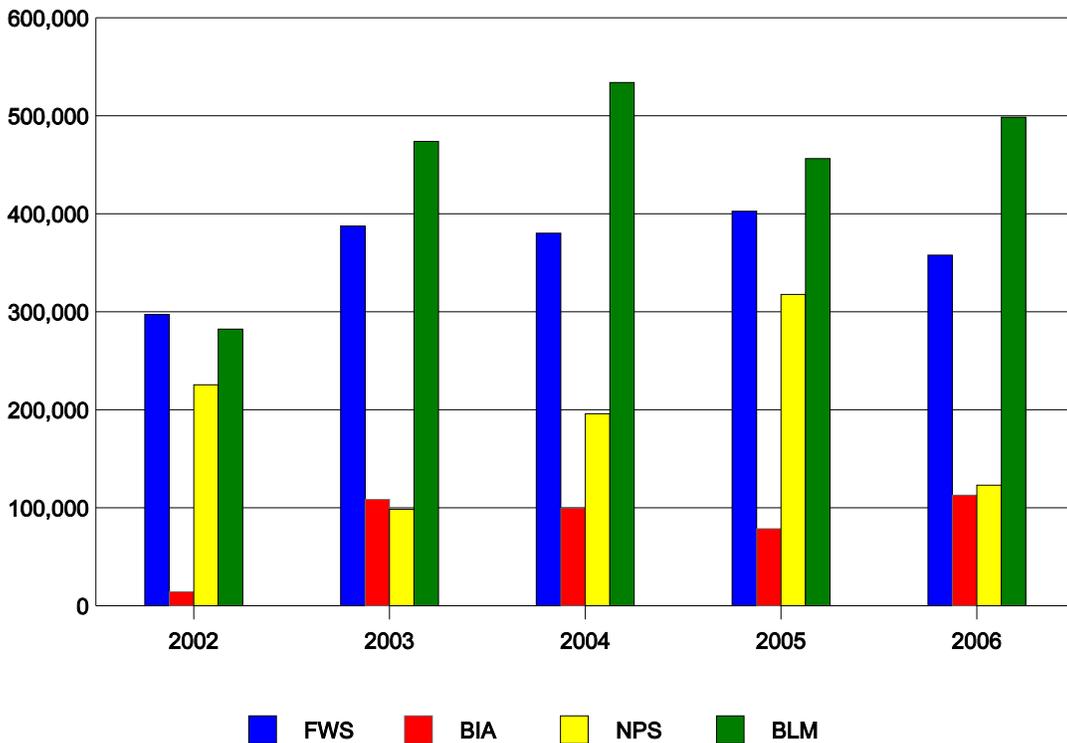


# DEPARTMENT OF THE INTERIOR 2002- 2006

## Number of Treatments



## Acres Treated



Treatment statistics obtained from NFPORS