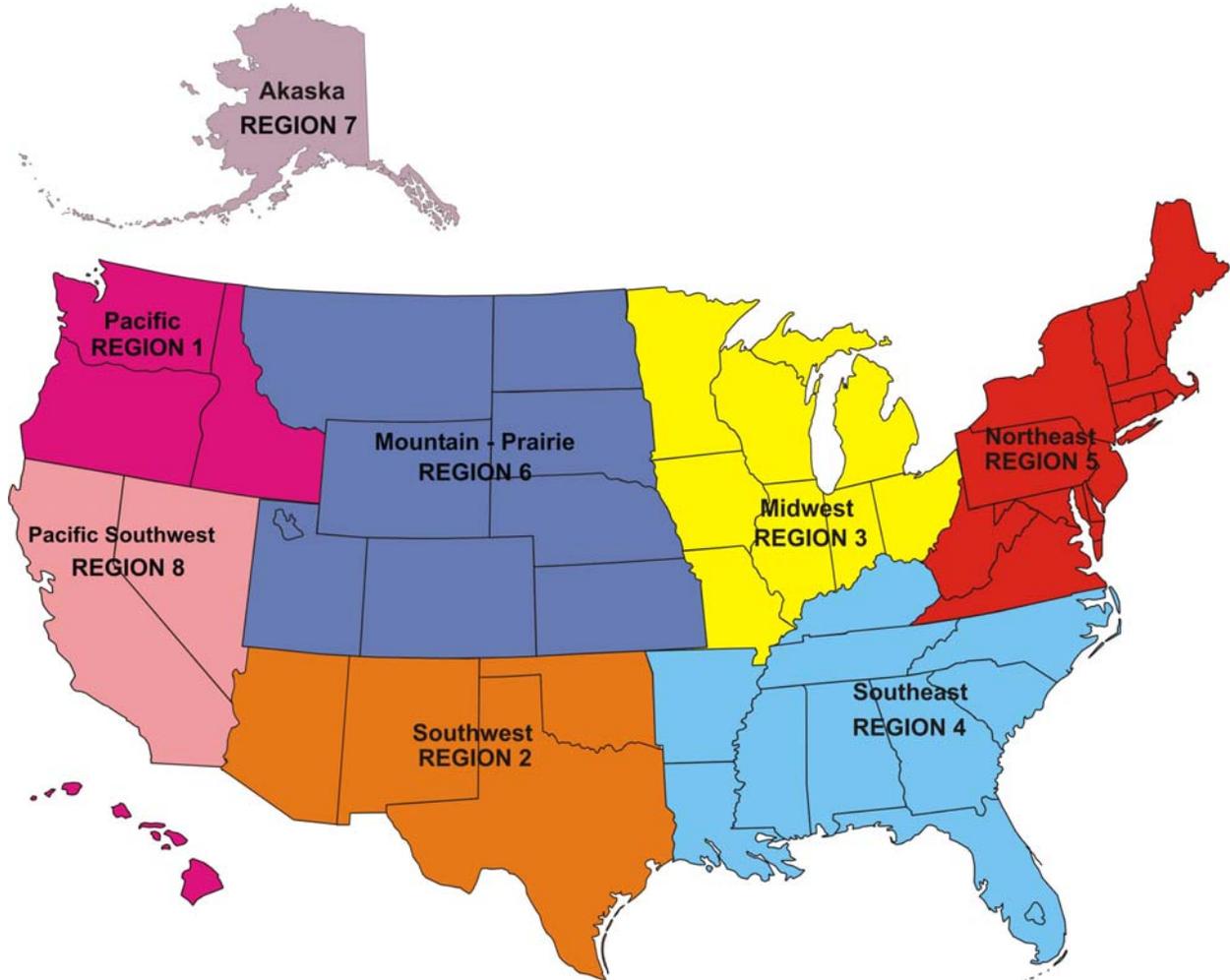


# U.S. Fish and Wildlife Service Fire Activity Report



2012

# US FISH & WILDLIFE SERVICE Regional Map



# TABLE OF CONTENTS

## 2012 Fire Statistics

Regional Map.....	i
Regional Activity Summaries	
Pacific.....	1
Southwest.....	5
Midwest.....	14
Southeast.....	16
Northeast.....	21
Mountain-Prairie.....	29
Alaska.....	34
Pacific Southwest.....	42
Wildfires	
Fire Activity Map.....	47
Number / Acres (graphs).....	48
By State.....	49
By Refuge	
Pacific.....	51
Southwest.....	52
Midwest.....	53
Southeast.....	54
Northeast.....	56
Mountain-Prairie.....	57
Alaska.....	58
Pacific Southwest.....	59
By Cause.....	60
By Size Class.....	60
Treatments (Non-WUI)	
Activity Map.....	61
Number / Acres (graphs).....	62
By State.....	63
By Refuge	
Pacific.....	65
Southwest.....	66
Midwest.....	67

Southeast.....	68
Northeast.....	69
Mountain-Prairie.....	70
Alaska.....	72
Pacific Southwest.....	73
<b>Wildland-Urban Interface Treatments</b>	
Activity Map.....	74
Number / Acres (graphs).....	75
By State.....	76
By Refuge	
Pacific.....	78
Southwest.....	79
Midwest.....	80
Southeast.....	82
Northeast.....	83
Mountain-Prairie.....	84
Alaska.....	85
Pacific Southwest.....	86
<b>2007 - 2011 Statistics (graphs)</b>	
Pacific.....	87
Southwest.....	89
Midwest.....	91
Southeast.....	93
Northeast.....	95
Mountain-Prairie.....	97
Alaska.....	99
Pacific Southwest.....	101
<b>2002 – 2011 Statistics (graphs)</b>	
Wildfires.....	103
Treatments.....	104

## Region 1 - Pacific Northwest



*The Blitzen River reflects the Miller Homestead Fire burning onto Malheur NWR on July 12, 2012*

### **General Overview**

Region 1 experienced an average fire season having similar initial attack and large fires in comparison to the 10-year average on refuge lands in Pacific Northwest, Great Basin, and Pacific Islands.

#### ***Leadership/Workforce Planning***

Regional Leadership, Project Leaders, and Fire Managers continue working together to implement and evolve the Regional fire management workforce to meet the mission of the Service and provide an efficient and professional fire management organization. The Region has

completed its first phase of restructuring its staffing levels and will now implement a second phase as a result of the further declining fire budget. Adaptable will remain key as the

Region continues its effort to meet the programs organizational principles. These efforts, along with minimizing fixed costs allow the Region to continue to provide fire and fuels management capacity at high priority areas.

#### ***Looking ahead***

In 2013 the Region will continue to implement workforce planning and

focus efforts on supporting the firefighter at the ground level. As hazardous fuels dollars continue to decline partnerships and service first opportunities will be pursued to maintain these programs. The fire management program will also continue to develop fuel treatment priorities with existing fire programs, strengthen collaboration with Federal, State, and private partners, and remain dedicated to firefighter and public safety.

## **PERSONNEL**

Regional fire leadership continued to emphasize the importance of firefighter safety and career development through routine conference calls, site visits, preparedness reviews, and participation in station led fireline refreshers.

A Fire Management Specialist position was established and filled for the Pacific Islands. This position is fundamental for local coordination and cooperation with NPS, DOD, DOFA and other partners as climate change and invasive species continue to heavily impact the fire activity in this eco-Region.

The Region continued funding and supervising the chief meteorologist position at the Northwest Coordination Center (NWCC) in Portland, Oregon. This position has been a benefit to all of the wildland

fire organizations in Washington and Oregon.

Region 1 refuges continued to be very active participants in Interagency Dispatch Offices throughout the Region. The Region assisted in staffing or funding eight dispatch locations in Washington, Idaho, and Oregon.

Region 1 personnel continued to actively participate on numerous Service fire related working groups, committees, and teams. Fire staff also serves on the Pacific NW Coordinating Group, Great Basin Coordinating Group, and the Big Island Coordinating Group.

As part of the interagency and Service responsibility to these groups, individuals represent the Service through the following groups, as well as many local level working groups, teams, and committees:

- Aviation working team
- Fuels working team
- Operations working team
- Training working team
- Regional fire danger operating plan work group
- FPA working team
- GIS working team
- Fire environment working team
- WFDSS geo editor work group
- Washington geographic board
- Oregon geographic board

- Evolving Incident Management (EIM) Steering Committee
- Westwide Risk Assessment team (WWA)
- Regional Cohesive Strategy Steering Committee (RSC),

## **WILDLAND FIRE MANAGEMENT**

Firefighters did an excellent job managing/containing 34 initial attack fires on refuge lands and preventing 36 threat fires from burning onto refuge lands. Four large fires burned on refuge lands, the most significant was Miller Homestead on Malheur NWR. This fire as well as several others in the Basin may have significant management impacts related to protection of Sage Grouse habitat. In addition to managing and responding to fires locally, FWS provided interagency assistance both in and out of the Region.

Region 1 personnel filled critical positions (FBAN, LTAN, OSC2, LSC2, SOF2, two ICT2's, and DIVS) on both National and Area IMT's. Resources were dispatched to multiple fires in Washington and Oregon as well as the southwest and southern areas. Beyond IMT members; the Region provided single resources, engines for long-term initial attack response and large fire support in the PNW and two other geographic areas, and provided crew members to fill out Type 1 and Type II IA crews.

## ***ES/BAR***

The ES/BAR program successfully competed for fourth quarter funds for rehabilitation efforts at Mid-Columbia River NWRC and Malheur NWR. A BAR plan was completed for Steigerwald Lake NWR but was unfunded in first quarter FY13 due to lack of available funds. Effective rehabilitation treatments continued at Minidoka NWR.

## **FUELS MANAGEMENT**

Through the use of prescribed fire, mechanical, and chemical treatments the Region worked with cooperating agencies to reduce hazardous fuels on Service and adjacent lands.

Hazardous fuels reduction (HFR) accomplishments for Oregon, Washington, Idaho, and the Pacific Islands totaled 6,330 acres in the Wildland Urban Interface (WUI), with a total of 7,926 HFR acres being treated. The Regional fuels program continues to rely on the flexibility of fire programs across the Region and stations willingness to share resources to meet refuge objectives.

Resources traveled to R3 to assist with prescribed fire application for prairie chicken habitat in Minnesota.

## TRAINING

Regional personnel remained active cadre members for various training courses including; Regional Fire Effects Monitoring Workshop “FFI basics”, S-520/S-620 development, S-482, S-495, S-590, Fire Management Leadership, and numerous 200/300 level local area courses.

### *Firefighter Safety*

The 2012 firefighter safety and operations workshop was highlighted by a Staff Ride to the Thirty Mile Fire. The fire occurred on the Wenatchee National Forest, taking the lives of four firefighters in 2001. This experience was an excellent learning opportunity for the Regions fire fighters and fire managers to examine contributing factors with individuals who were directly involved with decisions made on the Thirty Mile fire ten years earlier. The workshop also allowed an opportunity for the Regions fire staff to camp out and grow together, focus on our mission, and support each other during a period of uncertainty within the program.

## PLANNING

A fire danger operating plan was completed and successfully implemented for the 2012 fire season at Mid-Columbia River

NWRC. This plan can be found online on the [Northwest Coordination Center website](#). Regional office staff participated in an interagency fire danger planning effort for northwest Oregon and initiated an interagency fire danger plan in northeast Washington.

Refuges continue to update and refine fire management plans to insure proper response to wildfires and effective use of hazardous fuels management project opportunities.

The Region continues to collect monitoring data for all hazardous fuels treatments, storing observations (fire behavior, smoke dispersal, weather, and consumption) in the FEAT and FIREMON Integrated database (FFI). Fuels treatment perimeters with attributed information (linking to NFPORS and FMIS) have been categorized into the FWS corporate GIS database. This second year of geospatial data collection will aid the Region in moving toward spatial inputs in the latest update of FMIS.

Eleven Remote Automated Weather Stations (RAWS) were upgraded and the service program for all 15 stations was moved from annual onsite maintenance (AOM) with FTS to the BLM depot factory exchange service (FES).

## Region 2 – Southwest



*Some of the Balcones Fire Module personnel, briefing for their next prescribed burn.*

### General Overview

Region 2 Refuges Fire Management Branch is responsible for FWS lands found in AZ, NM, TX, and OK that are currently organized into seven Fire Management Districts. Late in 2012 some organization opportunities were implemented. The Aransas Fire District was combined under the South Texas Fire District, through workforce planning to enhance program efficiencies. Due to anticipated budget shortfalls, the Region through attrition also began shifting some full-time FTE's into seasonal positions, to increase

workforce flexibility. The Region 2 Fire Branch filled their Regional Ecologist position with Ralph Godfrey, FMO from Wichita Mountains NWR. Jason Riggins was hired as the new FMO for the Oklahoma Fire District.

Although several Refuges experience large fires, wildfire activity in 2012 was generally moderate compared to the two prior record-breaking fire years. This was due to reduced severe-drought conditions and winds. Most of the wildfire activity was located in Oklahoma, East Texas and the Texas Gulf Coast. The entire Region however continued to

experience the effects of prolonged drought and temperature extremes.

This year a Spatial Fire Management Plan (SFMP) was developed as a demonstration project to cover all the National Wildlife Refuges and Fish Hatcheries in the NM Fire District. Originally an Australian concept, this was the first plan of its kind to be completed by any of the federal fire management agencies (BIA, BLM, NPS, USFS, and USFWS). An SFMP greatly reduced the amount of text within a plan, and provided a graphical format to visually help convey complex and interrelated fields of information. The goal of the SFMP was to have a meaningful and dynamic plan that can be used for planning across programs, and by Refuges and our Partners for Strategic Habitat Conservation.

The Fire Atlas project was further developed this year to include more Refuges in Oklahoma and Texas and through support from the Region 2 Inventory and Monitoring Program. A Fire Atlas documents the legacy of fire history — location, extent and frequency of fires across a landscape. The Fire Atlas was also adopted as a national standard by the FWS Inventory and Monitoring Program. The Fire Atlas will provide important baseline land-management information to help understand the role and affects that fire has on wildlife, their

habitats, and other ecological processes. In order to address this need, a comprehensive baseline fire atlas has been developed for many Refuges in Region 2, with the goal to have all Region 2 Refuges with significant fire activity completed by 2015.

## **Personnel**

The Region 2 Fire Branch is led by Loren DeRosear the Regional FMO and Mark Kaib, the Deputy FMO. Butch Wilson is the Prescribed Fire Coordinator and Ryan Whiteaker, the Fire Planner. Kari Gromatsky is the Fire Geospatial Coordinator and Ralph Godfrey the Fire Ecologist. Mary Blake and Nancy Cunningham complete the Regional fire team, as the Fire Budget Lead and Administrative Assistant respectively.

## ***Workforce Planning***

Workforce planning was initiated in the Region due to the declining budget and ongoing budget concerns. The Regional Deputy FMO helped lead this process which began in 2011. Strategies and organizations were derived from two planning meetings where ideas were solicited from a variety of Refuge employees involved with fire management. The initial scoping occurred at the annual Refuges Fire Management Workshop held in South Texas, where break-out groups were tasked with developing more efficient strategies and

organizations related to specific topics (e.g., hiring, recruitment and retention, prescribed fire habitat funding and support, and fire organizations and operations). These groups included Refuge Supervisors, Project Leaders, Managers, Regional Office Staff, and Fire District leadership. Suggestions from these groups were further assessed at a smaller workforce planning meeting attended by leadership from all fire districts. This workshop included most District Fire Management Officers and the Deputy RFMCO. Suggestions from the breakout groups were analyzed at this meeting in context of Regional and fire district data including patterns of workforce grade levels, organizational staffing, and major workload points related to prescribed fire, seasonality, wildfire activity, habitat needs, and district complexities.

A working workforce plan has been drafted from the findings at these meetings. This plan provides strategies and organizations that can be implemented immediately to provide budgetary cost-saving efficiencies. Additionally, several potential new organizations were outlined that with further budget cuts should enable the Region to continue core fire management responsibilities while providing cost savings. All Refuge Fire Management staff have been considering and implementing these strategies and organizations where appropriate to inform more

efficient fiscal management within their Fire Districts. This workforce plan will be further developed to incorporate new FY 2013/2014 budget changes and National Fire Management branch workforce planning guidance. As a working plan it will be used to inform Regional workforce planning for the fire management program over the next couple years as needed

### **Wildland Fire Management**

In 2012 the Southwest Region and the Southwest Area of the United States experienced a less severe fire season than in 2011, due to less-arid conditions and fewer winds. Drought and warmer than normal climate conditions still persisted, but the strong winds were not present in 2012, which helped moderate most fire conditions. The extreme drought conditions experienced in Texas in 2011 also moderated considerably.

Region 2 fire management crews responded to 134 fires on or that threatened Refuge resources, which burned in total approximately 40,909 acres. The largest of the fires was the Holiday 1 & 2 fires at McFaddin National Wildlife Refuge that burned over 14,000 acres. In addition, fire crews responded to wildfires in other jurisdictions to assist our partners with an additional 41 wildfires support responses.

The Oklahoma Fire District brought in additional firefighting resources and extended local staffing through severity funding, to help protect refuge lands in Oklahoma during periods of heightened wildfire activity.

The Oklahoma Fire District was under severity from late July through September. They had assistance from the Savannah Coastal Refuge Complex, Great Dismal Swamp NWR, Merritt Island NWR, and several crews from the Coconino National Forest. Oklahoma severity was managed cooperatively with NPS Sulfur and Washita National Battlefield personnel, and with BIA personnel from Oklahoma.

The Bakers Peak Wildfire which was a portion of the larger Townley Road Fire (28,000 acres) burned a total of 3,200 acres on the Wichita Mountains NWR. Assistance was provided from the South Texas NWRs, Balcones Canyonlands NWR, Texas Forest Service, and the USFS Angeles Helitack Module. The Prater Fire at Deep Fork NWR (circa 850 acres) and the Ranger Mountain Fire at Ozark Plateau NWR (circa 1,028 acres) both spread into approved prescribed fire units, and were managed for multiple resource benefits by the Oklahoma Fire District.

Several of the Fire Districts across the Region also utilized emergency pre-suppression funding to

augment local staffing when conditions warranted. Region 2 also supported National Interagency efforts, committing engines and overhead personnel to ongoing large fire incidents throughout the country, and prepositioning suppression resources in the Southwest and Southern Areas.

### ***Wildland Fire Decision Support System (WFDSS)***

Spatial datasets have been developed and submitted to WFDSS for the Region's stations, including those covered in the NM SFMP. These datasets will be cataloged and used in support of extended attack fires that occur on or near USFWS lands. Existing datasets have also been updated to better reflect current resources at risk, fire potential and fuel conditions.

WFDSS was used this year to document extended attack fires on several refuges within the Region. Fires at Wichita Mountains and McFaddin NWR required a decision to be published in the system. The fire at Wichita Mountains had Incident Management Teams assigned to it and the decision was published remotely by RO staff with help from the refuge manager and fire management officer. The fire at McFaddin did not have a team assigned but required a decision due to the long duration and larger size.

### ***Fire Program Analysis***

Fire Program Analysis (FPA) was evaluated again during FY 2012. This time the analysis was completed by a support working team from the National Office. This group of FPA experts completed the analysis with Regional and field support, to help assess accuracy. The fire planner was also assigned some Fire Planning Units within the Southwest Geographic Area as an FPA advisor. The fire planner also served as the chair on an FPA committee for the SW area.

### ***Burned Area Rehabilitation (BAR)***

Five Region 2 BAR projects have been funded this fiscal year (2012). These projects are located at the Lower Rio Grande Valley (3), Cibola (1), and Wichita Mountains (1) NWRs. These five projects were approved for a total combined funding of approximately \$650,000 dollars. The BAR program and these projects help to reduce future wildfire threats, control non-native invasive species, and help to restore watersheds and native wildlife habitats for Refuges.

### **Habitat and Fuels Management**

In 2012 the Region completed a total of 105 fuel treatments covering approximately 66,987 acres, of which 87 were completed utilizing prescribed fire, and the remaining 18 were chemical or mechanical treatments. The chemical and mechanical treatments were mainly firebreaks

that served to protect thousands of surrounding acres. The total treated acres were slightly below the long-term Regional averages, due to the lingering effects of drought, wildfire response, and conflicts with wildfire activity.

The Balcones Fire District Fire-Use Module completed their 1001 prescribed burn this year. This was an important milestone for the module, the Region, and the FWS Fire Program as a whole.

The Balcones Fire Module has provided prescribed fire leadership, planning, and support for FWS in Region 2 but also for many other Regions, agencies, states, private lands, and Refuges throughout the country.

The Module has helped as leaders in habitat management, to restore fire-adapted ecosystems in Region 2. They have conducted significant habitat restoration burning in Regions 3 and 6, helping these other Regions meet their annual targets.

### ***Balcones Canyonlands NWR — Hazardous Fuels Community Collaboration Story***

In 2012 the Balcones Canyonlands NWR Fire Management personnel along with the Texas A&M Forest Service and with cooperation from the North Shore Firewise Committee assisted local communities with hazardous fuels reduction projects within the wildland urban interface (WUI)

adjacent to the Balcones Canyonlands NWR. These projects consisted of defensible space clearing around homes and improvements throughout the North Shore communities. This work helped to stimulate several communities to apply for recognition as a “Firewise” community through the National Fire Protection Association’s program.

As of the end of December 2012, both the cities of Lago Vista and Jonestown, TX, have completed the necessary steps in mitigating the threat of a wildland fire and have been nationally recognized as being “Firewise”. Two smaller gated communities within the North Shore area have also received Firewise recognition in 2012. Personnel from Balcones Canyonlands NWR will continue to work with and educate property owners in creating defensible space and in removing hazardous fuels within the WUI.

## **Training**

### ***GIS / GPS Training***

On-site introductory and intermediate GIS courses were taught to fire staff in multiple Districts to establish or further develop GIS skills. In addition, breakout sessions were offered to address localized station GIS or GPS needs such as software and hardware operation, data collection, storage and

maintenance protocols, FMIS perimeter collection and upload, etc.

## **Communications/Outreach**

The Region 2 Fire Branch website was revamped this year. It includes updated contact information, new photos, both fire brochures, and will include videos in the future. This new and improved website will provide an outlet for future communications and outreach. A video was developed surrounding the Bosque del Apache Crane Festival, their educational prescribed burn and burning for wildlife habitat. A story was developed for the Fish and Wildlife Service, News and Notes about development of the first SFMP.

## **Planning**

### ***Spatial Fire Management Planning***

After a yearlong process, a Spatial Fire Management Plan (SFMP) was completed that covers all refuges and hatcheries within the NM Fire District encompassing 379,820 acres of FWS lands. Region 2 completed this SFMP for 6 National Wildlife Refuges and 2 National Fish Hatcheries within the District. The SFMP was approved and signed by the Regional Director in November 2012. This is the first plan of its kind to be produced by any of the federal fire management agencies (BIA, BLM, NPS, USFS, and USFWS). Unlike a standard fire

management plan, a SFMP heavily integrates the use of spatial data, to document and visually communicate fire management activities on the ground.

There are numerous efficiencies and benefits that resulted from the SFMP process. The spatial database templates can easily be updated as needed to reflect current fire history, fuels treatments, projects, etc. providing a current or 'real-time' component not found in tradition plans. The thematic maps provide valuable and effective communication tools; to effectively communicate fire management strategies and activities between FWS personnel and programs, other agencies, partners, and the public. They can also be used to plan future projects with staff and partners, as well as display completed work or to document project progress. The entire process was completed in a year, including the Environmental Assessment (EA), development and scoping for 8 stations. The plan covers the entire District (state of NM), encompassing multiple FWS units with similar ecosystems and management objectives. This reduced the redundancy found in single-station planning efforts, saving time and money. Baseline datasets such as the fire atlas or fire management zones developed for the SFMP can be used for inventory, monitoring, and planning future projects. They can also be incorporated into other management databases such as the

Wildland Fire Decision Support System (WFDSS). Other FWS Regions and Federal agencies have recognized the planning efficiency and potential applications of the SFMP, and are using the REGION 2 example as their template.

### ***Fire Ecology***

The Regional Deputy FMO co-chaired and led a national conference by the Association for Fire Ecology entitled; *Fire Landscapes, Wildlife & People: Building Alliances for Restoring Ecosystem Resilience*. This conference addressed fire-adapted ecosystems throughout the North American Greater Southwest and northern Mexico. This conference provided managers and researchers across disciplines, the opportunity to share scientific findings and manager experience on fire's role in restoration of watersheds, wildlife habitats, and in sustaining ecosystem services for future generations. Several paper presentations and posters were presented at this conference by FWS personnel. The Regional Deputy FMO attended the National Association for Fire Ecology Fire Congress, and presented a paper entitled; *Strategic Framework to Mitigate Wildfire Threats and Effects to Southwest Riparian Ecosystem Services*.

The Regional Fire Ecologist reviewed and provided comments on Buffalo Lake NWR, Sequoyah NWR and Wichita Mountains

Comprehensive Conservation Plans. The NM SFMP, the Ferguson Fire BAER report, and the National Fire Monitoring Core Reporting Standards were reviewed and comments provided. The fire ecologist developed photo point protocols for refuge fire and habitat monitoring at Deep Fork NWR. Four research agreements were developed including with Oklahoma State University (e.g., fire and herbivore dynamics) and the University of Missouri (e.g., fire history, eastern red cedar expansion, and CBI viability in deciduous forest). The Joint Fire Science Program projects were reviewed and coordinated with FWS personnel. Expertise and recommendations were also provided by the Fire Ecologist to the USFS - Caddo/LBJ National Grasslands in fire ecology and management.

### ***Inventory, Monitoring and Research***

The Regional and national Inventory and Monitoring Programs (I&M) have been officially initiated. The Southwest Region's I&M program has been working closely with the Fire Program to help meet fire, fuels and habitat inventory and monitoring needs. This includes support for the Fire Atlas project, development of Refuge Inventory and Monitoring Plans, and development of applied research to inform management decisions. This work and continued strong

collaboration between the Fire and I&M programs, at Regional and local scales, will help to better achieve future Strategic Habitat Management and ecosystem objectives.

Several research proposals are in development for potential funding through the Joint Fire Science Program (JFSP) and the Regional Science Support Program. Two new science projects were funded by the Regional Science Support Program to assess fire and habitat relations for the proposed Threatened Lesser Prairie Chicken. Fire history and ecology research is ongoing at Wichita Mountains NWR in collaboration with the University of Missouri. Fire and hazardous fuel treatment effects on oak recruitment and future habitat for Black Caped Vireo research was initiated by researchers at the University of Missouri. A newly funded JFSP project was begun on compatibility of fire management activities, with conservation of Endangered Golden Cheeked Warbler and Black Caped Vireo habitats, by Texas A&M University-College Station. Fire historian Dr. Stephen Pyne has begun his new book which includes stories by Region 2 Fire Management Staff about fire history on NWRs.

## All Hazard

### *Hurricane Preparedness Planning*

A hurricane preparedness planning meeting was held via webinar and conference call in May to coordinate planning efforts among all coastal Refuges in Texas. After this meeting, Texas Refuges and Ecological Services (ES) developed a Hurricane Plan for the RO. There were no storms that impacted the Region directly last summer. There were a few Region 2 employees that were deployed to LA to assist with the impacts from the storm that hit LA. A spatial database was developed for the Region, documenting and validating the all-hazard response equipment and resources within the Region. The database was also used in workforce management planning to better determine efficiencies in equipment location and sharing.



## Region 3 – Midwest

### General Overview

In Region 3, 2012 was another year of “continuous change”. From budget concerns to wildfire to severe weather events, the year was full of change creating new challenges.

The Region continued with workforce planning efforts and has decreased permanent staffing by 15 positions since 2010.

Through these challenging conditions we accomplished significant acres of hazardous fuels treatments, sensitive habitat maintenance and restoration, and contributed personnel and resources to the National fire mobilization effort in numerous states.

In conclusion, 2012 was a year of continuous change, uncertain budgets, changing financial and administrative programs and processes, and ever changing extreme weather made for challenging times. It remained however, a year of safe and outstanding accomplishments for the R3 fire program.

### Personnel

Regional Fire Ecologist Tim Hepola, Minnesota Valley FMO

Lee Nelson, and Fire Program Technician Mike Belsky retired this year. Their leadership will be greatly missed. Russ Langford was hired as the Regional Fire Management Specialist duty stationed at the Regional office.

Region 3 personnel continue to participate nationally and regionally in FPA, LANDFIRE, EMDS and HFPAS development and implementation. Jerry Szymaniak, Paul Charland, Don Lantz, and Chad Loreth spend a great deal of time on these efforts.

### Wildland Fire Management

The Region had 80 wildfires that burned approximately 6,700 acres. The drought caused the wildfire season to extend through the early spring through the summer and late fall. As a result, the number of wildfires on FWS lands in the Region was double our average

The effects of climate change continue to be direct and visible in the upper Midwest. Drought conditions broke many fire danger indices records and were widespread across the Region. We continue to establish the “new normal” for weather in the upper Midwest and this new normal often includes the extreme.

Long-term severity requests were approved and used at several Minnesota stations:

- Agassiz NWR
- Glacial Ridge NWR
- Rydell NWR
- Hamden Slough NWR
- Tamarac NWR, and
- Detroit Lakes WMD.

The Pine Creek fire at Seney NWR in Michigan was successfully managed as a Type 3 incident. The fire did not leave FWS lands due to prior year fuels treatments, combined use of a type 1 helicopter and two water scooping airtankers (CL-215), and tracked vehicle ground resources.

Region 3 resources contributed to the national mobilization effort with most fire staff going on at least two off-unit national mobilizations.

### **Fuels Management**

The Regional fuels target of 56,000 acres was successfully achieved and exceeded. Approximately 580 treatments were completed across the region.

The drought caused a prolonged wildfire season but also allowed for excellent opportunities to achieve prescribed fire objectives.

The Region documented 46 instances where FWS fuels treatments interacted with FWS wildfires and contributed to more efficient suppression. The DOI Fuels Treatment Effectiveness Monitoring (FTEM) spreadsheet was used to document these successes. There were no significant incidents/accidents and no prescribed burns declared wildfires this year. Prescribed fire detailers and grant funds were utilized successfully.

### **Planning**

The JFSP funded Lake States Fire Science Consortium and newly formed Tallgrass Prairie Oak Savanna Fire Science Consortium have been a solid success. Region 3 is actively involved in both consortiums. The Northeast Cohesive Fire Strategy effort consumed a great deal of staff time.



## Region 4 - Southeast

### General Overview

This year has been full of challenges, success and change. We accomplished our goals while having an outstanding safety record with no reported accidents or lost time injuries.

Our wildfire activity was down this year, in the number of fires and acres, even though Florida had the potential to burn like 1998. Our prescribed fire program continued to achieve excellent results in spite of reduced workforce and funding.

We continued to work collaboratively with other FWS programs and we built and enhanced “relationships” with our Federal, State and Local partners as together we tackled tough issues while achieving great results for the resource.

I hope you appreciate this snapshot of the challenges our fire organization faced and the wonderful accomplishments we have achieved throughout the Southeast Region.

### Personnel Staffing Changes

Robert Eaton, R4 Chief DFM to Deputy Chief, Branch of Fire Management, Boise, ID

Pete Kubiak R4 Deputy Chief DFM to R4 Chief, Division of Fire Mgt, Atlanta, GA

Glen Stratton, R4 Prescribed Fire Spec. to R5 RFMC, Hadley, MA

Vince Carver, Fire Ecologist to R4 Deputy Chief, DFM, Atlanta, GA

Sherri Matthews, Fire Budget Analyst to Budget Analyst, Div. Realty, Atlanta, GA

Bert Plante, to Prescribed Fire Specialist, Alligator River Refuge, Manteo, NC

Ed Christopher, to Refuge FMO, Pocosin Lakes Refuge, NC

Anthony Davis, Forestry Tech to Firefighter Equipment Operator, Pocosin Lakes, NC

Kenney Powell, Forestry Tech to Firefighter Equipment Operator, Pocosin Lakes, NC

Jordan Black, For. Tech, Mackay Is. Ref. to For. Tech, Great Smokey Mt. NP, TN

Matt Kampf, Seasonal FFT, Okefenokee Refuge to For Tech, Wichita Mt. Ref, OK

David Boyd, Admin Asst, Savannah Ref. to Private

Sarah Sorenson, For. Tech,  
Okefenokee Ref to Ecological Services,  
Cookeville, TN

Jamie Farmer, For. Tech, Lower  
Suwannee ref to Refuge FMO,  
Southwest LA Ref.

Rob Vernachio, For. Tech, Merritt  
Island Ref to Balcones Canyonlands  
Ref, TX

Jessica Vincent, GISS. Merritt Island  
Ref to Ocala National Forest, FL

Jay Mickey, For. Tech, Florida  
Panther Ref to AFMO Merritt Island  
Ref, FL

Bobby Schat, Rx Fire Spec, S.  
Arkansas Ref to For. Tech. Florida  
Panther Ref, FL

Brian Bagozzi, For. Tech. FL Panther  
Ref to Big Cypress Preserve, FL

Matthew Johnson, Ref FMO Sabine,  
LA to Ref FMO S. Arkansas Ref, AR

Dillon McInnis, For. Tech, Noxubee  
Ref, MS to Private

Travis Prisock, For. Tech, Noxubee  
Ref, MS to Private

John Bell, to For. Technician,  
Mississippi Sandhill Crane Ref, MS

### **Wildland Fire Management**

FY2012 had promised to be a very active wildfire season. Although Florida and other areas of the Region

experienced conditions similar to those of 1998, we were fortunate that conditions moderated and we avoided a repeat of that historic year's circumstances.

The three Fire Management Districts in Florida were under approved severity packages and successfully suppressed many ignitions. Merritt Island's past hazardous fuel reduction treatments proved to be integral in the suppression of a couple high potential fires that occurred there. Jennifer Hinckley and Jon Wallace documented the success story, which has been distributed to interagency partners and Service leadership.

Service personnel continued their strong participation and support for suppression incidents within Region and out of Region serving as single resources or as members of Incident Management Teams (IMT). Two of our District Fire Management Officers, serve as Incident Commanders for the Southern Area IMTs; Tony Wilder as Incident Commander of the Southern Area Red Type1 1 IMT and Mike Dueitt as Incident Commander of the Southern Area Type 2 IMT.

### **Fuels Management**

Reductions in hazardous fuels funding resulted in a 95% accomplishment of the HFPAS target. While the HFPAS target was not met Regional Refuge Management demonstrated their commitment to using prescribed fire as a management tool by utilizing other funds to safely and efficiently

accomplish substantial prescribed burns that reduced hazardous fuel loading and helped maintain the health of our fire dependent landscapes.

Glen Stratton and Janet Ertel worked with a team of Refuge Managers and Refuge Biologists to develop the Southeast Region Habitat Priorities for Fire Management Report, which will be used as a decision tool to assist in prioritizing prescribed fire projects that benefit habitat management and contribute to hazardous fuels reduction.

## **Training**

Rick Struhar served as the Chairperson for the Southern Area Training Working Team. In lieu of holding the Southern Area Advanced Academy this year, the FWS co-sponsored along with the Forest Service, National Park Service and the Southern Group of State Foresters the delivery of Local Fire Leadership (LFML) and Fire Program Management (M-581) training in Jacksonville, FL during June. A wide variety of FWS employees, from Refuge Managers to Fire Staff, serving in roles ranging from training cadre to participants, worked together to make these sessions successful.

We continue to coordinate with the States in the fire and incident training arena on a variety of levels. Notable is our involvement in the Tennessee-Kentucky Wildland Fire Academy. This was the 10<sup>th</sup> Anniversary of this

Academy, with Mike Housh coordinating the session. Mike has served on the steering committee as the FWS representative since the Academy's inception.

Brad Bailey of the Mississippi Sandhill Crane Refuge realized that upgrades and changes in the radio systems of cooperating partners such as the Mississippi Forestry Commission, County, City and Rural Volunteer Fire Departments had the potential to generate dangerous and unsafe conditions in the event of a large fire. He coordinated and conducted a training exercise that recreated the scope of their most recent large multi-agency fire incident and by utilizing the new radio systems was able to identify gaps that could be addressed to resolve any potential communication issues.

Although the Rural Fire Assistance Program and the Ready Reserve Programs received no funding for FY2012, the Region provided some carryover of FY2011 Ready Reserve funds to the Caribbean Islands Refuge Complex and the Mississippi Sandhill Crane Refuge to increase rural fire department wildland fire operations safety, effectiveness and capacity by sponsoring local level training.

This year a significant number of position task books were completed by Service fire personnel. The Interagency Priority Trainee Dispatching Process developed by the Southern Area Training Working Team and implemented through the Southern Area Coordination Center (SACC) was continued and improved

this year. This robust trainee prioritization and rotation system is becoming an equitable and efficient dispatching tool.

### **Communications/Outreach**

Jennifer Hinckley and Josh O'Connor continue to lead the way in coordinating, teaching and expanding the use of our digital outreach tools, such as Twitter, etc.

### **Planning**

This year the Region provided a steering committee member to assist in further development of the Southern Wildfire Risk Assessment and the Southern Wildfire Risk Assessment Portal. The assessment is an interagency cooperative tool utilized at Federal, State and local levels. The portal is a web-based application of the program.

Field stations continue to work with cooperators, predominantly the State fire protection and forestry agencies, in the development of Community Wildfire Protection Plans (CWPP). These are being developed on a wide array of spatial levels ranging from county-wide to local.

The Regional Fire Planner, Phil Weston, worked with the District Fire Management Officers and Refuge Staff to review and revise several Fire Management Plans, and prepare Annual Fire Management Plan Updates for all Refuges and National

Fish Hatcheries. He led a team of Fire Management and Biological Specialists and conducted a Fire Management Review of the Central Gulf Refuge Complex in Mississippi and Alabama. He collaborated with Federal and State partners to prepare State Interagency Cooperative Wildland Fire Management and Stafford Act Response Agreements in Florida, Georgia, Louisiana, Mississippi, Puerto Rico, Virginia, and the Southern Geographic Area Coordination Center and other regional agreements with The Nature Conservancy and US Air Force. He and Sue Wilder coordinated with the Natural Resources Division to provide assistance to Comprehensive Conservation Plans and Habitat Management Plans.

Josh O'Connor served on the Fire Program Analysis (FPA) Support Working Team (SWT) representing the FWS. He also worked with the field stations to ensure that all reporting requirements for wildfires and hazardous fuels reduction treatments were completed and correctly entered in the databases. He also was a member of the Southeast Habitat Prioritization Team and Southeast Region Fire Management Workforce Planning Team.

Southeast Region personnel have been actively involved with the Cohesive Wildland Fire Management Strategy efforts. Bob Eaton and Pete Kubiak served on the Regional Strategy Team; Vince Carver served on the Working Team, and Vince and Jennifer Hinckley served on the

Communications Committee preparing the Phase 3 document for submission to the National Strategic Committee.

Wildfire Coordinating Group's Change Management Board to create identifiers needed for the FWS Ecological Services, Fish Hatcheries and Migratory Bird Offices nationwide.

## All Hazard

Regional staff and our FWS staff at the Southern Area Coordination Center had a busy year tracking a significant number of named tropical storms and making preparations for any potential landfall and damage. We were fortunate that only Hurricane Isaac made landfall and damage resulting from the storm was relatively minor. A FWS Type 3 Incident Management Team led by District Fire Management Officers Mike Housh and Rob Wood was formed in preparation for a rapid response to Hurricane Isaac but because the impacts were quickly determine to be minor there was no need to deploy operational resources.



Pat Boucher was involved in a significant (7 ½ month) detail for implementation of Directive Emergency Management Policy Bulletin 2011-1. She developed a webinar for the Points of Contact (POC) that described how to add regional all hazard resources into the Incident Qualification Certification System (IQCS) and the Resource Ordering Support System (ROSS). She developed and provided on-line training webinars for the points of contact and other Department of the Interior Bureaus. She collaborated with each Geographic Area Coordination Center and the National

## Region 5 - Northeast



*All Risk Team at the incident command center based at John Heinz NWR at Tinicum Marsh in Philadelphia, PA. Left to right: Commander Nicely, Mike Durfee (Plans), Pam Carota (Finance), Gerald Vickers (Safety), Sami Gray (Operation), Michael Good (Logistics), Tim Craig (Incident Commander)*

### General Overview

For the Northeast Fire Program, 2012 was a year of transition, beginning with two detailers acting as our regional coordinator until we welcomed a new coordinator. We focused on workforce planning and made personnel changes to adjust to shrinking budgets. Fire danger overall was normal to below normal and weather was uneventful until Superstorm Sandy hit in late October.

Our region's fire staff made significant contributions in response and restoration efforts in the storm's wake.

### Personnel

In the Regional Office, Rick Vollick and Steven Hubner acted as our Regional Fire Management Coordinator until, Glen Stratton, our new fire coordinator, was hired in

July. To prepare for upcoming budget decreases, we funded half of the salaries for Regional Budget Assistant Tifani Holt and Wildlife Refuge Specialist Catherine Hibbard for most of the year. Refuges and External Affairs each funded the other halves.

In the field, Rhode Island National Wildlife Refuge Complex hired Orland Genoa as temporary worker to assist with prescribed fire preparation, firefighter mentoring, taskbooks, and equipment maintenance.

Blackwater National Wildlife Refuge decided not to hire seasonal staff for 2012, relying on two detailers instead: Tamara Saxton from Glacial Ridge National Wildlife Refuge in Minnesota, and Dustin Plooster from Huron Wildlife Management District in South Dakota. Great Dismal Swamp National Wildlife Refuge hired three seasonal firefighters to support the refuge's wildland fire program.

### **Wildland Fire Management**

Rick Vollick represents the U.S. Fish and Wildlife Service on the National Wildfire Coordinating Group's National Fire Weather Working Team. Overall, the Northeast region had a normal to below normal fire season due to wetting rains in March. This was a big change compared to recent years, especially for our southern Virginia refuges. Fire indices were elevated in April, briefly exceeding seasonal normal values. In May, the region received wetting rains followed by a period of drying in June, July,

and August for the northern portion of the region. This resulted in a higher potential for fires, but there were no ignition sources. By September above normal rainfall returned reducing fire danger for the rest of the year. Hurricane Sandy made landfall in New Jersey in late October as a direct hit to some of our coastal refuges. Several refuges in our region were damaged by high winds, rain, and storm surges of the superstorm.

We had 17 wildfires in our region (2 in New England, 7 in the Mid-Atlantic, 2 in the Chesapeake Bay, and 6 in Virginia) for a total of 122.3 acres. These fires were mostly less than 10 acres, with one almost 100 acres, the 98-acre Valentine Fire at Blackwater National Wildlife Refuge. Our firefighters suppressed fires on six of the 17 fires, including the Valentine Fire, and our local partners suppressed the remaining 11 fires. Additionally, we responded to three wildfires (62.2 acres) that threatened Service land in Maryland and New York and three wildfires (602.5 acres) on ownership in Maine and Maryland where we have suppression responsibility by agreement.

Our region provided firefighters and overhead to help an active western fire season. Logistics Dispatcher Stephanie Fournier was busy with mobilizations at the Northeastern Interagency Coordination Center. Center dispatchers processed more than 400 resource orders, including overhead, 18 crews, and six engines.

Several regional employees went on out-of-region fire details. Gerald Vickers had four such details at eight different fires as a Type 1 Safety Officer. Steven Hubner served as a crew boss for an interagency crew assigned to the Springs and Trinity Ridge fires in Idaho. Catherine Hibbard had two western fire assignments (Texas and Idaho/Montana) as a Type 1 Public Information Officer trainee. From the field, eight law enforcement officers were deployed as level one security officers to wildfires, and three collateral duty fire firefighters from the National Conservation Training Center went on their first western crew assignment.

From New England, Orlando Genoa had two western fire assignments. John Meister helped mobilize several crews, including three Service-sponsored Type 2 Initial Attack crews. Dave Walker went to fire assignments in Michigan and Minnesota as a Type 2 Operations Section Chief with the Eastern Area Type 2 Team. The Moosehorn National Wildlife Refuge fire crew and Service-sponsored ADs also supported the western fire season with mobilizations throughout the season.

The Mid-Atlantic Fire Zone fire crew completed assignments to Montana, Idaho, Wyoming, South Dakota, Arizona, and New Mexico.

The Chesapeake Marshlands National Wildlife Refuge Complex dispatch center filled 29 resource orders for western assignments. Fire staff,

collateral duty staff and AD staff responded to fires in California, Montana, Idaho, Colorado and Washington State. Positions filled included Display Processor, Support Dispatcher, Engine Boss, Class B Faller, Type 1 Firefighter, Type 2 Firefighter, Initial Attack Dispatcher trainee, Level One Security Officer, Task Force Leader, and Type 6 engine.

Firefighters in the Virginia/West Virginia Zone provided assistance to the Easter Fire Complex in western Virginia in April and to our state partners for several more large fires in July. Zone personnel also provided severity and suppression support to western states for much of the summer. Zone firefighters returned to western Virginia in December to assist with another large wildfire.

## **Fuels Management**

For 2012, we conducted 56 prescribed fires on Service ownership, totaling more than 9,000 acres. We helped our cooperators with 10 prescribed fires for 3,378 acres.

We conducted fuels treatments with the following partners: George Washington-Jefferson National Forest, Fredericksburg/Spotsylvania National Military Park, Virginia Department of Conservation and Recreation, State of West Virginia Forest Service, Old Dominion University, Mashpee (Massachusetts) Fire Department, Maryland Department of Natural Resources, and The Nature Conservancy (TNC) in Virginia, New Hampshire, and Maine. Fire program

staff, including Burn Boss Gerald Vickers, helped our National Conservation Training Center in West Virginia complete its second prescribed burn.

In New England, the prescribed fire season was limited seven operational periods when we accomplished 29 treatments totaling 170 acres in Maine, New Hampshire, Massachusetts and Rhode Island. Orlando Genoa was instrumental in getting a slip-on unit operational for the Rhode Island National Wildlife Refuge Complex. He also accomplished a significant portion of the Redbrook South mechanical firebreaks at Mashpee National Wildlife Refuge in Massachusetts.

In the Mid-Atlantic Fire Zone we burned 4 units for 141 acres at Iroquois and Seatuck national wildlife refuges in New York and Cape May National Wildlife Refuge in New Jersey. Wallkill River (NJ) and Long Island (NY) national wildlife refuges completed two mechanical treatments for 200 acres. Firefighters in this zone also helped with prescribed fire projects at Rhode Island National Wildlife Refuge Complex, and Back Bay (VA), Moosehorn (ME), and Monomoy (MA) national wildlife refuges. They also assisted with a WUI-funded project for the National Park Service in New York City and Gateway National Recreation Area to mow 150 acres of *Phragmites* in wetlands around structures. We were under a contract for our Marshmaster and crew for this cooperative effort.

The Maryland/Delaware Zone had a good year for prescribed fires, with burns at three of five field stations. In addition to two out-of-region detailers, we used collateral duty staff from Blackwater and Eastern Neck national wildlife refuges and Patuxent Research Refuge. This zone has a long running relationship with the Maryland State Department of Natural Resources and local TNC chapter. We worked with staff from TNC on five burns this year and the state of Maryland provided staff for many of our burns. We also completed more than a mile of new firelines at Patuxent this summer in preparation for spring prescribed burns planned on a savannah restoration site. This work was accomplished using a Geoboy.

This year the Blackwater fire crew started a mechanical project on the Wells wetlands restoration project (WRP) just outside Princess Anne, Maryland. This project is hopefully the first of many with the Natural Resources Conservation Service and our Partners program. Goals are to restore 1,800 acres of pine back to bottom land hardwood forest using fire. Our staff constructed more than 2.5 miles of fire line through young pine stands with a GeoBoy. We plan to follow this coming spring with several late growing season burns to reduce the density of young pines. We have been asked to assist with yet another WRP project on the Atkins near Hebron, Maryland.

Prescribed fire activity in the Virginia/West Virginia Zone was slowed at first by wet conditions, and

then halted completely by the amount and duration of wildfire activity in Virginia. Virtually no one accomplished burning anywhere in the state after the Easter Fire Complex. Despite the short season, we completed some priority burns and met targets for the zone. We burned on three national wildlife refuges, The National Conservation Training Center, three Virginia Natural Area Preserves, two TNC preserves, and two private properties, totaling more than 3000 acres. Many of our projects and assistance to other agencies in this zone were focused on large scale ecosystem restoration; improving habitat for rare, threatened, and endangered species; and supporting the Partners for Fish and Wildlife Program. This work also included invasive species control, survey and monitoring, and a concerted effort to improve water control at Great Dismal Swamp in the wake of the 2011 Lateral West fire.

## Training

Several regional and field employees were instructors in the following National Wildfire Coordinating Group courses:

S110, Basic Wildland Fire Suppression

S130/190, Basic Wildland Fire Training

RT130 Annual Wildland Fire Safety Refresher Training

S131, Advanced Firefighter Training

S211, Portable Pumps and Water Use

S212, Wildland Fire Chain Saws

S215, Fire Operations in the Urban Interface

S230, Single Resources Boss

S234, Ignition Operations

S300, Incident Commander Extended Attack Type 3

RX301, Prescribed Fire Implementation

M410, Facilitative Instructor

Gerald Vickers served on the Eastern Area Training working team in the Mid-Atlantic States and was the Service's ad hoc representative for the Leadership Development Group for the Mid-Atlantic area. He also held a Bendix King Workshop with the State of Pennsylvania.

Steven Hubner trained and red-carded 41 firefighters (FFT2) from the AmeriCorps National Civilian Community Corps program. AmeriCorps firefighters participated in many prescribed fires both on and off Service lands, and 17 Corps members were deployed to seven wildfires in New York, North Carolina, Idaho, Washington, and Oregon. Salary savings from using

AmeriCorps firefighters was \$89,000. Corps members also helped the Virginia Department of Forestry collect native longleaf pine cones for the state's longleaf pine restoration initiative.

At Blackwater National Wildlife Refuge, Keith Morris trained staff in heavy equipment operations and was a lead instructor for the Maryland Forest Service's fire dozer operations class. Tod Adams was a lead instructor for a motorboat certification class (MOCC).

Catherine Hibbard completed S-520, Advanced Incident Management, and Gerald Vickers and David Walker completed L580. At Blackwater National Wildlife Refuge, Keith Morris participated in the UTV train-the-trainer session to become certified to teach the new Service UTV/ATV course. Mary Elliot participated in FBMS training. We also sent two AD firefighters to S130/190. Art Canterbury completed the six-month Stepping up to Leadership program at NCTC, MOCC, and a B3 refresher and water ditching survival class.

## **Communications/Outreach**

Catherine Hibbard represented the region on the National Wildlife Refuge Systems Vision Communications Team. She coordinated fire outreach for the region. Outreach products included:

- Mashpee partnership as Eastern Region Cohesive Strategy success story (web)
- Tall Timbers conference promotion (photos for web)
- Virginia fire partnership for Endangered Species act 40<sup>th</sup> anniversary 50-state web stories

*Regional social media:* Mashpee burn, Marshmaster in Staten Island, R5 assistance to western fires, FWS personnel helping with Sandy response

Rick Vollick served as liaison between Tall Timbers, the Service, and the Northeast Compact for the 25<sup>th</sup> Fire Ecology Symposium to be held in October of 2013 in Hyannis (Cape Cod), Massachusetts. The Compact will help with sponsorship, poster presentations, logistics for planned field trips and vendors.

Blackwater National Wildlife Refuge fire staff worked with the Dorchester County (MD) VoTech center to hold a half-day class on wildland firefighting to local high school students. We also delivered fire safety talks to preschool and elementary school students.

## ***Research and Fire Effects Monitoring***

Emergency stabilization to control invasive and flammable *Phragmites australis* that grew after the Lateral West and South One wildfires at Great Dismal Swamp National Wildlife Refuge continued. To determine peat soil loss, likely future

water levels in the swamp and likely plant community response, LiDAR data was resurveyed. Chesapeake Marshlands National Wildlife Refuge Complex and Prime Hook, Bombay Hook, and Montezuma national wildlife refuges engaged in marsh elevation monitoring and/or *Phragmites* control.

Regional Fire Biologist Laura Mitchell completed a marsh elevation survey at Blackwater National Wildlife Refuge, results of which found fire frequency not to be a significant factor in marsh elevation change. She also helped develop guidance for handling water on incidents/prescribed burns at Patuxent Research Refuge to minimize the threat of spreading ranavirus.

Also, Laura Mitchell was one of several authors of a paper on the effects of prescribed fire on seaside sparrow breeding populations published in the *Journal of Wildlife Management* (July 2012).

## **Planning**

We and our partners revised and approved annual Operating Plans for interagency agreements with the states of Vermont and New Hampshire. New Agreements/Annual Operating Plans were completed and signed for Maine and New York. We reviewed a national agreement with The Nature Conservancy, which is still in draft, but the Virginia/West Virginia Zone renewed a local agreement with TNC. We renewed an

annual operating plan and agreement for the Virginia Coordination Center (VICC) and contributed \$10,000 in support funding. The Operating Plan and Agreement for the Northeast Interagency Coordination Center (NEC) were completed in November and the Service continues to support a dispatcher position (Stephanie Fournier).

We continue to partner with the Northeast Forest Fire Protection Compact (NFPPC). Several of our fire staff serve on working teams and the Operations Committee, and contribute as course instructors or presenters at the annual winter meeting in January.

Rick Vollick reviewed the following national wildlife refuge Comprehensive Conservation Plans (CCPs): Patuxent National Research Refuge, and Great Bay, Moosehorn, and Montezuma national wildlife refuges. He attended three planning sessions for the Massasoit and Mashpee national wildlife refuge CCPs. A Fire Management Plan Environmental Assessment for Montezuma was reviewed and revised for consistency with the CCP. We are working with the Branch to develop a Spatial Fire Management Plan for Eastern Massachusetts National Wildlife Refuge Complex as a pilot project for our region. Fire management plans for national wildlife refuges in northwest New Jersey and Edwin B. Forsythe National Wildlife Refuge, also in New Jersey, are under regional review.

Rick Vollick also worked with our assigned Fire Program Analysis (FPA) “super users” who refined Fire Planning Unit (FPU) data for the three principle FPUs in the region (New England/NY, NJ State, and VA/DE/MD). He was also involved with phase three of the Cohesive Strategy process for the Eastern Region.

### **All Hazard**

Catherine Hibbard served as Type 1 public information officer on FEMA assignments in West Virginia and New Jersey and Dave Walker was a Type 2 Operations Section Chief on a FEMA assignment in Long Island, New York.

Fire personnel from the Northeast Region were instrumental in response to Superstorm Sandy, which damaged coastal national wildlife refuges in the region. Tim Craig (Incident Commander), Gerald Vickers (Safety Officer), Mike Durfee (Planning Section Chief), and Pam Carota (Finance Section Chief) served on the first type 3 organization formed in the Northeast Region. We were assisted by Operations and Logistics Section Chiefs from the Southeast Region. The team was housed at John Heinz National Wildlife Refuge in Philadelphia. . Becky Brooks from the Branch was brought on as a detailer to help the support team at our Regional Office in Hadley, MA.

We also were helped by the Southeast Region’s helicopter and emergency

response trailer and fuel trailer from Merritt Island NWR. Fire personnel throughout the region made significant contributions, assisting with FEMA operations, clearing roads and trails, delivering supplies, and assessing and inventorying damage, including assessing debris along 50 miles of New Jersey coastline. A 17-person saw team, lead by John Meister out of Moosehorn National Wildlife Refuge, was a valuable resource for Edwin B. Forsythe (NJ) and Stewart B. McKinney (CT) national wildlife refuges and Long Island (NY) and Rhode Island national wildlife refuge complexes. Brett Gore made significant contribution in shuttling fuel from Pennsylvania to Long Island before the arrival of the fuel trailer. A crew from Blackwater National Wildlife Refuge took a Marsh Master to Edwin B. Forsythe National Wildlife Refuge to complete a boat recovery mission and hazmat cleanup.

We thank the Branch and other regions, especially the Southeast Region, in coming to our aid to assist us in Superstorm Sandy response and recovery.



## Region 6 – Mountain-Prairie



### General Overview

Large Federal deficits combined with a sluggish economy again resulted in declining fuels and preparedness dollars throughout the Region.

Overall, the Region 6 Fire program experienced a 16% decrease in our funding from FY11 to FY12 due largely to declining Hazardous Fuels program dollars nationally. These

budget cuts, in combination with the proposed budget cuts in 2014, have again resulted in general decreases in capability and staffing of the program.

Strategic Workforce planning efforts continue to be emphasized as everyone recognizes the potential significant impacts of additional cuts in future years. Efforts continue to focus how best to meet the Region's preparedness responsibilities, while

minimizing the impacts on encumbered positions.

However, the cumulative effects of declining budgets are beginning to adversely affect the region to the point that the Region can no longer support its current organization. Strategies to consolidate and downsize, through attrition and retirements, were implemented to maintain suppression capabilities and existing staff.

The merger of fire districts into fire zones occurred across much of the Region due to attrition of personnel, retirements, consolidation and workforce planning efforts. Mergers in the region included: the Huron and the Mid Dakota Fire District into the Great Plains Zone, the merger of Mid-Plains with the Front Range of Eastern Colorado into the Mid Plains Zone, the Merger of the Rocky Basin District and Western Colorado into the Rocky Basin Zone and the Merger of Eastern Montana District with the Western Montana District into the Montana Zone.

## **Personnel**

John Ashcraft (Fire Program Technician (FPT) at Browns Park) filled the new Rocky Basin Assistant FMO position at Seeskadee NWR;

Andy Williams (senior firefighter at Audubon NWR) accepted a position with the BLM in Wyoming;

Louis Hartjes (Western MT FMO) retired from Lee Metcalf NWR;

Chris Roed (Prescribed Fire Specialist (PFS)) and Colleen Graue transferred from fire positions to refuge positions at Devils Lake WMD;

At Rainwater Basin WMD, Bruce Winter (PFS) retired and Brice Krohn (FPT) accepted a position with the Crane Trust Inc. in Nebraska;

David McCauley (FPT at Quivira NWR) left the fire program and accepted a local refuge management position at the refuges where he resides; and

Darwin Schultz (PFS) transferred from the San Luis Valley in Colorado to Armagusa Valley in Nevada where he will work for one of the fire management zones in Region 8.

## **Wildland Fire Management**

The 2011- 2012 winter will be remembered as unseasonably warm and dry with above average temperatures and below average snowpack for almost the entire region.

The transition from spring to summer can be summarized as very short due to warm temperatures in May followed by a severe heat wave that dominated almost all of Colorado, Kansas, Nebraska, and southern Wyoming throughout the month of June. This weather pattern led to a high number of large fires occurring in Colorado, southern Wyoming, and northwest Nebraska.

FWS personnel were provided with many opportunities to support national suppression efforts as fires such as Waldo Canyon, High Park, and others dominated the local and national news.

The largest wildfire to occur on FWS lands in Region 6 this year occurred at the Charles M. Russell NWR when the Wells Fire was managed for multiple resource objectives and consumed 9,468 acres of FWS lands.

Drought conditions continued to deepen throughout the summer across the entire region with areas reporting from 1-8" departure in precipitation and Keetch Byram Drought Index (KBDDI) above 600. This led to many of the stations working collaboratively with their interagency partners to coordinate interagency severity requests.

Most notable severity requests included: the first time use of a wildfire prevention team in Kansas and the first time use of a SEAT to support Ft. Niobrara and Valentine NWRs.

### ***Dispatch***

At North Dakota Dispatch Center (NDC), 2012 was a very busy year mobilizing crews, overhead, and engines to support national suppression efforts both in the Northern Rockies and the Rocky Mountain Geographical Areas. Locally, the North Dakota Zone fire season never really materialized until mid to late summer because the storm tracks provided continuous

intermittent rainfall early in the spring and early summer.

Several significant changes at NDC this year included the addition of a North Dakota State Employee seasonal dispatcher, and the installation of voice over internet radio communication system installed by the by the Forest Service. Both of these items bring NDC new opportunities and capabilities including more interagency representative staffing and improved initial attack dispatching capabilities and radio flight following capabilities.

### **Fuels Management**

Early snow melt, the lack of spring rains, and record breaking high temperatures during the month of March resulted in two escaped prescribed burns and a limited number of acres being treated. Several Districts were unable to accomplish their hazardous fuels projects, particularly eastern Montana where early snow melt and high temperatures stressed native plants to the point where burns were cancelled. The escapes included the "Charlie Harley" Escape at Sand Lake Wetland Management District (WMD) which consumed 126 acres of private lands and the "Ven John" Escape at Huron WMD which consumed 5 acres of private lands.

The 2012 calendar year also marked the first time in a decade that prescribed fire was used on Mortenson Lake NWR to help recovery efforts

with the Wyoming Toad, now the most endangered amphibian in North America. This collaborative effort involved numerous fire staff, Ecological Services, Fisheries, and multiple outside organizations – all with the common goal of achieving a self-sustaining population and someday the possibility of delisting the species.

### **Training**

Training courses offered throughout the Region ranged from S-130/S-190 to M-581. S-212 was the most requested course due to a recent change in refuge policy regarding refuge personnel chainsaw certification.

Notable taskbook completions that occurred in 2012 included:

Shane Del Grosso, Incident Commander Type 2 (ICT2);

Colby Crawford, Incident Commander Type 3 (ICT3);

Bill Waln, Situation Unit Leader (SITL);

Neal Beetch and Christy Bates, Ordering Manager (ORDM);

Charles Frohme, Line Safety Officer (SOFR); and

Jason Melin, Prescribed Fire Burn Boss Type 2 (RXB2).

In addition, Andy Schell, a FWS Student Career Experience

Program (SCEP) student earned a masters degree.

### **Planning**

Fire management planning continued during 2012 with most of the work occurring during the winter of 2011 into the spring of 2012. Fire Management Plans (FMPs) completed during 2012 include:

Charles M. Russell National Wildlife Refuge Complex (NWRC);

Bowdoin NWRC;

Eastern North Dakota Fire Management District FMP (includes Arrowwood NWRC, Chase Lake NWRC, Devils Lake Wetland Management District (WMD), Long Lake NWRC, Valley City WMD, and Valley City National Fish Hatchery);

Crescent Lake NWRC FMP; Lacreek NWRC FMP;

Mid Dakota Fire Management District FMP (includes Sand Lake NWRC, Waubay NWRC, Kulm WMD, and Tewaukon NWRC);

Flint Hills and Marais des Cygnes NWRs FMP; and

the Arapaho NWR Satellite Refuges FMP (includes Bamforth NWR, Hutton Lake

NWR, Mortenson Lake NWR, and Pathfinder NWR).

In addition to FMPs completed, an Environmental Assessment (EA) for a Fire Management Plan was completed for Bear River Migratory Bird Refuge. An EA for an FMP was also awaiting final signatures for Seedskadee NWR.

In the fall of 2012, a Spatial FMP was initiated for eastern South Dakota (including Huron WMD, Waubay NWRC, Sand Lake NWRC, and Lake Andes NWRC). The National Office is providing assistance as this area is a test to see how well a spatial FMP will work in areas where FWS lands are scattered throughout a large area.

## **All Hazard**

During the winter months, several Region 6 refuge personnel worked with fire staff to continue to support Deep Water Horizon clean-up efforts by serving as resource advisors and/or fill miscellaneous overhead positions. The opportunities were limited in 2012 but the Region continues to provide limited support and assistance to the gulf oil spill.



## Region 7 – Alaska



*Region 7 Fire Staff: Front row left to right: Brad Reed, Krisiti Bulock, Lisa Saperstein, Jan Passek, Maureen Clark, Doug Newbould. Back row left to right: Peter Butteri, Doug Alexander, Ben Pratt, Brian Haugen*

### General Overview

Statewide, 2012 fire season proved to be a below average fire season. With 230,000 acres burned state wide. Activity on FWS was also below average.

One notable fire was a human caused fire in November that burned 16,000 acres of which 500 acres burned in Togiak NWR. Lack of snowfall in the area was the factor for such a large fire. Suppression efforts were hampered by frozen lakes.

Budget constraints continued to impact all Service field stations and programs in the Alaska Region in 2012. Our response to these limitations was to focus management efforts upon preparedness, prevention, planning and hazardous fuels mitigation activities, and to vigorously heed the call of duty, sending a number of firefighters and overhead south in support of the record fire season in the West.

Fire staff remained stable with no new staff or transfers. We continue to

evaluate our staffing and plan for future budget reduction. The region did see approximately 40 retirements in December.

The FWS supported the Alaska Incident management team on two incidents with a Resource Unit Leader, Fire Behavior Analyst (T) Situation Unit Leader

## **Southwest Area**

### ***Wildland Fire Management***

The 2012 year was wetter than normal for the Southwest (SW) Area Refuges with minimal lightning activity. Only one 16-acre wildland fire and one false alarm were reported on Refuge lands. SW Area Refuge personnel assisted with wildland fire assignments locally, regionally, and nationally. The largest projects for the SW Refuges included revision of the Innoko FMP, and Known Sites data compilation for the vast lands of the Yukon Delta (YD) Refuge.

YK Delta had one lightning caused 16 acre fire in July (Israthorak Creek) in a Limited Fire Management Option. Fire received considerable precip and was declared a natural out.

### ***Personnel***

Innoko biologist served as GISS and FMO served as SITL-t to support SW Area State Forestry with the management of multiple incidents. YK Delta Deputy Manager Doolittle and 2 fisheries staff assisted with SMJ retrieval from the Kuskokuak Slough fire. FMO served as RESL and Innoko

biologist served as GISS with AK IMTs in support of Bear Creek # 4 Fire. FMO served as RESL and SITL-t with AK IMT in support of the Trinity Ridge West fire in Idaho.

### ***Fuels Management***

FMO completed 5 acres of maintenance HFR surrounding the Innoko Field Camp with assistance from SW Area DOF personnel. FMO completed preliminary field survey and met with village officials in Shageluk concerning completion of a CWPP and HFR work.

### ***Training***

It was a good year for fire behavior and danger rating training. Most of the fire staff participated in CCFDRS, NFDR or WIMS training as instructors, students or coaches. The classes were hosted at Alaska Fire Service in Fairbanks. We sent Refuge Managers and Deputy's to Fire manager Leadership class in NAFRIS, B3, A-200, and S-346, IS700, and IS800. Innoko collateral duty staff (Bye) completed I300, IS800 (NIMS). YK Delta Deputy Refuge Manager (Doolittle) completed Fire Management Leadership (NAFRD).

### ***Communications / Outreach***

FMO completed mini-fire ecology course during weeklong Science Camp. FMO + Innoko Deputy Refuge Manager coordinated with SW Area DOF and Gannett Glacier T2IA to complete conservation work on Science Camp Trail. FMO assisted UAA + BLM with Invasive Weeds workshop in McGrath. FMO completed 8 hrs of "Connect People with Nature" FWS

Journal entries were submitted for the Science Camp trail work and Science camp wildland fire mini-course.

### ***Planning***

FMO is currently working on revision of the Innoko FMP. Togiak FMP was signed. Annual updates were completed for YDR + INR Fire Management Plans.

FMO attended Spring meetings (IMT and FMO), Fall Fire Review Consortium, and participated in local public meetings. FMO is active participant with the Fire Behavior working group and serves as primary representative on the Fire Weather committee.

## **Kenai and Kodiak NWRs**

### ***General Overview***

The 2012 Fire Season was uneventful in South-central Alaska due to cool, wet fire weather conditions. Budget constraints continued to impact all Service field stations and programs in the Alaska Region in 2012, and the Kenai NWR Fire Program was no exception. Our response to these limitations was to focus management efforts upon preparedness, prevention, planning and hazardous fuels mitigation activities, and to vigorously heed the call of duty, sending a number of firefighters and overhead south in support of the record fire season in the West.

### ***Wildland Fire Management***

Statistics for the 2012 fire season on the Kenai and Kodiak Refuges were as follows: The Kenai NWR experienced 1 wildfire in a Full - Fire Management Option Area. The East Fork Moose River Fire (G6SQ) in August was determined to be human-caused (abandoned/escaped campfire). Refuge Fire Investigators and Law Enforcement Officers were able to identify the persons who caused the fire and successfully cite them. The Kodiak NWR reported no fires on Refuge Lands.

The AFMO continued to represent the FWS on the National Interagency IHOG Committee to revise the IHOG for 2012/2013.

The FMO continued to represent the Alaska Region on the Service' National Fire Operations and Safety Team (NFOST).

The FMO continued to represent the Refuge as a member of the Kenai Peninsula Fire Chiefs Association, as a member of the Local Emergency Planning Committee, and as a member of the interagency All Lands All Hands Committee.

Refuge Fire Staff and other Refuge Staff completed the following fire assignments:

The Fire Prevention Technician (McGahan) and one Refuge firefighter (Wadenius) provided fire engine support to the Kenai-Kodiak Area Office during the early fire season on one extended staffing resource order.

The Deputy Refuge Manager (Miller) was detailed to Southeast Oregon Refuges to shadow FWS Agency Administrators during large fire management activities there.

The Fire Operations Technician was detailed to Nevada (BLM) as an Engine Boss for three weeks and responded to several wildfires during his tour.

The Refuge FMO was dispatched to the Chips Fire (G32E) in northern California, as a Task Force Leader for a 14-day assignment.

Members of the Refuge Trail Crew (Slavik, S.Johnson, C.Johnson and Dezelski) were dispatched as members of an Alaska Interagency Type-2IA Hand Crew to the Mustang Complex (G4A0) in Idaho for a 14-day assignment.

Refuge Supervisory Law Enforcement Officer (Johnson) was dispatched as a Security Specialist to fires in Idaho for a 21-day assignment.

### ***Fuels Management***

The Fire Staff is working closely with Alaska Division of Forestry staff from the Kenai-Kodiak Area Office (KKAO), to plan and implement hazardous fuels reduction projects in the Funny River and Sterling Community Wildfire Protection Plan (CWPP) areas, with funds provided to the State through a federal WUI Grant of \$180,000.

The Fire Staff assisted its Kenai-Kodiak area interagency partners in

completing the 2012 tasks associated with the *Calamagrostis canadensis* Mitigation Study. Specifically, the Fire Staff helped complete all treatment effectiveness monitoring plots in early May; then, treated three blocks each on two separate dates, with gas-powered brush-cutters. Fire Staff also helped successfully complete prescribed fires at two of the three sites per the treatment plan.

Fire Staff completed hazard tree/fuel removal mechanical treatments on 125 acres along the Funny River, Swanson River and Swan Lake Roads, and 4 acres of hazard trees in Refuge Campgrounds.

The Refuge opened Firewood Permit areas along Funny River and Swanson River/Swan Lake Roads to encourage biomass utilization in those areas and reduce the material that will need to be burned.

Refuge Staff also cut and piled (for burning in FY13) 3 acres of wind-thrown spruce at the Refuge's Outdoor Education Center.

### ***Training***

The Fire Staff completed Work Capacity Tests (22 arduous and 3 light) and Fireline Safety Refreshers for 25 Refuge employees in 2012.

The Fire Prevention Technician was Lead Instructor and the AFMO was Unit Instructor for S-271 Helicopter Crewmember at KKAO in Soldotna (26 students).

The AFMO conducted A-219 Helicopter External Loads training on the Refuge in August (1 student). The Fire Operations Technician was Lead Instructor for a local S-212 Wildland Fire Chain Saws course offered at the Refuge in June (6 students).

Refuge Fire Operations Technician (Nichols) successfully completed a two-week assignment at the Prescribed Fire Training Center (PFTC), working to complete his Firing Boss and Prescribed Fire Burn Boss – Type 2 task books and participating in several prescribed fire projects in Georgia and North Carolina.

Prevention Technician (McGahan) successfully completed the OAS Aviation Train-the-Trainer course.

Prevention Technician (McGahan) successfully completed the FI-210 Wildfire Cause and Determination course.

### ***Communications / Outreach***

Public Affairs Specialist Maureen Clark began working half time with the Alaska FWS Fire Management Program in 2012, completing a number of outreach and education projects. She worked with Allan Hayton at the University of Alaska Fairbanks Alaska Native Language Center to translate a poster, illustrating the natural role of fire in Alaska's boreal forest, into Gwich'in Athabascan. The poster was distributed at the Alaska Federation of Natives convention and at the Bureau of Indian Affairs Rural

Providers conference and was well received. At the close of 2012, efforts were under way to translate the poster into Inupiaq, Yup'ik, and Koyukon Athabascan.

In addition, she updated the Fire Management Program's web pages to better explain the role of the Fish and Wildlife Service in the management of wildland fire in Alaska. The update includes more information on fire ecology, fire planning, and hazardous fuels reduction.

Clark also traveled to the Yukon River village of Ruby, adjacent to the Nowitna National Wildlife Refuge, to document hazardous fuels reduction efforts by the community, which were funded by the FWS Hazardous Fuels Reduction Program. The article she produced was published in the November/December issue of Refuge Update and in the FWS online journal Field Notes.

In addition, she assisted with editing of regional fire management plans; assisted with the sampling of fuels to determine moisture content; documented the fuels sampling effort with photographs; and initiated work with the State of Alaska to update a brochure explaining how wildland fire affects furbearers.

She also assumed the chairmanship of the Alaska Wildland Fire Coordinating Group's Wildland Fire Education and Prevention Committee.

### ***Planning***

The Fire Staff completed an Interim Fire Management Plan for the Kenai NWR and will prepare a final Revised Fire Management Plan when the Environmental Assessment process is completed this winter. A draft Fire Management Plan for the Kodiak NWR has also been prepared and is currently undergoing review. The Prevention Technician is working collaboratively with the Chugach National Forest and the Alaska Division of Forestry to develop a comprehensive Wildfire Prevention Plan for the Refuge and its partners.

### ***All Hazard***

The Refuge experienced a flood event in September when it received more than 200% of its normal monthly precipitation, and when soils were already saturated by above normal precipitation in August. All Refuge streams and rivers were at or above flood stage for at least one week.

### **Northwest Area**

#### ***General Narrative***

Despite the coldest January on record in Galena, an above normal snowpack, and a slow fire season statewide, NW Area Refuges experience an average year for wildfires. Wildfire activity began in June and continued through August. Of the 25 fires that occurred, most of the acreage resulted from two fires on the Koyukuk and Nowitna refuges. As usual, most fires were simply monitored in accordance with limited management. 3 non- standard

responses were initiated on limited fires that threatened allotments or structures.

Other significant fire management activities included fire effects monitoring, Fire management plan revisions and fuels management .

#### ***Wildland Fire Management***

KOY - 12 fires, 15, 352 total acres, wildland fire, natural cause

NOW – 1 fires, 22,366 acres, wildland fire, natural causes

Selawik – 10 fires, 150 acres, wildland fires, natural causes

FMO Went with Alaska crews on jet load 5 as a CREP in Washington for two weeks in September

#### ***Fuels Management***

Prescribed Fire: FMO assisted BLM Military Zone with a number of Rx burns. Progress on the Ruby Fuels WUI project continued. All phases are now complete with the exception of some piles that still need burned.

#### ***Personnel***

Two arduous pack tests given to permanent staff (tested with BLM).

FMO attended fall Fire Review and Fire Effects Consortium in Fairbanks.

FMO attended Spring FMO team meetings in Fairbanks

FMO hosted webinar for the AICC fire modeling working group

FMO attended Fire modeling

workshop in Fairbanks  
Planning

### ***Training***

Training attended/completed: S-130, -  
190, I-100 Myra Harris KOY/NOW

Training offered: FMO lead instructor  
for Rx-301, FMO unit instructor for  
WIMS, FMO coach for S-491

### ***Communications/Outreach***

Ruby fuels project featured article in  
Refuge Update.

### ***Planning***

FMO participated in AFS AOP  
updates discussion during Fall Fire  
review.

Initiated revision of Selawik NWR  
Fire Management Plan.

### ***Fire Effects / Monitoring / Ecology***

New habitat biologist, Aimee Rockhill  
re-visited vegetation monitoring sites  
to document fire effects on the  
Koyukuk NWR. Refuge staff re-visited  
vegetation monitoring plots on the  
three day slough areas.

## **Eastern Interior Refuges**

### ***General Overview***

Fire activity was below average across  
the District in 2012, in large part due  
to fewer than normal lightning strikes.  
Tetlin Refuge was wetter than normal  
through the middle of July, but dried  
out in August and exceeded historical  
maximum Build-up Indexes (BUIs) in  
September. Kanuti was wetter than

normal except for the period between  
mid-June and mid-July when BUIs  
were above average. BUIs for Arctic  
and Yukon Flats stations hovered  
around normal except for several  
eastern stations that reported higher  
than normal June and July values.

### ***Wildland Fire Management***

*District Fires* - The District managed  
seven wildfires on all four District  
refuges in 2012 for a total of 2,171  
FWS acres. Four were human caused;  
three were ignited by lightning.  
Suppression actions were taken on  
three of the fires, including the 2,642  
acre Allakaket Fire (427 FWS acres)  
which started in a landfill and  
threatened numerous Village  
residences.

*Alaska Support Actions* - District  
resources filled three State of Alaska  
preposition orders and three in-State  
fire resource orders. All three District  
personnel were assigned to the Bear  
Creek #4 incident with the Alaska  
Type 1 IMT.

*National Support Actions* - District  
resources completed a total of five  
lower-48 fire assignments including  
one at the Trinity Ridge Fire with the  
Alaska Type 1 IMT.

### ***Fuels Management***

A 5-acre pile burn treatment at the  
Bettles workstation was completed.  
Thirty-two acres of hand and  
mechanical thinning, and biomass  
removal was completed in Tok under  
an agreement with the State of Alaska  
Division of Forestry.

### ***Training***

District personnel completed M-410, I-300, WIMS, CFFDRS, NFDRS, Prevention Workshop, and IS-800. Tetlin Refuge Manager, Ryan Mollnow completed Fire Program Management.

Three task books were issued to District fire personnel (PSC2, SEMG, HEQB); two task books were completed and certified (RESL, SEMG). District fire personnel instructed two chainsaw safety courses for non-fire Service employees and certified nine A-Faller chainsaw operators. FPT Grafft instructed several courses at the Alaska Wildland Fire Academy, and FMO Butteri served as a unit instructor for S-346 Situation Unit Leader.

### ***Communications / Outreach***

District personnel participated in outreach events in the communities of Allakaket, Tok, and Fairbanks. They represented the Region on the following interagency committees:

FMO: AWFCG Operations Committee member

AFMO: AWFCG Training Committee member

FPT: AWFCG Safety Committee member

### ***Planning***

The Tetlin Refuge FMP Revision was completed and signed in April. The Eastern Interior Preparedness/Dispatch Plan was completed and signed in May. Reviews of Arctic, Kanuti, and Yukon Flats FMPs were completed in May. The District fire program was reviewed by a Regional team in June.

### ***All-Hazard***

District personnel did not participate in any all-hazard events in 2012. IQCS records for District fire and non-fire personnel were updated in order to accurately reflect all-hazard competencies.



## Region 8 – Pacific Southwest



Photo: Region 8 Annual Fire Management Officer meeting in November 2012. Participants include FMOs, AFMOs, Regional Fire Staff, Refuge Project Leaders and Chris Wilcox from the National Fire Program.

### General Overview

In 2012, there were approximately 8,965 wildfires in California and Nevada, a number similar to last year. Nearly 1.5 million acres burned in the region in 2012, nearly double the acres burned in 2011. However, Region 8 refuges experienced a rather mild fire season with approximately 22 wildfires that totaled about 75 acres.

### Personnel

Fire workforce planning continued, with involvement by regional staff, fire management zones, and many refuge Project Leaders to develop fire organization alternatives for declining budget scenarios. One discussion is to

better utilize the Veteran hiring program to provide training and experience to veterans while at the same time, providing some fire zones with increased capability with little budget impact. The ARD (Refuges) made it clear that the fire organization alternatives needed to maintain as much capability to use fire as a habitat management tool as possible.

### Wildland Fire Management

The region maintained an impressive safety record with no serious injuries, in spite of budget cuts, staffing losses, and old equipment, combined with a long and busy fire season. Fire Preparedness Reviews were conducted this year and showed an improving trend of coordination between refuges,

fire staff and other interagency partners. The region contributed to the new “Working Capital Fund” that finances scheduled fire engine replacements for the aging fleet. The Region 8 Engine Captains Committee continued to provide new perspectives on preparedness and training issues, contributing to development of regional strategies to address several issues.

### **Fuels Management**

This year, the zones met their national fuels program targets by treating a total of 26,396 acres:

- 20,346 acres treated in the WUI
- 24,613 acres treated with prescribed fire (WUI and non-WUI).

#### ***Private Lands***

The region is nearly finished developing new policy and guidance for the FWS Partners for Fish & Wildlife Program that will provide clear “rules of engagement” for using prescribed fire on private lands:

\*Untreated- habitat with no prescribed fire.

\*Treated- prescribed fire treatment focused at habitat objectives.

\*Partial- other fuels treatments that may have some habitat objectives.

#### ***Habitat Management***

The Region continued to seek out funding and support for fuels and

habitat management. The Regional Fire Partnership and Outreach Coordinator and LOT Team Fire Representative have been meeting with internal and external partners to find support options for funding refuge habitat burning.

There are around 71,000 acres of refuge land that need prescribed fire treatment each year to restore or maintain habitat conditions in the region. This year, funding supported 6,050 acres, 9% of acres with a need, to be treated with prescribed fire for habitat objectives. In addition, 18,564 acres were treated for mixed objectives. In total, Region 8 treated approximately 36% of what should have been treated with fire this year. Other Regional Highlights

### **Training**

The Department of Interior Engine Academy was led by fire program staff from the Sacramento National Wildlife Refuge and supported our interagency partners.

### **Communications/Outreach**

This year, regional fire outreach efforts focused on social media and wetland conservation outreach for prescribed fire, including meetings with Ducks Unlimited and the California Central Valley Joint Venture.

A collaborative Facebook Group was established for community discussions around the research and practices of creating fire resilient landscapes. The site has gained global membership and includes scientists, tribes, fire practitioners and community members around the United States, Australia, Africa, and Europe. Go to: [Fire Resilient: Latitudes and Attitudes](#).

## Planning

Fire effects monitoring and a fire history study have been ongoing at the Desert National Wildlife Refuge and Blue Ridge National Wildlife Refuge. The Regional Fire Ecologist has supported the National Inventory and Monitoring Program by helping to develop appropriate monitoring variables for fires and fuels treatments.

## ZONE HIGHLIGHTS

Klamath Basin FMZ: *Southern Oregon, northern California's Modoc plateau and north coast. Dave Goheen, Fire Management Officer*

- 5 wildfires on refuge lands (1.8 acres)
- 23,953 acres treated with 53% completed through contracting; 3,624 acres of prescribed fire on NWR land. 5,000 acres on lease land.
- Various wildland fire assignments in CA, CO, MN, OR, SD, WY.

The largest prescribed fires in the Klamath FMZ included marsh burns. These burns enhanced habitat for wetland and migratory birds. This year, over 3,000 acres were burned in marshlands at the Tule Lake NWR, 160 acres at Klamath Marsh NWR and 224 acres at the Modoc NWR. With unique equipment and special expertise, the zone also assisted partners with prescribed burns. This year, the zone helped the Bureau of Reclamation with a high complexity 25 acre wetland burn in the wildland urban interface.

The Klamath FMZ was strongly involved with the regional office and local FWS Partners Program staff to help develop regional policy and guidance for private land burning.

The Oregon Mule Deer Foundation and Oregon Department of Fish & Wildlife worked with the zone to install a second guzzler on the Bear Valley NWR that can support fire suppression efforts as well as provide drinking water for wildlife.

North Central Valley FMZ: *Northern California Sacramento Valley. Dale Shippelhoute, Fire Management Officer*

- 1 wildfire on refuge lands (0.5 acres); 7 threat fires.
- 36 prescribed fires with 930 acres treated
- 45 acres treated through goat grazing.

This year, the zone was short-staffed for most of the season and utilized

collateral staff from refuges and hatcheries within the commuting area to help meet fuels treatment targets and fully complete staffing on engines for fire assignments.

The North Central Valley FMZ's new fire building was finally completed and the conference/training room was used extensively by fire, refuge, and cooperators programs. The zone also supported various outreach events including a field trip for members of the Northern California Prescribed Fire Council, and the 75<sup>th</sup> Anniversary Celebration for the Sacramento NWR.

The zone was strongly involved in the Department of Interior Engine Academy, as they have been for several years, providing leadership, mentoring, and cadre members.

South Central Valley FMZ: *San Joaquin Valley, Bay Area and California Central Coast. Peter Kelly, Fire Management Officer*

- 9 initial attack fires totaling 550 acres.
- 31 prescribed fire projects totaling 4,423 acres.
  - Accomplished the largest prescribed burn in refuge history at the Kern NWR.
- 22 off-station fire assignments.
- Completed the draft San Luis NWRC Fire Management Plan.
- Submitted a joint FWS and California State University – Stanislaus fire research proposal to the Joint Fire Science Program.

The San Luis NWRC continued to show the importance of a well-integrated fire/refuge program. They

continued to enhance fire program capability by promoting cross-training of refuge and fire staff. They now have 93% of all refuge employees qualified with basic fire training. A large percentage of refuge staff continued to gain more advanced fire qualifications. The refuge complex Deputy Project Leader provided strong support to the fire program as well as being the regional representative for the LOT team.

Southern California FMZ: *Southern California Inland and Coast. Lee Rickard, Fire Management Officer*

- 7 wildfires on refuge lands (1.2 acres) and 13 threat fires (232 acres).
- Assisted with suppression efforts on 28 wildfires locally (17,160 acres).
- 15 fire assignments in CA, ID, NV, OR and WY.
- 2 prescribed fires treating 43 acres.

This year, the Southern California FMZ treated fuel breaks on the San Diego NWRC, and continued a pile burning project on the Blue Ridge NWR as well as a broadcast burn at the Sonny Bono Salton Sea NWR. The zone also used mechanical treatments to create fuel breaks adjacent to 15 miles of roads and state/US borders. The zone assisted CALFIRE and the Cleveland National Forest on prescribed fire projects.

This year, the zone developed a refuge complex safety plan, emergency contact plan and line of duty death guide. These plans have provided a

model for regional and national guides and plans. The zone started the Fire Fit Challenge this year with a 99% success rate.

The Southern California FMZ was strongly involved in with various interagency fire training, providing instructors for Engine Boss and Advanced Firefighter courses and supporting the training cadre for the San Diego Wildland Fire Drill at Southwestern College Wildland Fire Academy.

As an interagency partner, the zone supported a local Fire Awareness and Safety Open House event. The zone also supported a number of refuge and community outreach events including the San Diego NWR Refuge Week Celebration, San Diego Land Acquisition Ribbon Cutting Event, and July 4<sup>th</sup> Dehesa Annual Parade.

*Nevada FMZ: State of Nevada  
Tim Rash, Fire Management Officer*

- 4 wildfires (lightning) on Desert and Pahrangat NWRs.
- 2 wildfire responses to Ruby Lake NWR from BLM/USFS employees with refuge owned fire engine.
- 13 wildfire responses through the joint FWS-BLM fire engine.
- 31 vegetation treatments (4,212 acres)
  - 3,817 acres treated with prescribed fire (5 broadcast burns)
  - 2,526 acres treated on refuge WUI lands
  - 912 acres treated for habitat objectives on five refuges

It was a low wildfire occurrence year in the Nevada FMZ. At the Stillwater NWR, there have been three to four wildfires a year, but ongoing goat grazing projects may be attributable to this year's zero wildfire record.

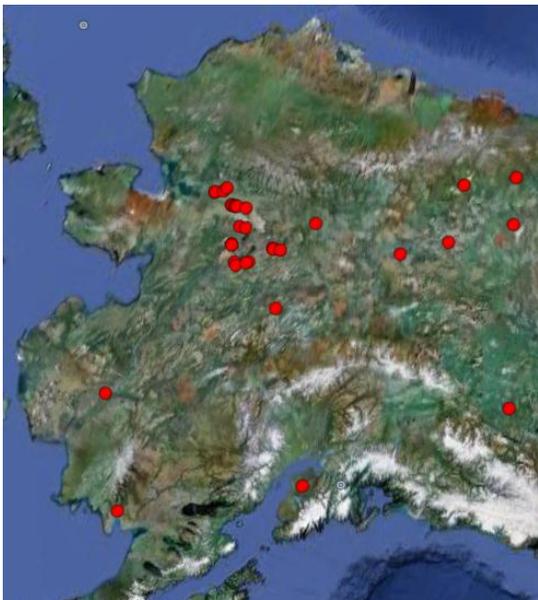
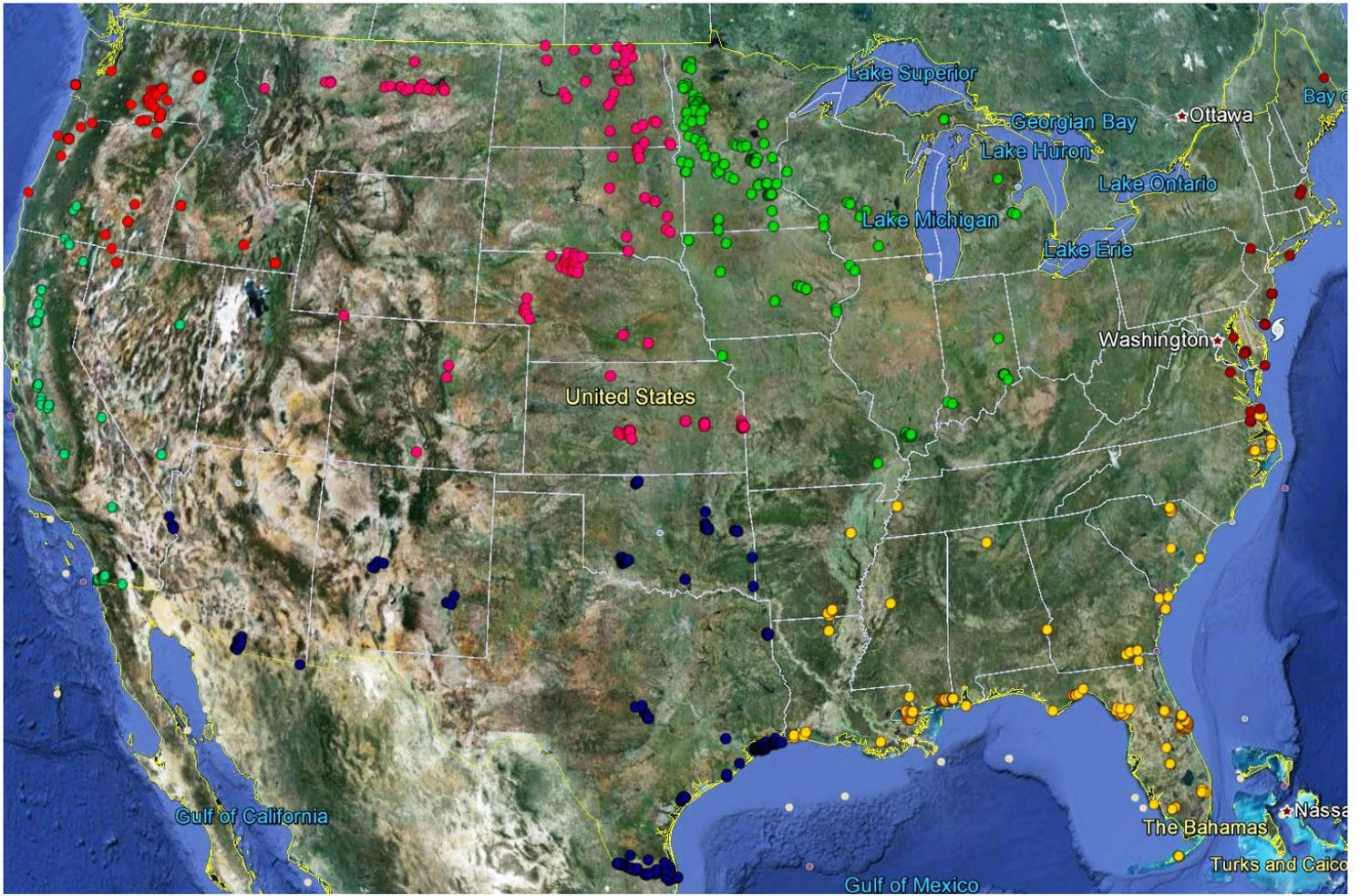
The zone continued its successful internal and external partnerships in fire management. They strengthened relationships with interagency partners including National Park Service assistance through the Southern Nevada Partnership Strategy.

Fuel treatment targets were met. The zone utilized goats, mechanical equipment and firefighters to complete vegetation treatments on refuge lands. A 253 acre goat grazing project helped reduce hazardous fuels on refuge WUI lands in Churchill and Lyon Counties. They also assisted the National Park Service with several prescribed burns at the Grand Canyon-Parashant National Monument.

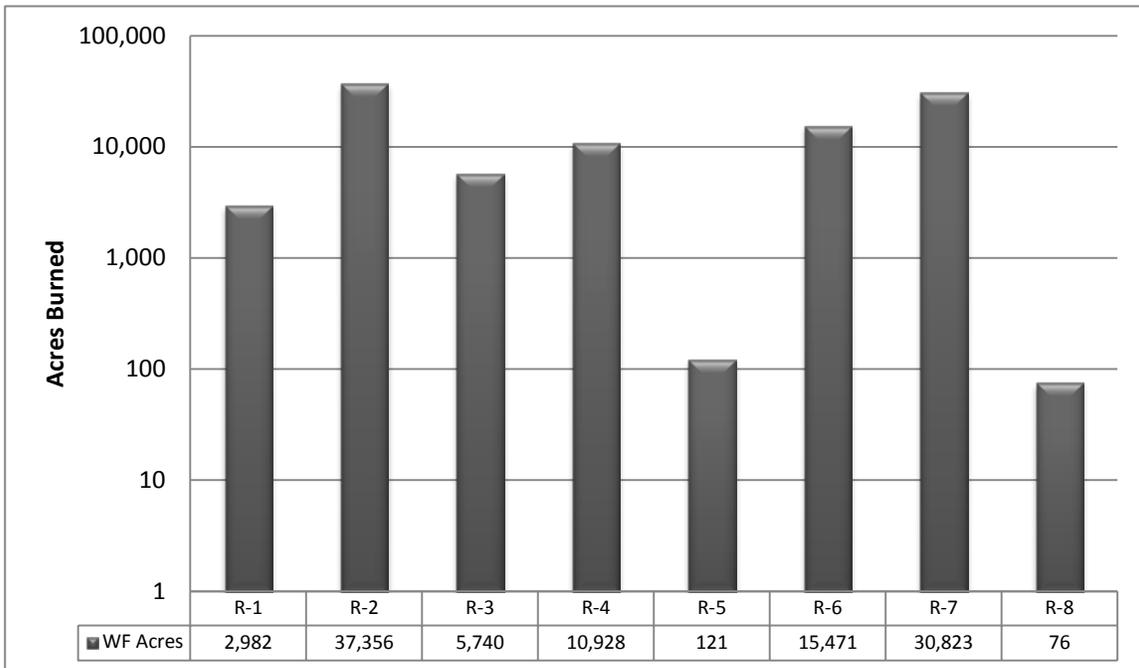
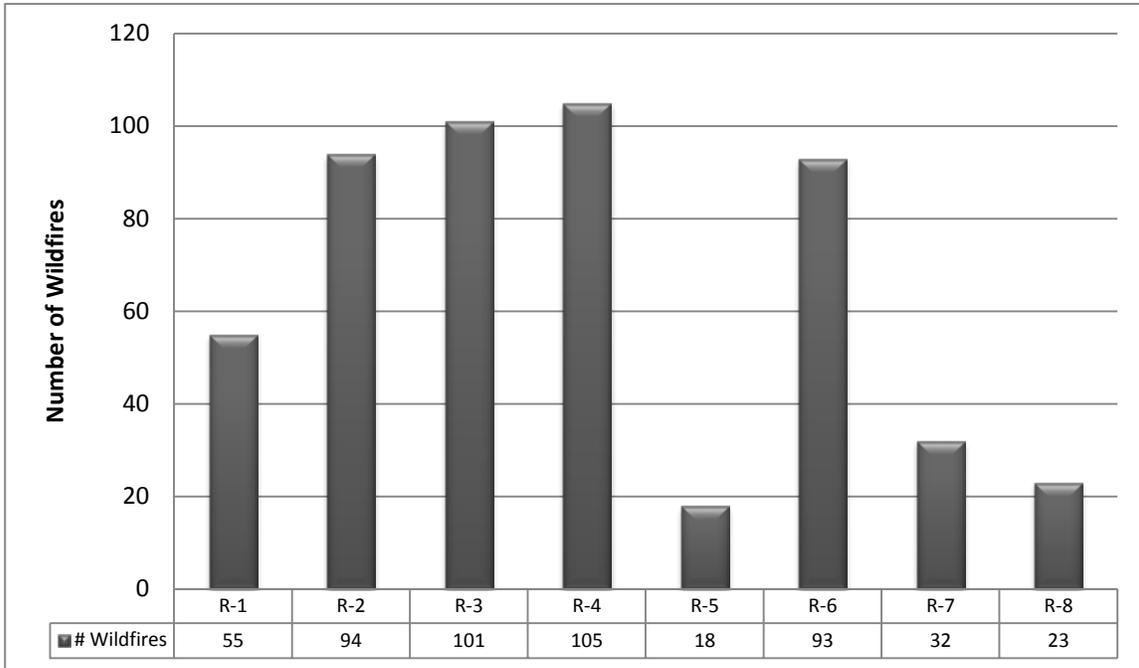
A significant note of success this year was the transition of Ross Wise, Zone Assistant Fire Management Officer, to the full performance level and the hiring of the Zone Prescribed Fire Specialist, Darwin Schultz. This helped expand the oversight and management of fire partnerships and projects throughout the zone. Attributable to these positions were the improved zone fire militia program and training cadre in southern Nevada.



# 2012 WILDFIRE ACTIVITY



# WILDFIRES 2012



# WILDFIRES

## by State

### 2012

<u>State</u>	<u># Fires</u>	<u>FWS Acres</u>	<u>Other Owner Acres</u>	<u>Total Acres</u>
Alabama	3	5.0		5.0
Alaska	33	30,823.9	25,785.6	56,609.5
Arizona	11	18.9		18.9
Arkansas	5	78.9		78.9
California	19	14.4		14.4
Colorado	3	150.6		150.6
Florida	37	6,575.7	30.0	6,605.7
Georgia	4	109.1	0.1	109.2
Idaho	5	10.6	10.6	21.2
Illinois	11	7.4		7.4
Indiana	6	103.0		103.0
Iowa	10	358.6	41.0	399.6
Kansas	18	246.5	239.4	485.9
Louisiana	22	3,562.8	385.0	3,947.8
Maryland	2	103.0		103.0
Massachusetts	2	0.7		0.7
Michigan	7	3,487.5	38.0	3,525.5
Minnesota	56	1,742.5	870.5	2,613.0
Mississippi	9	9.2		9.2
Missouri	2	0.3		0.3
Montana	22	10,195.3	234.5	10,429.8
Nebraska	10	3,352.2	3,480.0	6,832.2
Nevada	3	60.2		60.2
New Jersey	7	2.7		2.7
New Mexico	2	166.5		166.5
New York	1	0.2	15.0	15.2
North Carolina	10	140.1		140.1
North Dakota	30	1,300.3	119.3	1,419.6
Oklahoma	25	5,321.0	603.9	5,924.9
Oregon	17	1,262.1	159,597.0	160,859.1

Puerto Rico	7	259.2	96.0	355.2
South Carolina	8	186.8		186.8
South Dakota	10	225.7		225.7
Tennessee	1	1.0		1.0
Texas	55	31,849.6	749.2	32,598.8
Virginia	4	13.8	1.9	15.7
Washington	35	1,710.2	352.5	2,062.7
Wisconsin	10	41.0		41.0
<b>Total</b>	<b>522</b>	<b>103,496.5</b>	<b>192,649.5</b>	<b>296,146.0</b>

## WILDFIRES

### Pacific Refuges

<u>Refuge</u>	<u># Fires</u>	<u>FWS Acres</u>	<u>Other Owner Acres</u>	<u>Total Acres</u>
Basket Slough NWR	6	2.4		2.4
Bear Lake NWR	1	4.1		4.1
Columbia NWR	6	1,224.0	152.5	1,376.5
Deer Flat NWR	2	0.2		0.2
Hanford/Saddle Mtn. NWR	10	247.7		247.7
Hart Mtn. Natl. Antelope Refuge	1	0.2		0.2
Malheur NWR	3	1,211.0	159,592.0	160,803.0
McKay Creek NWR	3	45.1	3.0	48.1
McNary NWR	3	1.2		1.2
Minidoka NWR	1	3.1		3.1
Oxford Slough Waterfowl	1	3.2	10.6	13.8
Steigerwald Lake NWR	1	145.0		145.0
Tualatin River NWR	1	1.0	2.0	3.0
Turnbull NWR	4	83.7		83.7
Umatilla NWR	2	5.0	200.0	205.0
Willapa NWR	9	3.6		3.6
William L. Finley NWR	1	1.3		1.3
<b>Total</b>	<b>55</b>	<b>2,981.8</b>	<b>159,960.1</b>	<b>162,941.9</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	6	6385.7	0.5	6,386.2
Aransas NWR	2	802		802.0
Balcones Canyonlands NWR	2	0.2		0.2
Brazoria NWR	1	0.5		0.5
Buenos Aires NWR	8	12.9		12.9
Caddo Lake NWR	4	8.7		8.7
Deep Fork NWR	6	664.8	195.9	860.7
Havasu NWR	4	6.1		6.1
Laguna Atascosa NWR	2	183		183.0
Little River NWR	1	2	30	32.0
Lower Rio Grand Valley NWR	14	414.7		414.7
McFaddin NWR	13	23545.5	748.7	24,294.2
Moody NWR	8	445		445.0
Ozark Plateau NWR	1	650	378	1,028.0
Salt Plains NWR	4	32.1		32.1
San Bernard NWR	3	64.3		64.3
Sequoyah NWR	3	34.1		34.1
Sevilleta NWR	2	166.5		166.5
Wichita Mountains Wildlife Refuge	10	3938		3,938.0
<b>Total</b>	<b>94</b>	<b>37,356.1</b>	<b>1,353.1</b>	<b>38,709.2</b>

# WILDFIRES

## Midwest Refuges

<u>Refuge</u>	<u># Fires</u>	<u>FWS Acres</u>	<u>Other Owner Acres</u>	<u>Total Acres</u>
Agassiz NWR	1	66.0		66.0
Big Oaks NWR	4	87.0		87.0
Big Stone NWR	1	0.9		0.9
Crab Orchard NWR	9	3.5		3.5
Detroit Lakes WMD	12	1,246.0	480.0	1,726.0
Fergus Falls WMD	6	18.5		18.5
Glacial Ridge NWR	1	10.0	52.0	62.0
Hamden Slough NWR	1	0.5		0.5
Horicon NWR	4	11.1		11.1
Iowa WMD	1	100.0		100.0
Kirtlands Warbler Wildlife Mgmt Area	1	87.0	38.0	125.0
Leopold WMD	4	28.8		28.8
Litchfield WMD	3	90.0	82.0	172.0
Mingo NWR	1	0.1		0.1
Minnesota Valley NWR	10	2.2		2.2
Morris WMD	3	53.5	247.5	301.0
Neal Smith NWR	1	1.6		1.6
Necedah NWR	1	0.1		0.1
Patoka River NWR	2	16.0		16.0
Port Louisa NWR	7	132.0		132.0
Seney NWR	2	3,400.1		3,400.1
Sherburne NWR	15	35.9		35.9
Shiawessee NWR	4	0.4		0.4
Squaw Creek NWR	1	0.2		0.2
St. Croix WMD	1	1.0		1.0
Upr MS River-La Crosse Distric	1	195.0		195.0
Upr MS River-McGregor Distric	1	125.0	41.0	166.0
Upr MS River-Savanna District	2	3.9		3.9
Windom WMD	1	24.0	9.0	33.0
<b>Total</b>	<b>101</b>	<b>5,740.3</b>	<b>949.5</b>	<b>6,689.8</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	4	135.3	0	135.3
A.R.M. Loxahatchee NWR	5	53.7	0	53.7
Bayou Sauvage NWR	10	265.7		265.7
Big Branch Marsh NWR	4	62.2	4	66.2
Bogue Chitto NWR	1	0.4		0.4
Bon Secour NWR	1	1.0		1.0
Cabo Rojo NWR	6	257.3	67.9	325.2
Cache River NWR	1	1.0		1.0
Cameron Prairie NWR	2	8.5		8.5
Cape Romain NWR	1	3.5		3.5
Carolina Sandhills NWR	4	181.0		181.0
Chickasaw NWR	1	1.0		1.0
D'Arbonne NWR	1	135.0		135.0
Felsenthal NWR	5	78.4		78.4
Florida Panther NWR	4	735.3	30	765.3
Grand Bay NWR	2	2.0		2.0
Laguna Cartagena	1	1.9	28.1	30.0
Lake Wales Ridge NWR	2	15.3		15.3
Lake Woodruff NWR	2	1,425.2		1,425.2
Mackay Island NWR	3	4.5		4.5
Mandalay NWR	1	233.0	381	614.0
Merritt Island NWR	14	2,235.9		2,235.9
MS Sandhill Crane NWR	8	8.2		8.2
National Key Deer Refuge	3	0.3		0.3
Okefenokee NWR	2	99.1		99.1
Pinckney Island NWR	1	0.1		0.1
Pocosin Lakes NWR	1	0.1		0.1
Sabine NWR	3	2,858.0		2,858.0
Santee NWR	1	2.1		2.1
Savannah-Pickney Natl Wildl Rfgs	1	0.1		0.1

St. Johns NWR	6	2,109.0		2,109.0
St. Marks NWR	1	1.0		1.0
Wassaw NWR	2	10.0	0.1	10.1
Wheeler NWR	1	3.0		3.0
<b>Total</b>	<b>105</b>	<b>10,928.1</b>	<b>511.1</b>	<b>11,439.2</b>

## WILDFIRES

### Northeast Refuges

<u>Refuge</u>	<u># Fires</u>	<u>FWS Acres</u>	<u>Other Owner Acres</u>	<u>Total Acres</u>
Assabet River NWR	1	0.5		0.5
Back Bay NWR	1	13.0		13.0
Blackwater NWR	2	103.0		103.0
Cape May NWR	3	1.2		1.2
Chincoteague NWR	1	0.2		0.2
Edwin B. Forsythe NWR	3	1.2		1.2
Great Dismal Swamp NWR	3	0.3	1.9	2.2
Great Meadows NWR	1	0.2		0.2
Rappahannock River Valley NWR	1	0.5		0.5
Wallkill River NWR	1	0.3		0.3
Wertheim NWR	1	0.2	15	15.2
<b>Total</b>	<b>18</b>	<b>120.6</b>	<b>16.9</b>	<b>137.5</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	150.0		150.0
Audubon NWR	1	0.1	0.3	0.4
Benton Lake NWR	3	162.2		162.2
Benton Lake WMD	1	0.1		0.1
Bowdoin NWR	1	1.0	45.0	46.0
Charles M. Russell NWR	16	10,031.9	189.5	10,221.4
Chase Lake Prairie Proj. WMD	2	160.1		160.1
Crescent Lake NWR	3	2,524.1		2,524.1
Des Lacs NWR	1	101.0	32.0	133.0
Devils Lake WMD	14	743.3		743.3
Flint Hills NWR	7	76.1	220.1	296.2
Fort Niobrara NWR	1	0.1		0.1
Huron WMD	2	69.0		69.0
J. Clark Salyer NWR	4	71.3		71.3
Karl E. Mundt NWR	1	112.0		112.0
Kirwin NWR	1	0.1		0.1
Kulm WMD	2	53.0		53.0
Lake Andes NWR	1	1.0		1.0
Madison WMD	5	34.0		34.0
Marais Des Cygnes NWR	8	170.1	19.3	189.4
National Bison Range	1	0.1		0.1
Quivira NWR	2	0.2		0.2
Rainwater Basin WMD	1	20.0	3,480.0	3,500.0
Rocky Mountain Arsenal NWR	2	0.6		0.6
Sand Lake NWR	1	9.7		9.7
Sullys Hill Natl Game Preserve	1	34.0		34.0
Tewaukon WMD	4	130.5	87.0	217.5
Valentine NWR	5	808.0		808.0
Valley City WMD	1	7.0		7.0
<b>Total</b>	<b>93</b>	<b>15,470.6</b>	<b>4,073.2</b>	<b>19,543.8</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	3	1,729.0	0.0	1,729.0
Kanuti NWR	1	427.0	0.0	427.0
Kenai NWR	1	0.1	0.0	0.1
Koyuku NWR	11	15,350.0	0.0	15,350.0
Nowitna NWR	1	10,906.4	11,459.6	22,366.0
Selawik NWR	10	150.6	0.0	150.6
Tetlin NWR	1	3.0	0.0	3.0
Togiak NWR	1	2,240.0	14,326.0	16,566.0
Yukon Delta NWR	1	16.0	0.0	16.0
Yukon Flats NWR	2	1.3	0.0	1.3
<b>Total</b>	<b>32</b>	<b>30,823.4</b>	<b>25,785.6</b>	<b>56,609.0</b>

## WILDFIRES

### Pacific Southwest Refuges

<u>Refuge</u>	<u># Fires</u>	<u>FWS Acres</u>	<u>Other Owner Acres</u>	<u>Total Acres</u>
Desert National Wildlife Range	1	0.1		0.1
Klamath Marsh NWR	1	0.1		0.1
Lower Klamath NWR	1	1		1.0
Modoc NWR	1	0.5		0.5
Pahranagat NWR	1	0.1		0.1
Pixley NWR	1	7		7.0
Ruby Lake	1	60		60.0
Sacramento River NWR	1	0.5		0.5
San Diego Bay NWR	4	0.4		0.4
San Diego NWR	4	0.8		0.8
San Joaquin River NWR	5	5		5.0
Tule NWR	2	0.1		0.1
<b>Total</b>	<b>23</b>	<b>75.6</b>	<b>0.0</b>	<b>75.6</b>

## WILDFIRES by Cause

<b>Cause</b>	<b># Fires</b>	<b>FWS Acres</b>	<b>Other Owner Acres</b>	<b>Total Acres</b>
Natural	146	72,676.0	171,858.4	244,534.4
Debris / Vegetation Burn	24	1,167.2	3,541.6	4,708.8
Equipment Use	40	5,936.7	752.9	6,689.6
Exceeded RX Prescription	3	667.1	188.0	855.1
Incendiary	33	3,452.4	14,570.0	18,022.4
Misuse of Fire	34	167.4	68.0	235.4
Open or Outdoor Fire	46	40.7	0.0	40.7
Smoking	1	3.1	0.0	3.1
Structure	9	2.4	0.0	2.4
Other Causes	30	208.9	0.8	209.7
Undetermined	155	19,174.6	1,669.8	20,844.4
<b>Total</b>	<b>521</b>	<b>103,496.5</b>	<b>192,649.5</b>	<b>296,146.0</b>

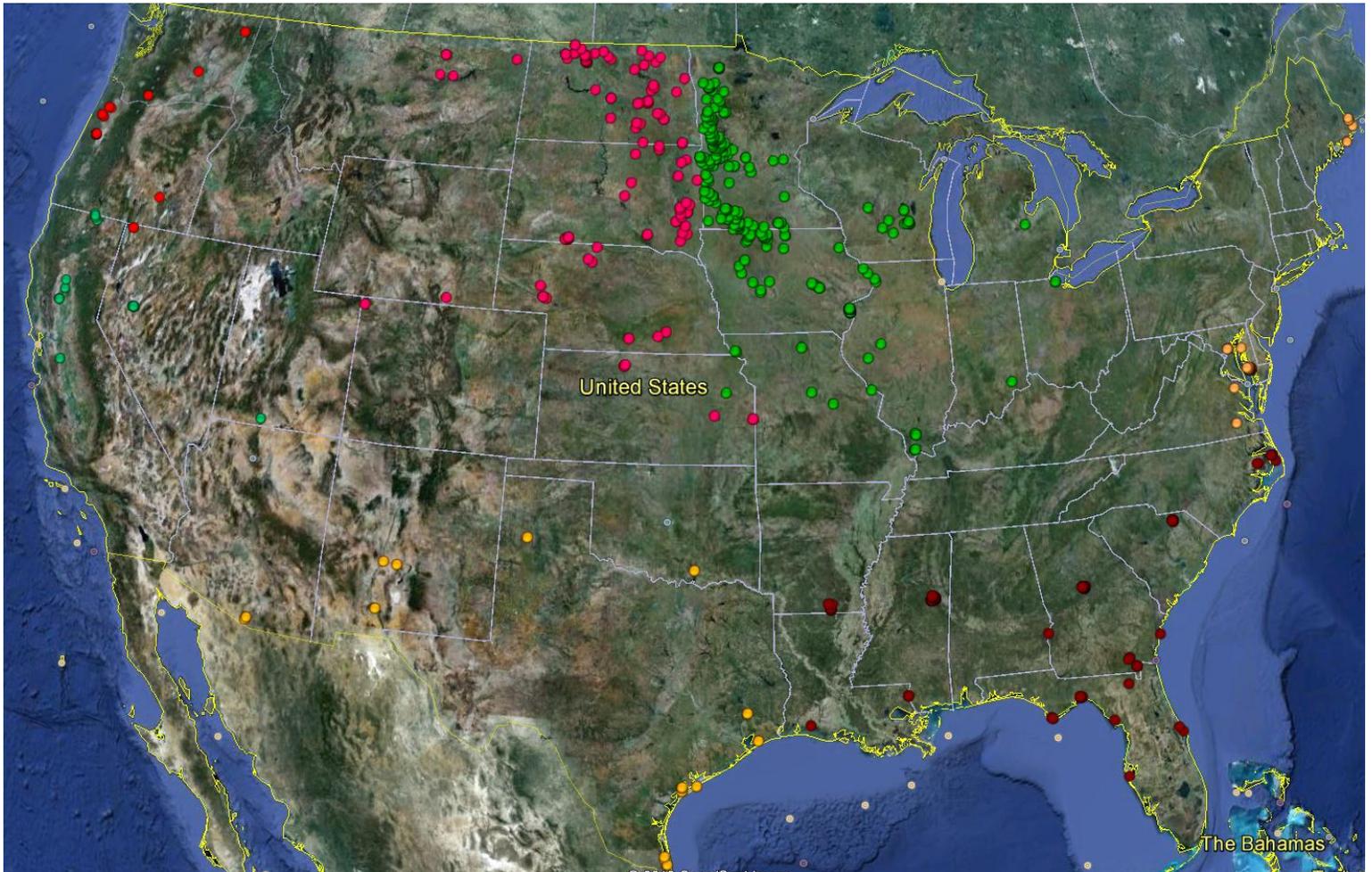
Includes wildfires for resource benefit and natural outs.

## WILDFIRES by Size Class

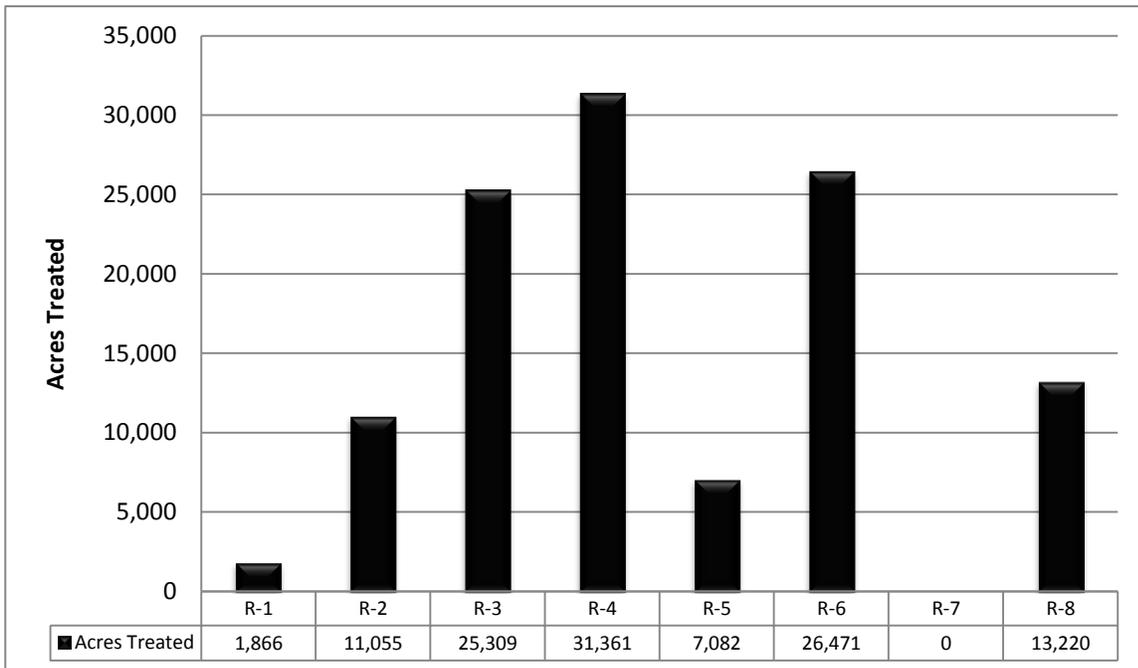
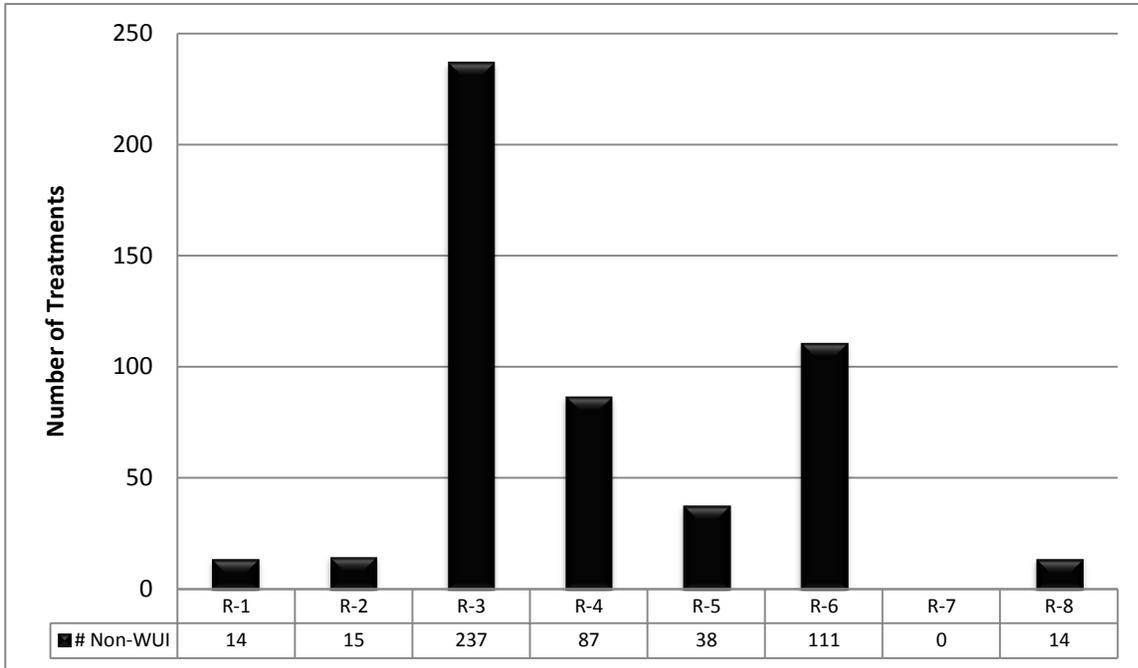
<b>Size Class</b>	<b># Fires</b>	<b>FWS Acres</b>	<b>Other Owner Acres</b>	<b>Total Acres</b>
A (0 - .2)	26	3.1	15.3	18.4
B (.3 - 9.9)	129	137.4	317.6	455.0
C (10 - 99.9)	116	1,565.1	4,135.7	5,700.8
D (100 - 299.9)	83	3,741.0	628.2	4,369.2
E (300 - 999.9)	55	5,690.1	603.9	6,294.0
F (1000 - 4999.9)	65	26,140.3	174,550.5	200,690.8
G (5000 +)	47	66,219.5	12,398.3	78,617.8
<b>Total</b>	<b>521</b>	<b>103,496.5</b>	<b>192,649.5</b>	<b>296,146.0</b>

Includes wildfires for resource benefit and natural outs.

# 2012 NON-WUI ACTIVITY



# NON-WUI TREATMENTS 2012



## NON-WUI TREATMENTS by State 2012

<u>State</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Chem/Other Acres</u>	<u>Total Acres</u>
Alabama	1	259	0	0	259.0
Arizona	2	1887	0	0	1,887.0
Arkansas	6	2205	0	0	2,205.0
California	8	6916	240	0	7,156.0
Colorado	1	386	0	0	386.0
Florida	13	16015.1	0	0	16,015.1
Georgia	20	5317	0	0	5,317.0
Hawaii	1	0	100	0	100.0
Illinois	11	2047	0	0	2,047.0
Indiana	1	2	0	0	2.0
Iowa	53	5341	0	0	5,341.0
Kansas	6	511	0	0	511.0
Louisiana	3	98	100	0	198.0
Maine	7	20.6	5.4	0	26.0
Maryland	30	6949.5	0	0	6,949.5
Michigan	1	10	0	0	10.0
Minnesota	149	16136	60	0	16,196.0
Mississippi	20	4460	0	0	4,460.0
Missouri	5	155	3	0	158.0
Montana	4	1516	0	0	1,516.0
Nebraska	10	3948	0	0	3,948.0
Nevada	7	1002	40	0	1,042.0
New Mexico	1	40	0	0	40.0
North Carolina	8	225	550	189	964.0
North Dakota	54	14173	1	0	14,174.0
Ohio	2	162	0	0	162.0
Oklahoma	1	20	0	0	20.0
Oregon	9	5262	1226	0	6,488.0
Puerto Rico	8	0	403	0	403.0
South Carolina	8	1540	0	0	1,540.0
South Dakota	35	5914	0	0	5,914.0

Texas	11	9106	2	0	9,108.0
Virginia	1	106	0	0	106.0
Washington	3	300	0	0	300.0
Wisconsin	15	1252	141	0	1,393.0
Wyoming	1	21.8	0	0	21.8
<b>Total</b>	<b>516</b>	<b>113,303.0</b>	<b>2,871.4</b>	<b>189.0</b>	<b>116,363.4</b>

Total Acres = FWS acres treated.

## NON-WUI TREATMENTS Pacific Refuges

<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Columbia NWR	1	5.0			5.0
Conboy Lake NWR	1	265.0			265.0
Hakalua Forest NWR	1		100.0		100.0
Little Pend Oreille NWR	1	30.0			30.0
Malheur NWR	1		1,226.0		1,226.0
Sheldon NWR	2	13.0	40.0		53.0
William L. Finley NWR	7	187.0			187.0
<b>Total</b>	<b>14</b>	<b>500.0</b>	<b>1,366.0</b>	<b>0.0</b>	<b>1,866.0</b>

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

## NON-WUI TREATMENTS

### Southwest Refuges

<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Anahuac NWR	1	510.0			510.0
Aransas NWR	4	1,905.0			1,905.0
Bosque Del apache NWR	1	40.0			40.0
Buenos Aires NWR	2	1,887.0			1,887.0
Buffalo Lake NWR	1	790.0			790.0
Laguna Atascosa NWR	3	794.0			794.0
Matagorda Island NWR	1	5,107.0			5,107.0
Tishomingo NWR	1	20.0			20.0
Trinity River NWR	1		2.0		2.0
<b>Total</b>	<b>15</b>	<b>11,053.0</b>	<b>2.0</b>	<b>0.0</b>	<b>11,055.0</b>

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

## NON-WUI TREATMENTS

### Midwest Refuges

<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Agassiz NWR	6	112.0			112.0
Big Muddy Natl Fish & Wildl Rfg	3	140.0			140.0
Big Oaks NWR	1	2.0			2.0
Big Stone NWR	9	831.0			831.0
Crab Orchard NWR	3	128.0			128.0
Cypress Creek NWR	2	66.0			66.0
Detroit Lakes WMD	19	2,234.0			2,234.0
Driftless Area NWR	1	70.0			70.0
Emiquon NWR	1	160.0			160.0
Fergus Falls WMD	34	4,647.0			4,647.0
Fox River NWR	1	5.0			5.0
Glacial Ridge NWR	8	1,399.0			1,399.0
Horicon NWR	8	818.0			818.0
Iowa WMD	23	2,284.0			2,284.0
Leopold WMD	5	429.0			429.0
Litchfield WMD	4	329.0			329.0
Meredosia NWR	1	17.0			17.0
Minnesota Valley NWR	2	120.0			120.0
Morris NWR	29	3,367.0			3,367.0
Necedah NWR	1		141.0		141.0
Ottawa NWR	2	162.0			162.0
Port Louisa NWR	24	2,654.0			2,654.0
Rice Lake NWR	1		30.0		30.0
Sherburne NWR	1	0.0	30.0		30.0
Shiawassee NWR	1	10.0			10.0
Squaw Creek NWR	2	15.0	3.0		18.0
Tamarac NWR	3	202.0			202.0
Two Rivers NWR	1	70.0			70.0
Union Slough NWR	4	280.0			280.0
Upper Mississippi River-Savanna	4	1,659.0			1,659.0
Windom NWR	33	2,895.0			2,895.0
<b>Total</b>	<b>237</b>	<b>25,105.0</b>	<b>204.0</b>	<b>0.0</b>	<b>25,309.0</b>

## NON-WUI TREATMENTS

### Southeast Refuges

<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	6	225.0		189.0	414.0
Blackbeard Island NWR	1	331.0			331.0
Bogue Chitto NWR	2	98.0			98.0
Cabo Rojo NWR	6		51.0		51.0
Carolina Sandhills NWR	8	1,540.0			1,540.0
Eufaula NWR	1	259.0			259.0
Felsenthal NWR	6	2,205.0			2,205.0
Lacassine NWR	1		100.0		100.0
Laguna Cartagena NWR	2		352.0		352.0
Lower Suwannee NWR	1	12.0			12.0
Merritt Island NWR	2	4,923.0			4,923.0
Okefenokee NWR	5	1,981.0			1,981.0
Piedmont NWR	15	4,805.0			4,805.0
Pocosin Lakes NWR	2		550.0		550.0
Sam D. Hamilton Noxubee NWR	20	4,460.0			4,460.0
St. Marks NWR	5	7,524.0			7,524.0
St. Vincent NWR	3	1,756.0			1,756.0
Tampa Bay Refuges	1	0.1			0.1
<b>Total</b>	<b>87</b>	<b>30,119.1</b>	<b>1,053.0</b>	<b>189.0</b>	<b>31,361.1</b>

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

## NON-WUI TREATMENTS Northeast Refuges

<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Blackwater NWR	26	6,805.0			6,805.0
Eastern Neck NWR	1	45.0			45.0
Moosehorn NWR	5	7.3	5.4		12.7
Patuxent Research Refuge	3	99.5			99.5
Petit Manan NWR	2	13.3			13.3
Rappahannock Rvr Valley NWR	1	106.0			106.0
<b>Total</b>	<b>38</b>	<b>7,076.1</b>	<b>5.4</b>	<b>0.0</b>	<b>7,081.5</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 Refuges

<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Arrowwood NWR	5	2,247.0			2,247.0
Arrowwood WMD	3	387.0			387.0
Audubon NWR	1	129.0	1.0		130.0
Bowdoin NWR	2	519.0			519.0
Browns Park NWR	1	386.0			386.0
Charles M. Russell NWR	1	937.0			937.0
Chase Lake Prairie Proj. WMD	2	474.0			474.0
Crescent Lake NWR	4	513.0			513.0
Des Lacs NWR	4	853.0			853.0
Devils Lake NWR	6	841.0			841.0
Flint Hills NWR	1	83.0			83.0
Fort Niobrara NWR	1	370.0			370.0
Huron WMD	2	245.0			245.0
J. Clark Salyer NWR	4	3,077.0			3,077.0
Kirwin NWR	3	356.0			356.0
Kulm WMD	4	1,014.0			1,014.0
Lacreek NWR	9	1,704.0			1,704.0
Lake Alice NWR	1	178.0			178.0
Lake Andes NWR	4	382.0			382.0
Long Lake NWR	3	412.0			412.0
Lostwood NWR	2	1,037.0			1,037.0
Lostwood WMD	1	721.0			721.0
Madison WMD	14	1,238.0			1,238.0
Marais Des Cygnes NWR	2	72.0			72.0
Medicine Lake NWR	1	60.0			60.0
Mortenson Lake NWR	1	21.8			21.8
Rainwater Basin WMD	3	275.0			275.0
Sand Lake NWR	3	1,771.0			1,771.0
Tewaukon NWR	2	259.0			259.0
Upper Souris NWR	11	2,108.0			2,108.0
Valentine NWR	2	2,790.0			2,790.0

Valley City WMD	5	436.0			436.0
Waubay NWR	3	574.0			574.0
<b>Total</b>	<b>111</b>	<b>26,469.8</b>	<b>1.0</b>	<b>0.0</b>	<b>26,470.8</b>

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

# NON-WUI TREATMENTS

## Alaska Refuges

<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

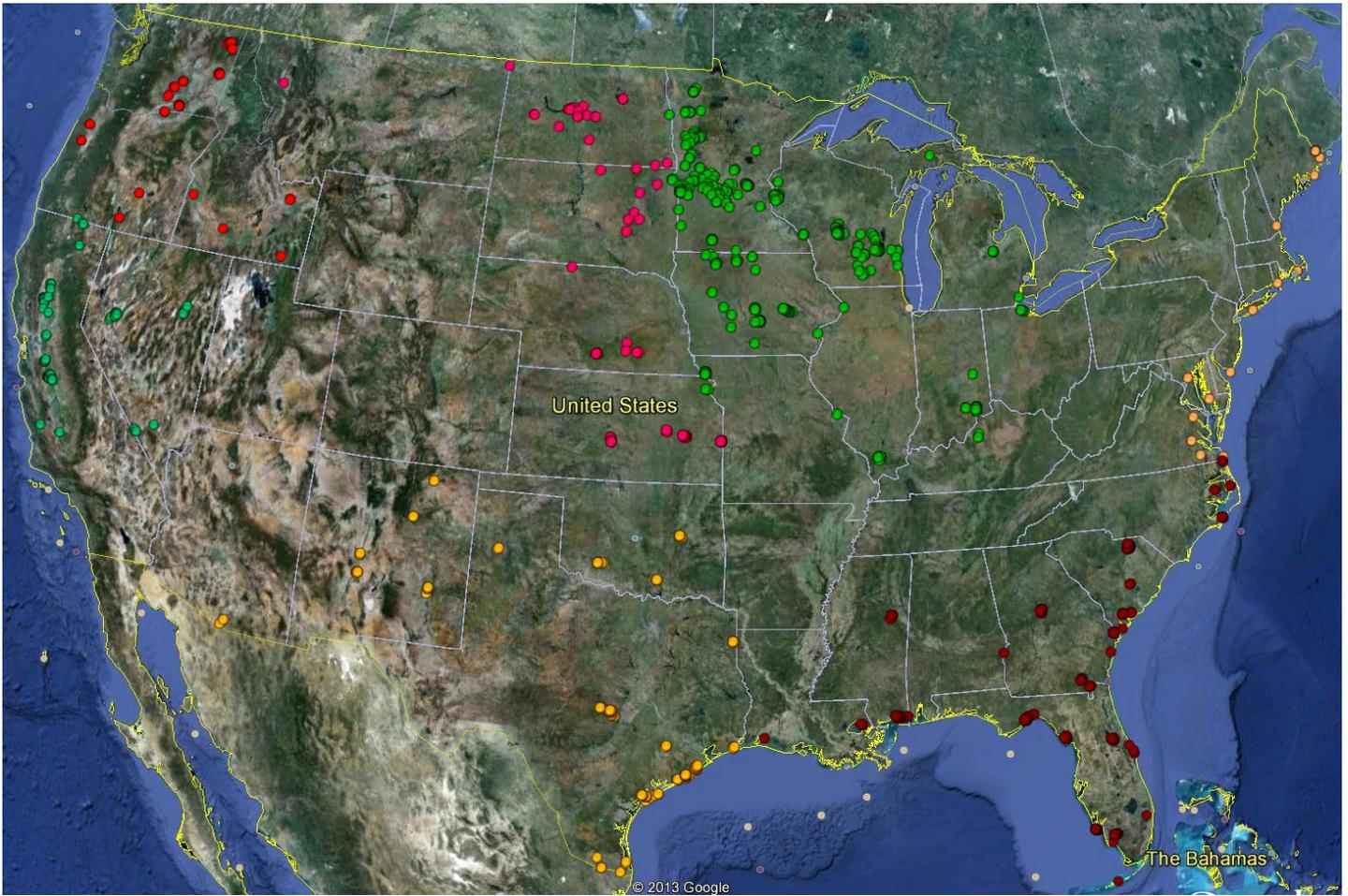
Other Acres = The number of acres that have been treated by a method other than prescribed fire or mechanical.

## NON-WUI TREATMENTS Pacific Southwest Refuges

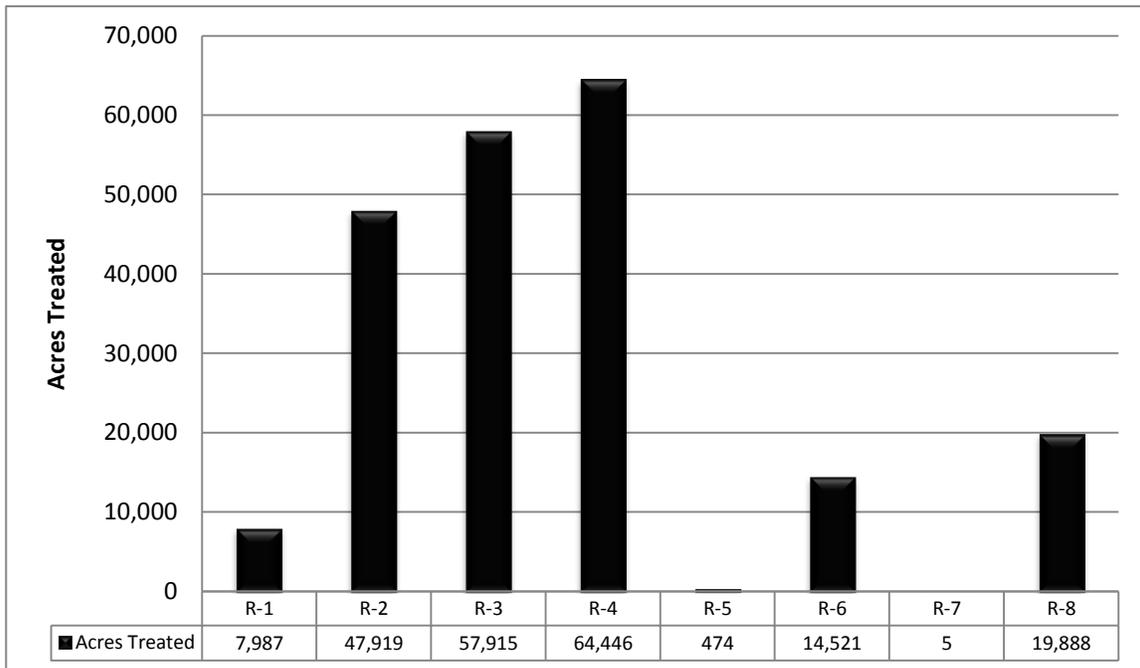
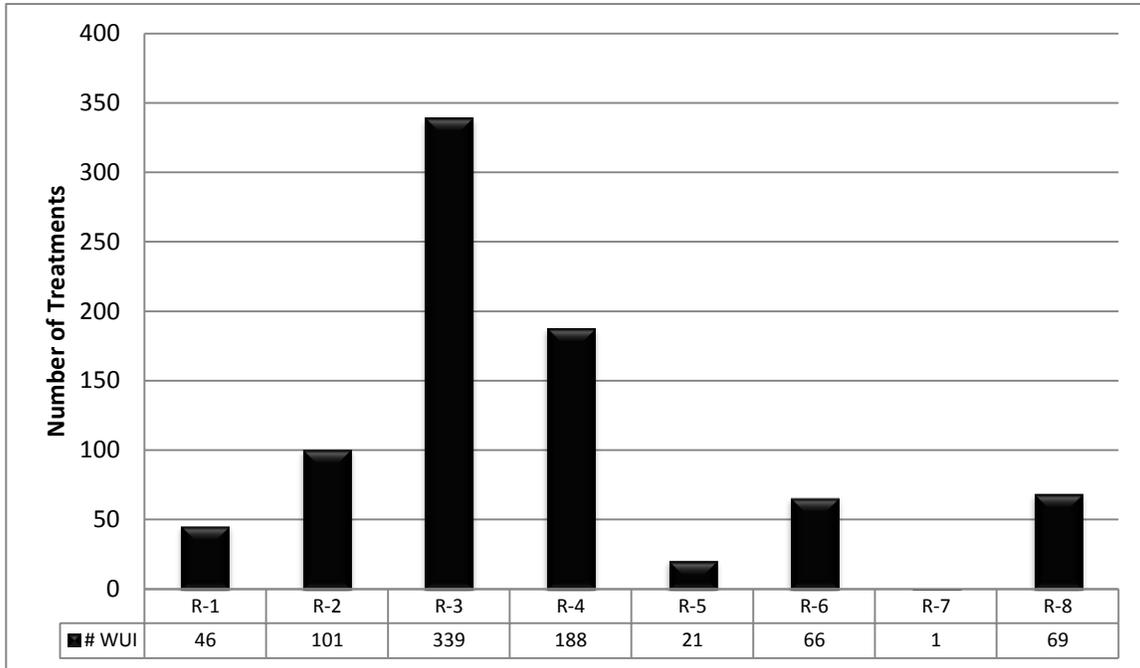
<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Delevan NWR	2	150			150.0
Lower Klamath NWR	3	7936	6		7,942.0
Pahranagat NWR	1	150			150.0
Sacramento River NWR	2	54			54.0
San Joaquin River NWR	1		234		234.0
Stillwater NWR	4	839			839.0
Tule Lake NWR	1	3851			3,851.0
<b>Total</b>	<b>14</b>	<b>12,980.0</b>	<b>240.0</b>	<b>0.0</b>	<b>13,220.0</b>

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

# 2012 WUI ACTIVITY



# WUI TREATMENTS 2011



## WUI TREATMENTS by State 2012

<u>State</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Chem/Other Acres</u>	<u>Total Acres</u>
Alabama	1	363.0			363.0
Alaska	1	5.0			5.0
Arizona	1	935.0			935.0
California	51	16,183.0	775.0	74.5	17,032.5
Florida	72	32,024.0	771.0		32,795.0
Georgia	20	8,528.1			8,528.1
Hawaii	1	52.0			52.0
Idaho	5	237.0	265.0		502.0
Illinois	8	351.0			351.0
Indiana	20	12,654.0			12,654.0
Iowa	53	9,122.0			9,122.0
Kansas	27	5,429.5			5,429.5
Louisiana	4	354.0	327.0		681.0
Maine	11	76.8	1.2		78.0
Maryland	1	40.0			40.0
Massachusetts	2	13.5			13.5
Michigan	8	774.0	15.0		789.0
Minnesota	136	19,821.0	168.0		19,989.0
Mississippi	26	6,963.0			6,963.0
Missouri	15	2,472.0			2,472.0
Montana	2	573.0			573.0
Nebraska	9	1,436.0			1,436.0
Nevada	17	2,458.0	140.0	253.0	2,851.0
New Hampshire	1	15.8			15.8
New Jersey	1	44.0			44.0
New Mexico	18	3,706.0	119.0	19.0	3,844.0
New York	1	26.0			26.0
North Carolina	13	2,439.0	739.0		3,178.0
North Dakota	20	4,880.0	22.0		4,902.0
Ohio	2	145.0			145.0
Oklahoma	11	5,798.1			5,798.1

Oregon	11	1,398.0	585.0		1,983.0
Puerto Rico	8	0.0	167.0		167.0
Rhode Island	1	2.0			2.0
South Carolina	44	11,771.0			11,771.0
South Dakota	8	2,180.0			2,180.0
Texas	71	36,317.6	378.0	646.0	37,341.6
Virginia	3	255.0			255.0
Washington	30	1,164.0	3,066.0	1,224.0	5,454.0
Wisconsin	97	11,581.4	812.0		12,393.4
<b>Total</b>	<b>831</b>	<b>202,587.8</b>	<b>8,350.2</b>	<b>2,216.5</b>	<b>213,154.5</b>

## WUI TREATMENTS Pacific Refuges

<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Baskett Slough NWR	3	75.0	125.0		200.0
Camas NWR	2	237.0			237.0
Columbia NWR	3	70.0	75.0	75.0	220.0
Deer Flat NWR	1		55.0		55.0
Hagerman NFH	1		10.0		10.0
Hanford Rch NM/Saddle Mtn	5	460.0	700.0		1,160.0
Hart Mtn Natl Antelope Refuge	1		100.0		100.0
James Campbell NWR	1	52.0			52.0
Little Pend Oreille NWR	8	145.0	1,579.0	345.0	2,069.0
Malheur NWR	2	1,307.0	200.0		1,507.0
McNary NWR	7	84.0	572.0	804.0	1,460.0
Oxford Slough WPA	1		200.0		200.0
Turnbull NWR	7	405.0	140.0		545.0
Umatilla NWR	2	10.0	10.0		20.0
William L. Finley NWR	2	2.0	150.0		152.0
<b>Total</b>	<b>46</b>	<b>2,847.0</b>	<b>3,916.0</b>	<b>1,224.0</b>	<b>7,987.0</b>

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

## WUI TREATMENTS Southwest Refuges

<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Aransas NWR	9	3,909.0	0.0	0.0	3,909.0
Attwater Prairie Chicken NWR	3	275.0	73.0	0.0	348.0
Balcones Canyonlands NWR	13	1,492.0	0.0	646.0	2,138.0
Big Boggy NWR	3	1,690.0	0.0	0.0	1,690.0
Bitter Lake NWR	5	2,423.0	41.0	0.0	2,464.0
Bosque Del Apache NWR	6	929.0	35.0	0.0	964.0
Brazoria NWR	9	6,848.1	0.0	0.0	6,848.1
Buenos Aires NWR	1	935.0	0.0	0.0	935.0
Buffalo Lake NWR	2	1,945.0	0.0	0.0	1,945.0
Caddo Lake NWR	3	709.0	30.0	0.0	739.0
Deep Fork NWR	4	5,020.0	0.0	0.0	5,020.0
Inks Dam NFH	1	1.0	0.0	0.0	1.0
Laguna Atoscosa NWR	2	531.0	0.0	0.0	531.0
Las Vegas NWR	2	103.0	5.0	0.0	108.0
Lower Rio Grande Valley NWR	4	228.0	275.0	0.0	503.0
Matagorda Island NWR	5	7,462.0	0.0	0.0	7,462.0
Maxwell NWR	2	219.0	6.0	0.0	225.0
McFaddin NWR	3	4,256.4	0.0	0.0	4,256.4
Ozark Plateau NWR	1	650.0	0.0	0.0	650.0
San Bernard NWR	13	6,914.1	0.0	0.0	6,914.1
Santa Ana NWR	1	57.0	0.0	0.0	57.0
Sevilleta NWR	3	32.0	32.0	19.0	83.0
Tishomingo NFH	2	120.0	0.0	0.0	120.0
Wichita Mountains Wildlife Rfg	4	8.1	0.0	0.0	8.1
<b>Total</b>	<b>101</b>	<b>46,756.7</b>	<b>497.0</b>	<b>665.0</b>	<b>47,918.7</b>

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

# WUI TREATMENTS

## Midwest Refuges

<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Agassiz NWR	7	958.0			958.0
Big Oaks NWR	18	12,594.0			12,594.0
Big Stone NWR	11	1,934.0			1,934.0
Crab Orchard NWR	6	218.0			218.0
Crane Meadows NWR	3	80.0	10.0		90.0
Detroit Lakes WMD	16	3,020.0			3,020.0
Detroit River Intrntl Wildl Rfg	1	220.0			220.0
Fergus Falls WMD	7	486.0			486.0
Fox River NWR	2	95.0			95.0
Glacial Ridge NWR	3	437.0			437.0
Horicon NWR	16	2,680.0			2,680.0
Iowa WMD	17	4,118.0			4,118.0
Leopold WMD	25	1,597.0			1,597.0
Litchfield WMD	26	2,476.0			2,476.0
Minnesota Valley NWR	2	23.0			23.0
Morris WMD	27	4,078.0			4,078.0
Muscatatuck NWR	2	60.0			60.0
Neal Smith NWR	20	2,323.0			2,323.0
Necedah NWR	33	5,465.4	562.0		6,027.4
Ottawa NWR	4	390.0			390.0
Port Louisa NWR	14	2,566.0			2,566.0
Rice Lake NWR	1		36.0		36.0
Rydell NWR	4	290.0			290.0
Seney NWR	1		15.0		15.0
Sherburne NWR	16	5,422.0	98.0		5,520.0
Shiawassee NWR	4	309.0			309.0
Squaw Creek NWR	13	1,872.0			1,872.0
St. Croix WMD	17	1,533.0	250.0		1,783.0
Swan Lake NWR	2	600.0			600.0
Tamarac NWR	8	472.0			472.0
Trempealeau NWR	4	211.0			211.0
Two Rivers NWR	1	12.0			12.0

Union Slough NWR	2	115.0			115.0
Upper Mississippi River-Savanna	1	121.0			121.0
Windom WMD	5	145.0	24.0		169.0
<b>Total</b>	<b>339</b>	<b>56,920.4</b>	<b>995.0</b>	<b>0.0</b>	<b>57,915.4</b>

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

## WUI TREATMENTS

### Southeast Refuges

<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	2		449.0		449.0
ARM Loxahatchee NWR	1	3,000.0			3,000.0
Big Branch Marsh NWR	3	354.0			354.0
Cabo Rojo NWR	8		167.0		167.0
Cameron Prairie NWR	1		327.0		327.0
Carolina Sandhills NWR	23	7,625.0			7,625.0
Cedar Island NWR	5	1,813.0	55.0		1,868.0
EF Hollings Ace Basin NWR	8	1,742.0			1,742.0
Eufaula NWR	1	363.0			363.0
Florida Panther NWR	11	3,784.0	648.0		4,432.0
Grand Bay NWR	2	115.0			115.0
Harris Neck NWR	1	45.0			45.0
J.N. Ding Darling NWR	20	358.0	35.0		393.0
Lake Woodruff NWR	9	6,941.0			6,941.0
Lower Suwannee NWR	8	1,142.0			1,142.0
Mackay Island NWR	4	626.0			626.0
Merritt Island NWR	4	9,245.0			9,245.0
Mississippi Sandhill Crane NWR	19	5,432.0			5,432.0
National Key Deer Refuge	1		88.0		88.0
Okefenokee NWR	11	3,242.1			3,242.1
Piedmont NWR	8	5,241.0			5,241.0
Pinckney Island NWR	1	25.0			25.0
Pocosin Lakes NWR	2		235.0		235.0
Sam D. Hamilton Noxubee NWR	5	1,416.0			1,416.0
Santee NWR	2	468.0			468.0
Savannah-Picnkey Refuges	10	1,911.0			1,911.0
St. Marks NWR	17	4,554.0			4,554.0
Ten Thousand Island NWR	1	3,000.0			3,000.0
<b>Total</b>	<b>188</b>	<b>62,442.1</b>	<b>2,004.0</b>	<b>0.0</b>	<b>64,446.1</b>

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

## WUI TREATMENTS

### Northeast Refuges

<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	1	125.0			125.0
Cape May NWR	1	44.0			44.0
Great Bay NWR	1	15.8			15.8
James River NWR	1	65.0			65.0
Mashpee NWR	2	13.5			13.5
Moosehorn NWR	10	66.1	1.2		67.3
Ninigret NWR	1	2.0			2.0
Patuxent Research Refuge	1	40.0			40.0
Petit Manan NWR	1	10.7			10.7
Rappahonnock River Valley	1	65.0			65.0
Seatuck NWR	1	26.0			26.0
<b>Total</b>	<b>21</b>	<b>473.1</b>	<b>1.2</b>	<b>0.0</b>	<b>474.3</b>

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

## WUI TREATMENTS Mountain-Prairie Refuges

<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Audubon NWR	15	2,974.0	22.0	0.0	2,996.0
Flint Hills NWR	12	794.5	0.0	0.0	794.5
Fort Niobrara NWR	1	67.0	0.0	0.0	67.0
Huron WMD	4	791.0	0.0	0.0	791.0
Long Lake NWR	1	300.0	0.0	0.0	300.0
Marais Des Cygnes NWR	9	1,127.0	0.0	0.0	1,127.0
Medicine Lake NWR	1	423.0	0.0	0.0	423.0
National Bison Range	1	150.0	0.0	0.0	150.0
Quivira NWR	6	3,508.0	0.0	0.0	3,508.0
Rainwater Basin WMD	8	1,369.0	0.0	0.0	1,369.0
Sand Lake NWR	3	1,117.0	0.0	0.0	1,117.0
Sullys Hill National Game Prsv	2	203.0	0.0	0.0	203.0
Tewaukon NWR	2	1,403.0	0.0	0.0	1,403.0
Waubay NWR	1	272.0	0.0	0.0	272.0
<b>Total</b>	<b>66</b>	<b>14,498.5</b>	<b>22.0</b>	<b>0.0</b>	<b>14,520.5</b>

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

# WUI TREATMENTS

## Alaska Refuges

<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Kanuti NWR	1	5.0	0.0	0.0	5.0
<b>Total</b>	<b>1</b>	<b>5.0</b>	<b>0.0</b>	<b>0.0</b>	<b>5.0</b>

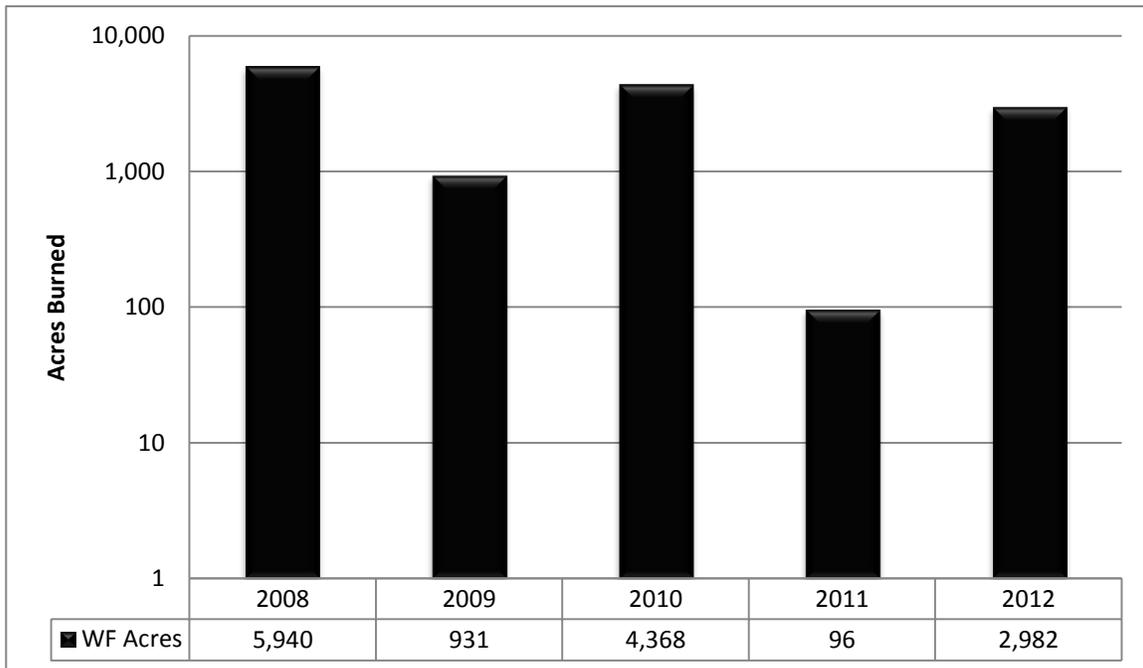
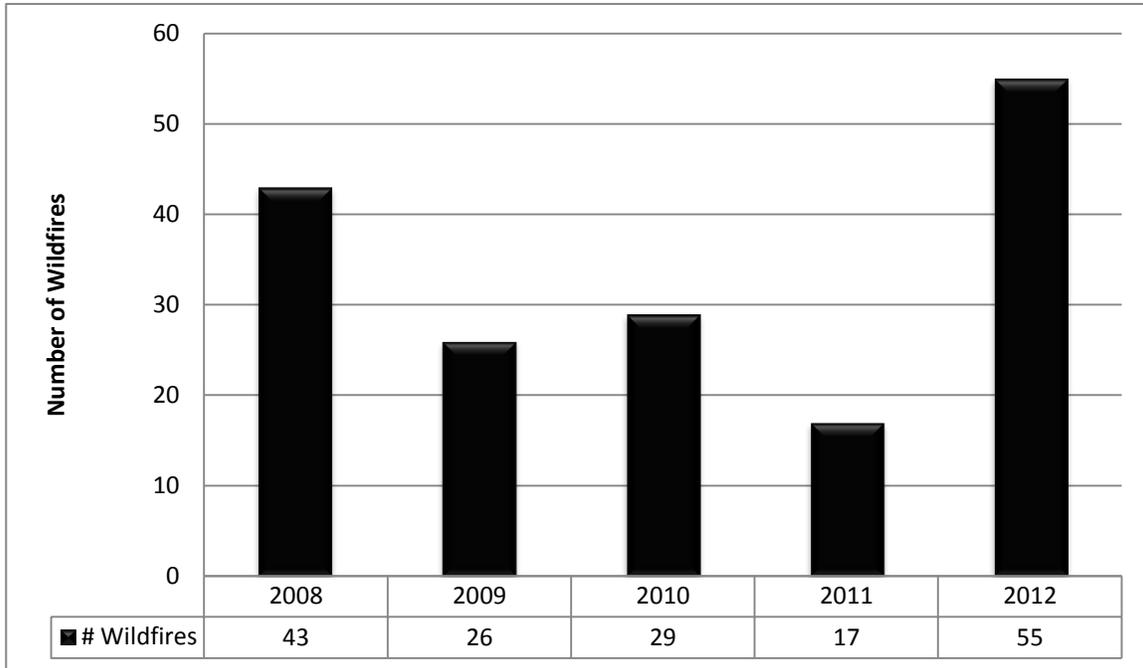
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## WUI TREATMENTS Pacific Southwest Refuges

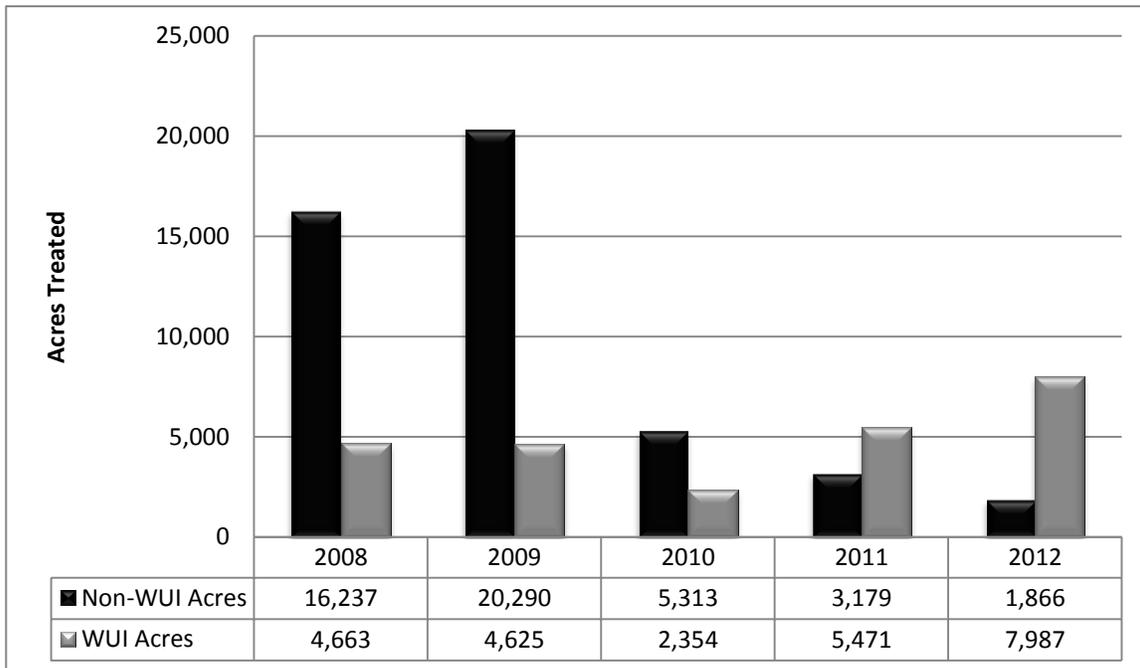
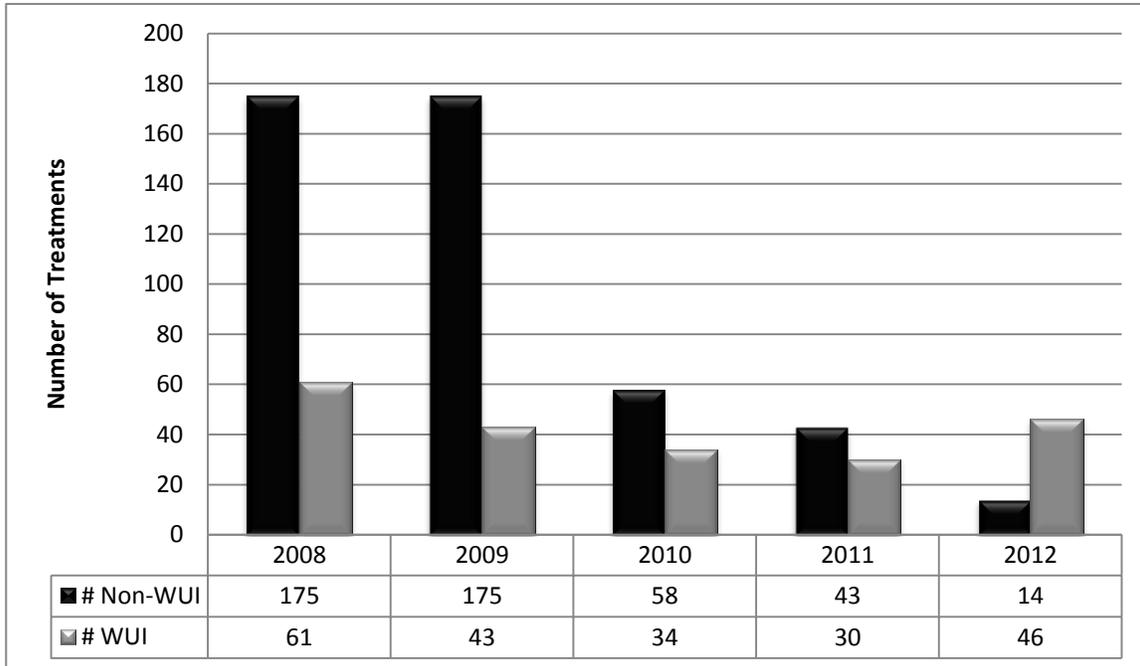
<u>Refuge</u>	<u>Number</u>	<u>Rx Acres</u>	<u>Mech Acres</u>	<u>Other Acres</u>	<u>Total Acres</u>
Ash Meadows NWR	3	265.0	50.0		315.0
Bear Valley NWR	1	4.0			4.0
Colusa NWR	1	7.0			7.0
Delevan NWR	3	354.0			354.0
Desert National Wildlife Range	1	1.0			1.0
Kern NWR	2	846.0	120.0		966.0
Merced NWR	6	1,076.0	175.0		1,251.0
Modoc NWR	1	70.0			70.0
Ruby Lake NWR	4		90.0		90.0
Sacramento NWR	7	189.0			189.0
Sacramento River NWR	6	29.0		46.5	75.5
San Joaquin River NWR	5		298.0		298.0
San Luis NWR	14	1,718.0	175.0		1,893.0
Stillwater NWR	9	2,192.0		253.0	2,445.0
Stone Lakes NWR	2	37.0		28.0	65.0
Sutter NWR	1	5.0			5.0
Tule Lake NWR	3	11,852.0	7.0		11,859.0
<b>Total</b>	<b>69</b>	<b>18,645.0</b>	<b>915.0</b>	<b>327.5</b>	<b>19,887.5</b>

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

## PACIFIC REGION Wildfires 2008 - 2012

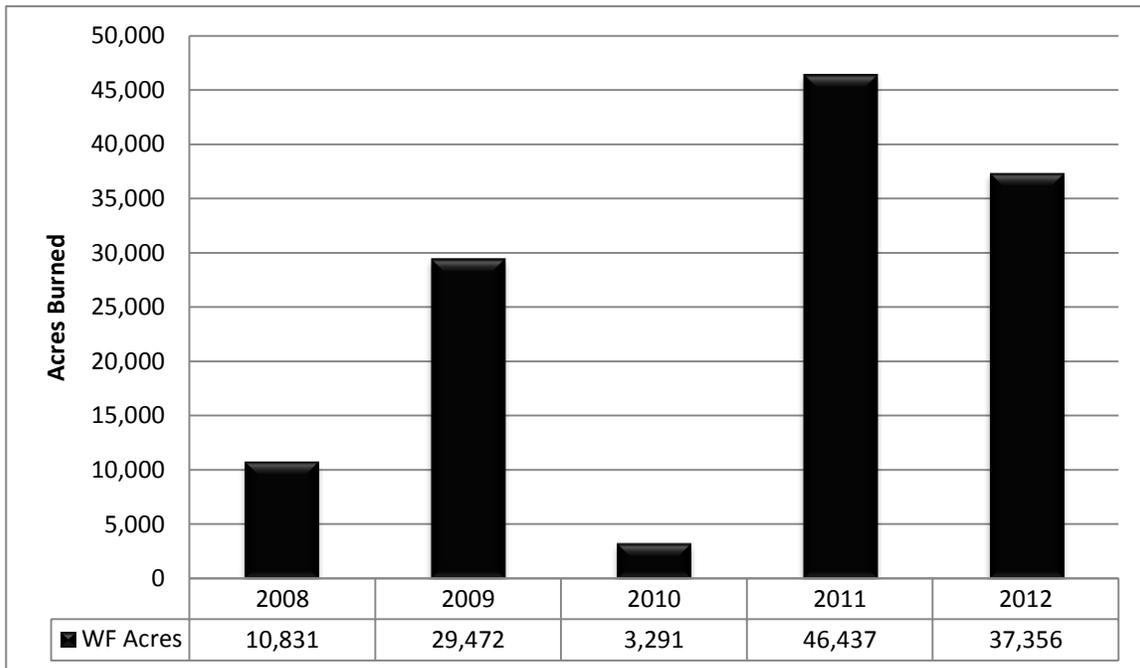
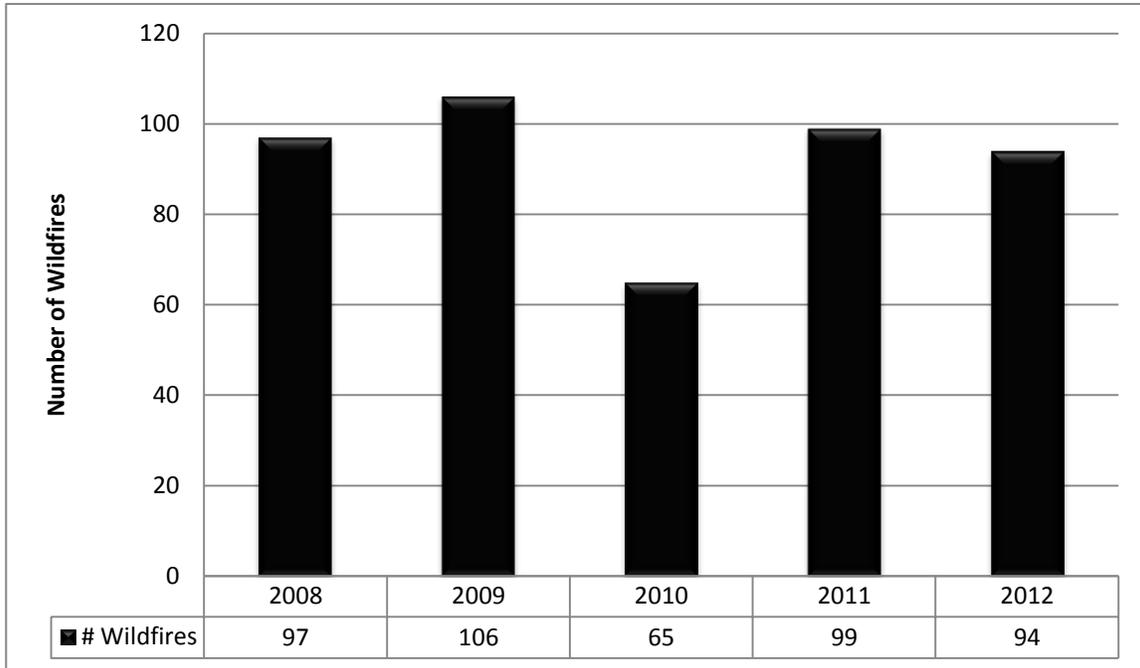


## PACIFIC REGION Treatments 2008 - 2012

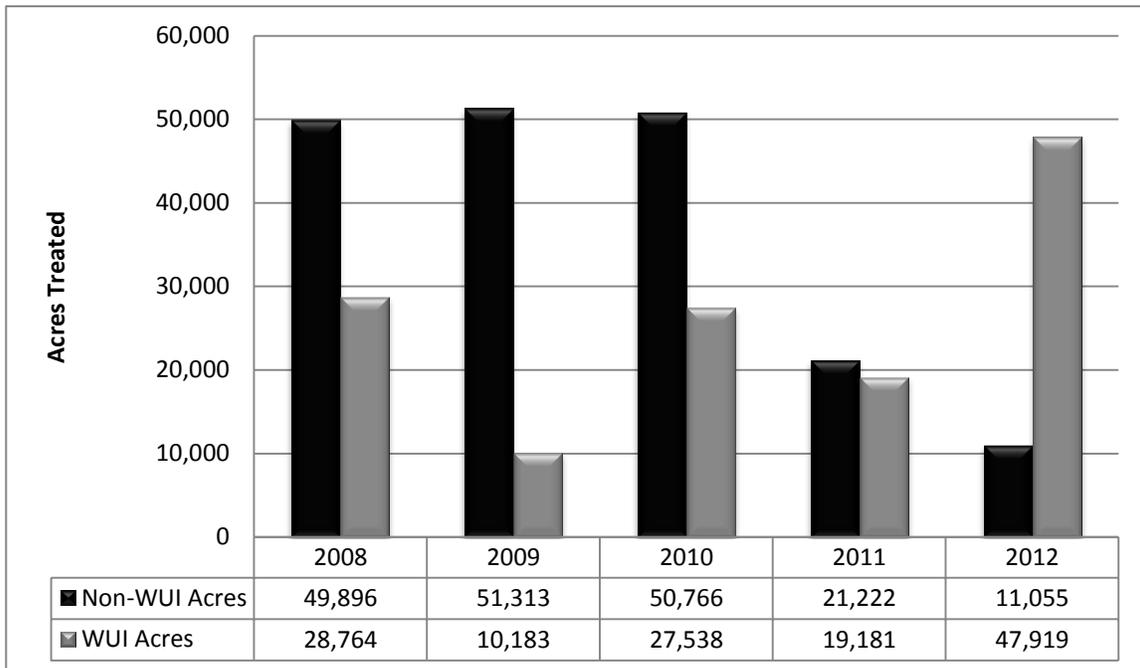
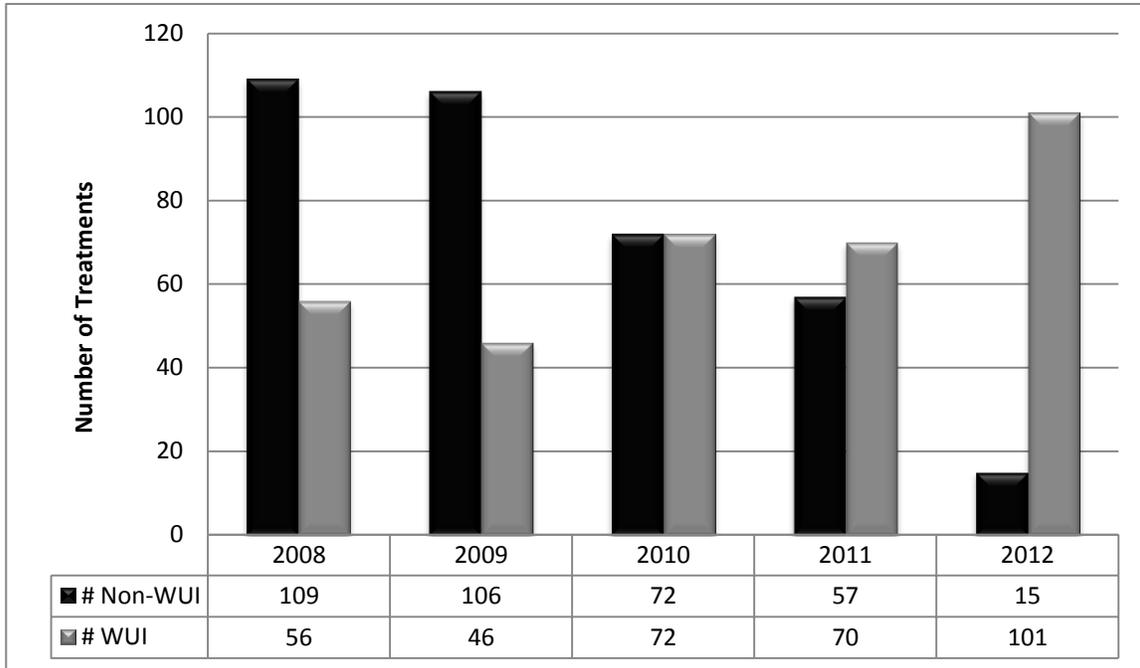


WUI = Wildland Urban Interface

## SOUTHWEST REGION Wildfires 2008 - 2012

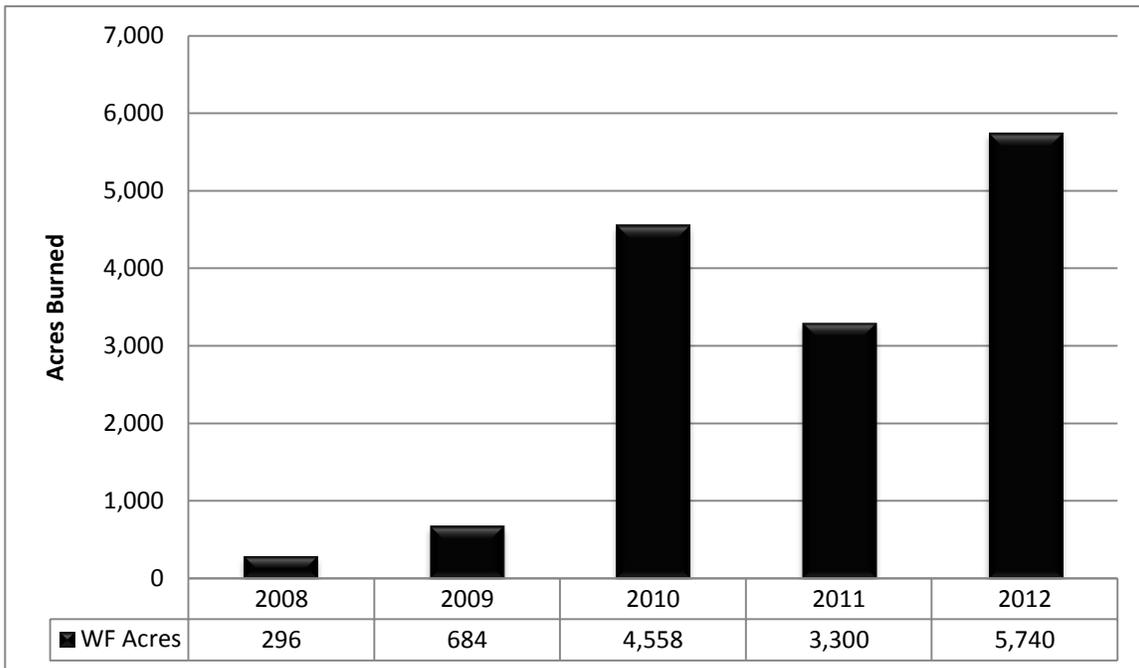
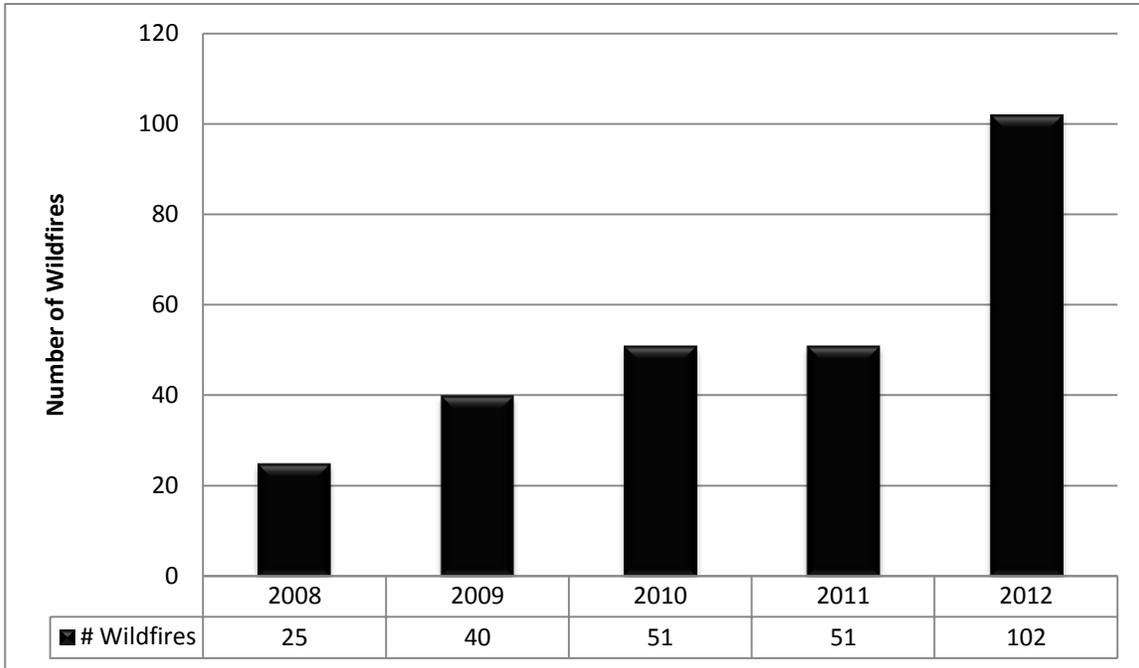


## SOUTHWEST REGION Treatments 2008 - 2012

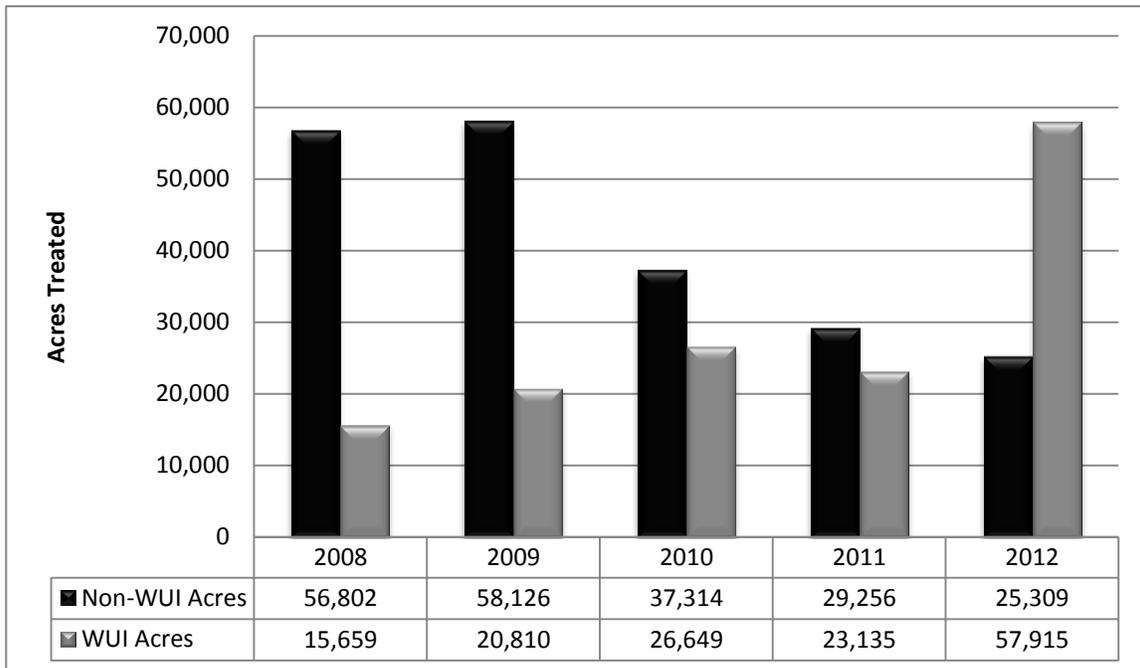
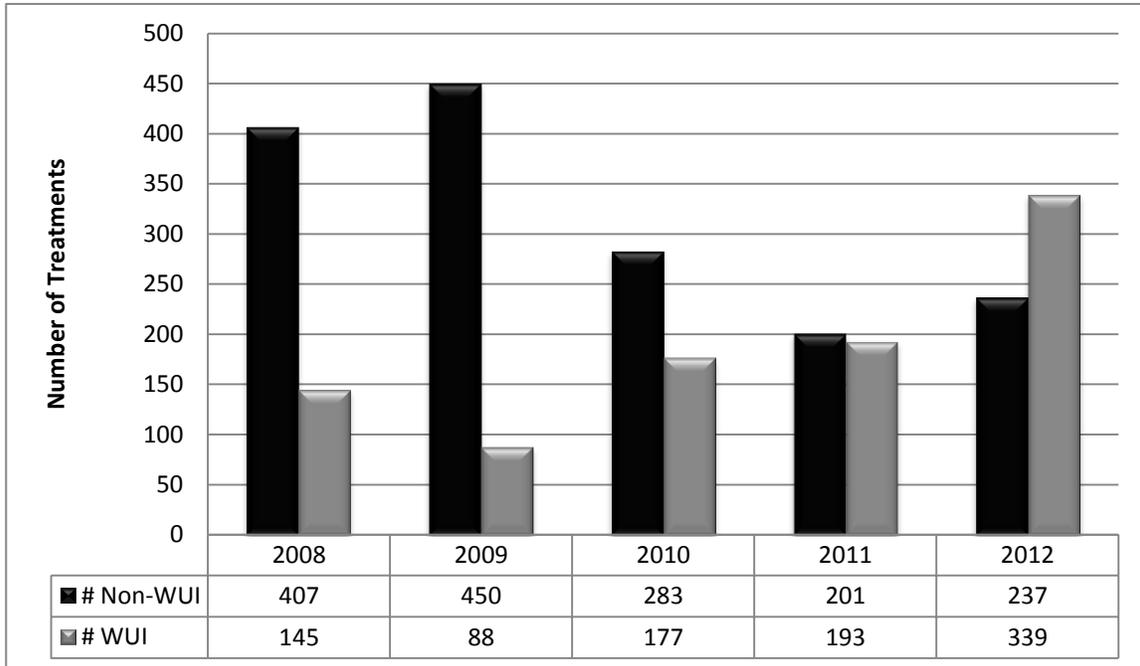


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# MIDWEST REGION Wildfires 2008 - 2012



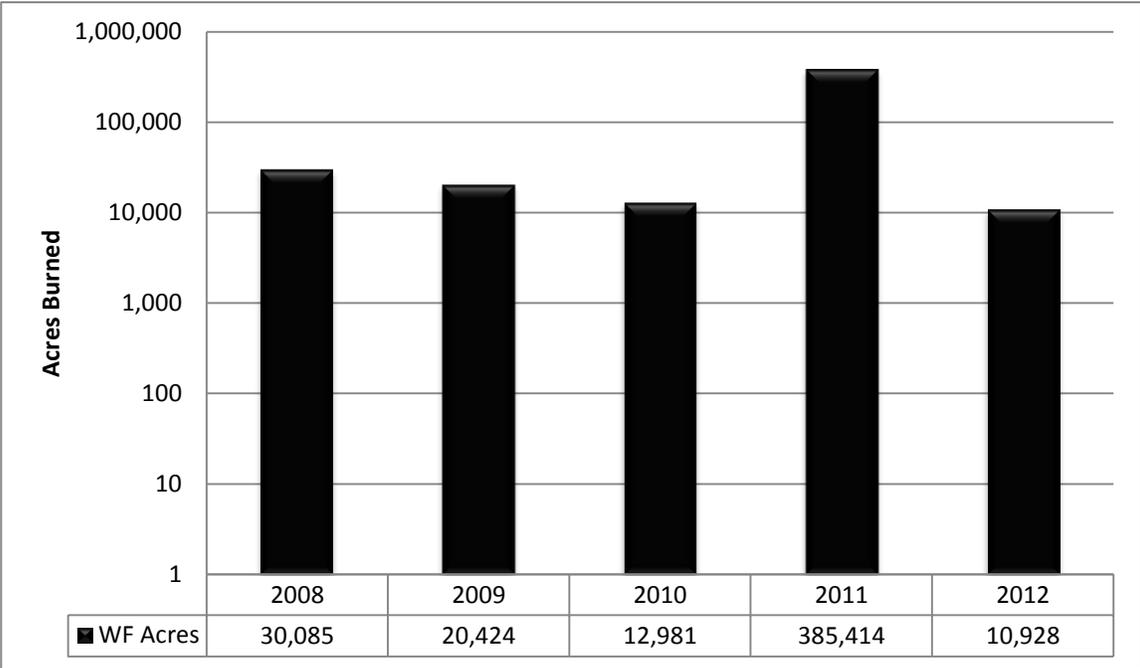
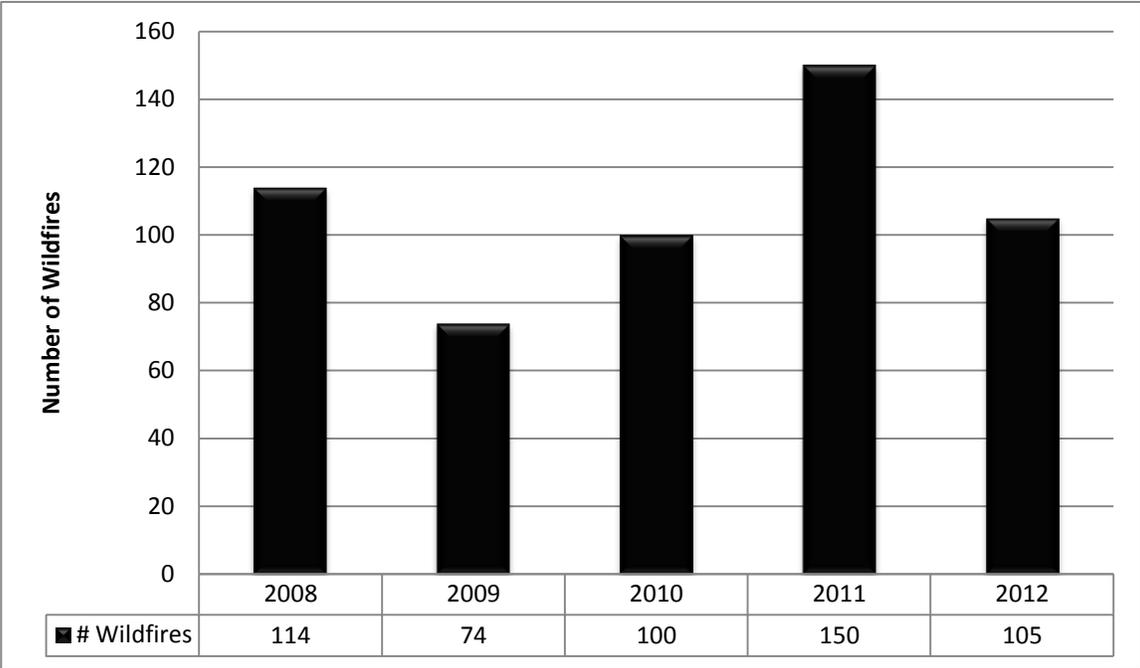
## MIDWEST REGION Treatments 2008 - 2012



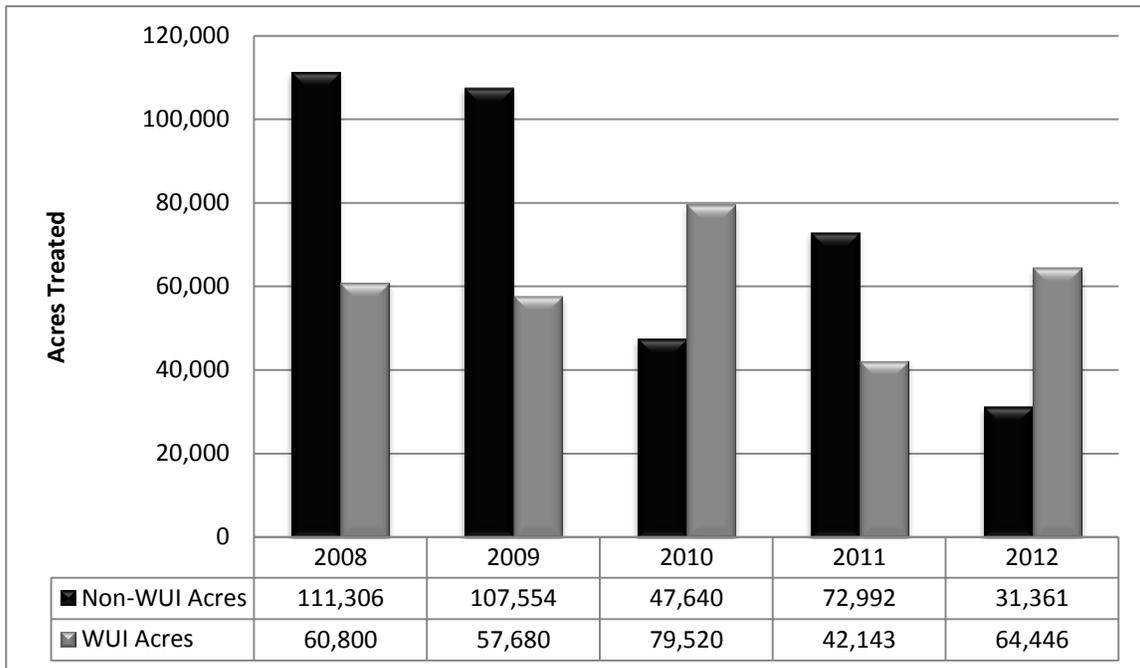
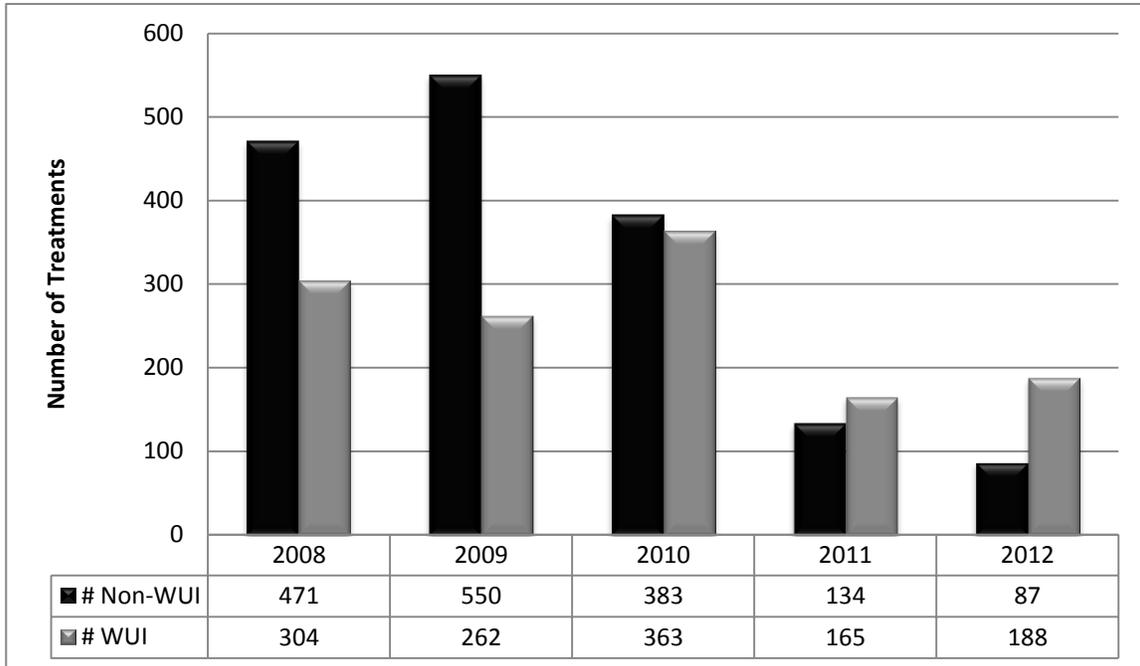
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# SOUTHEAST REGION

## Wildfires 2008 - 2012

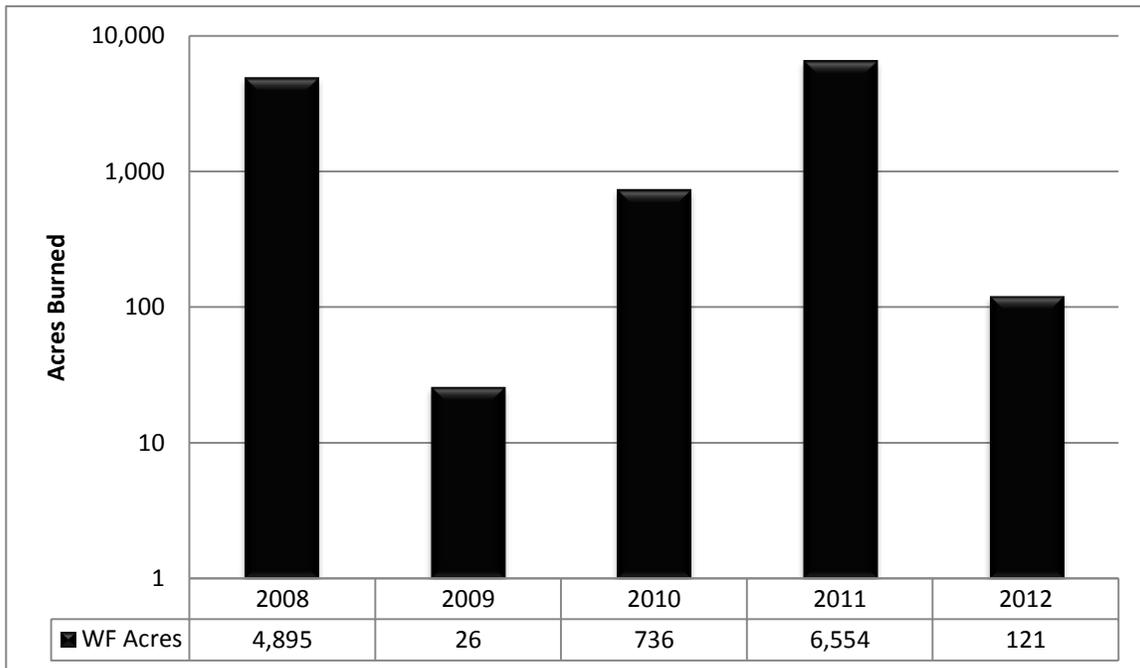
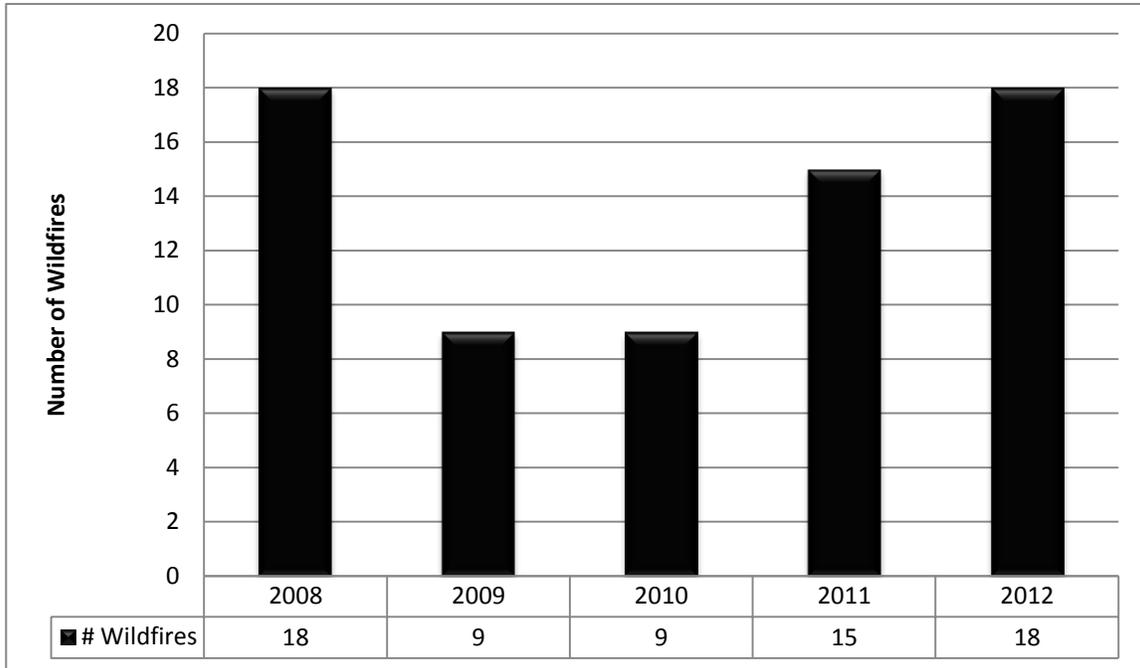


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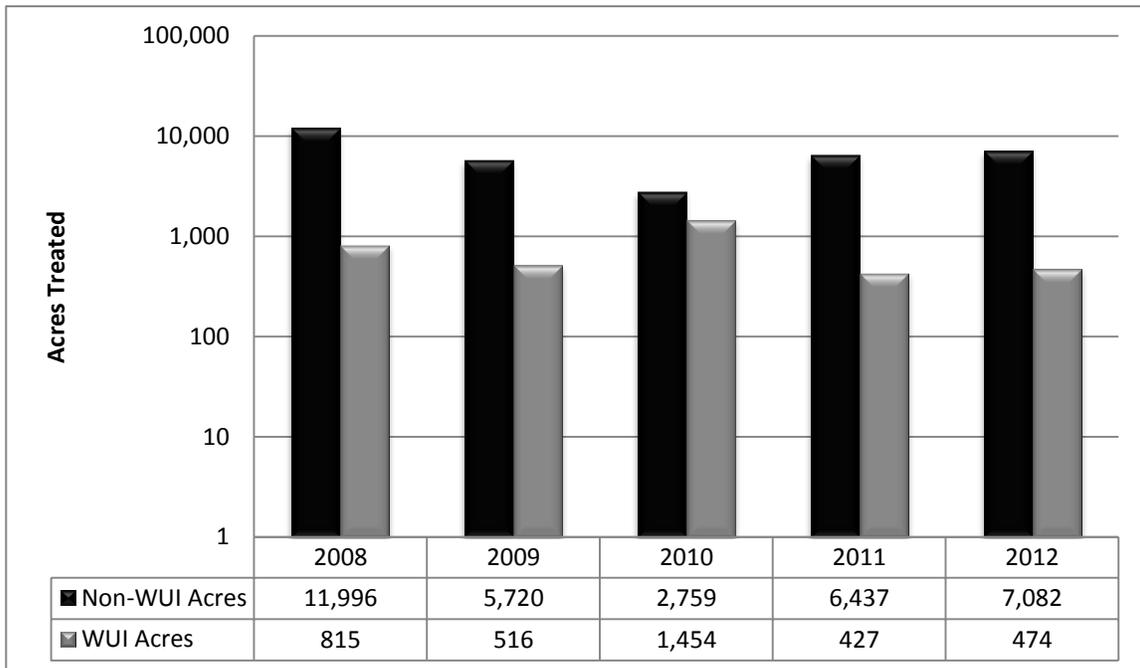
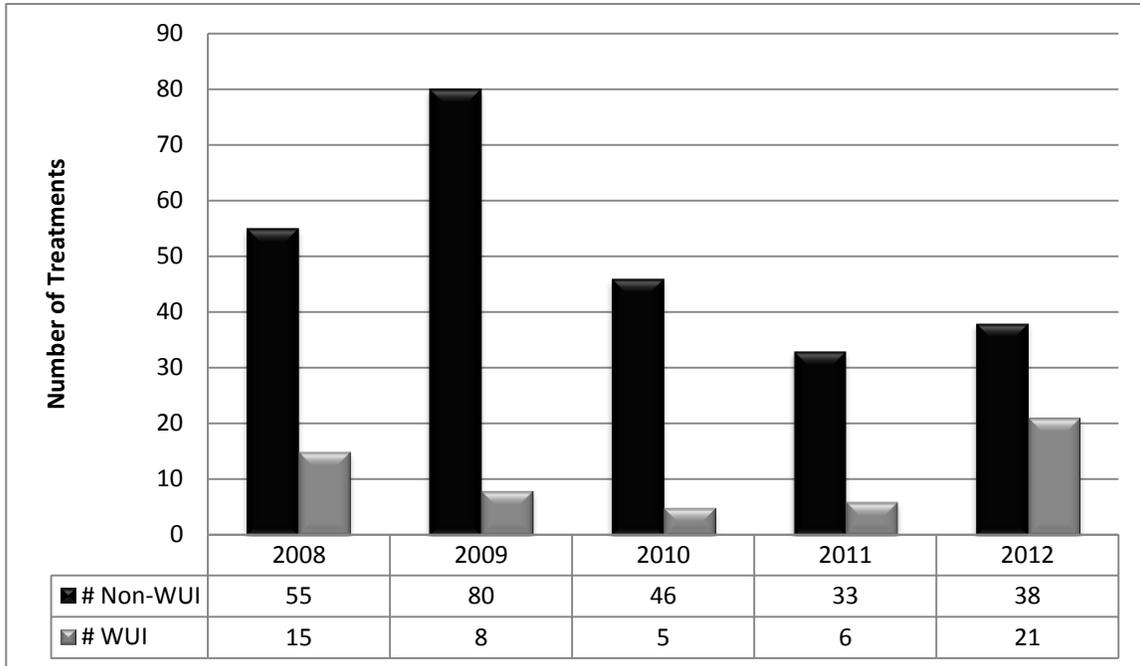


WUI = Wildland Urban Interface

# NORTHEAST REGION Wildfires 2008 - 2012



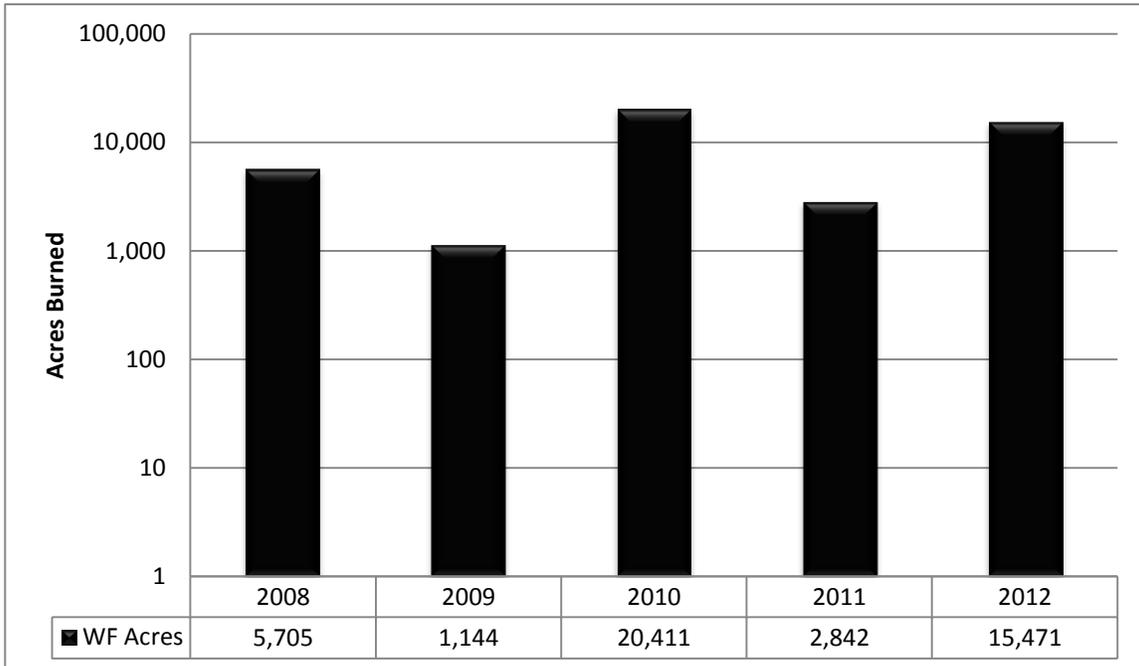
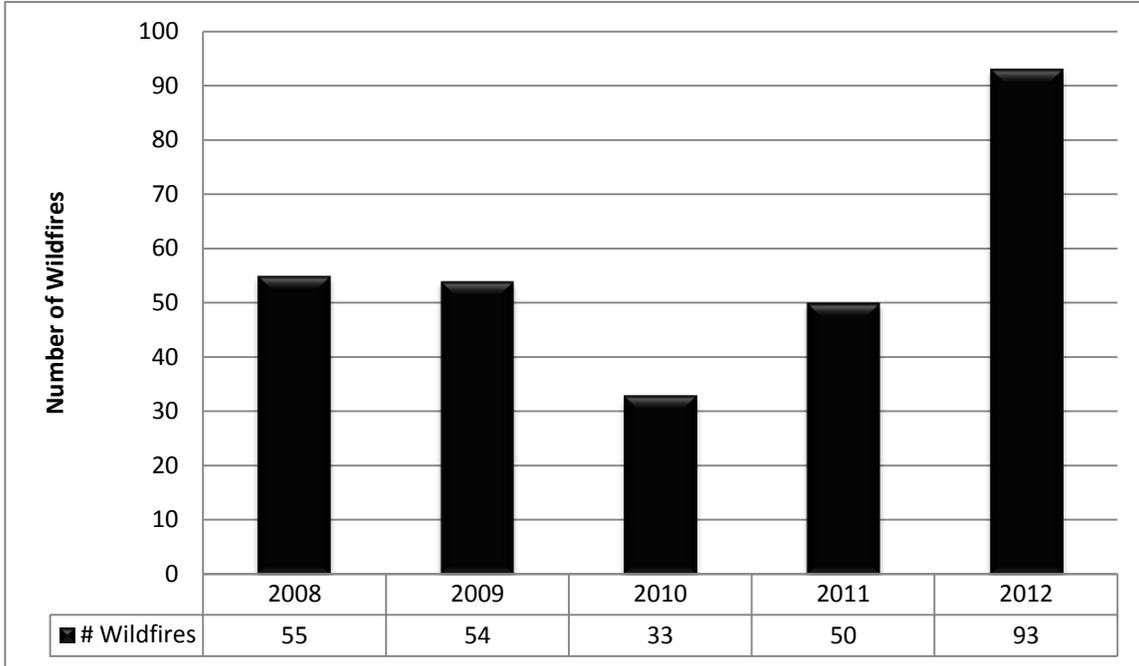
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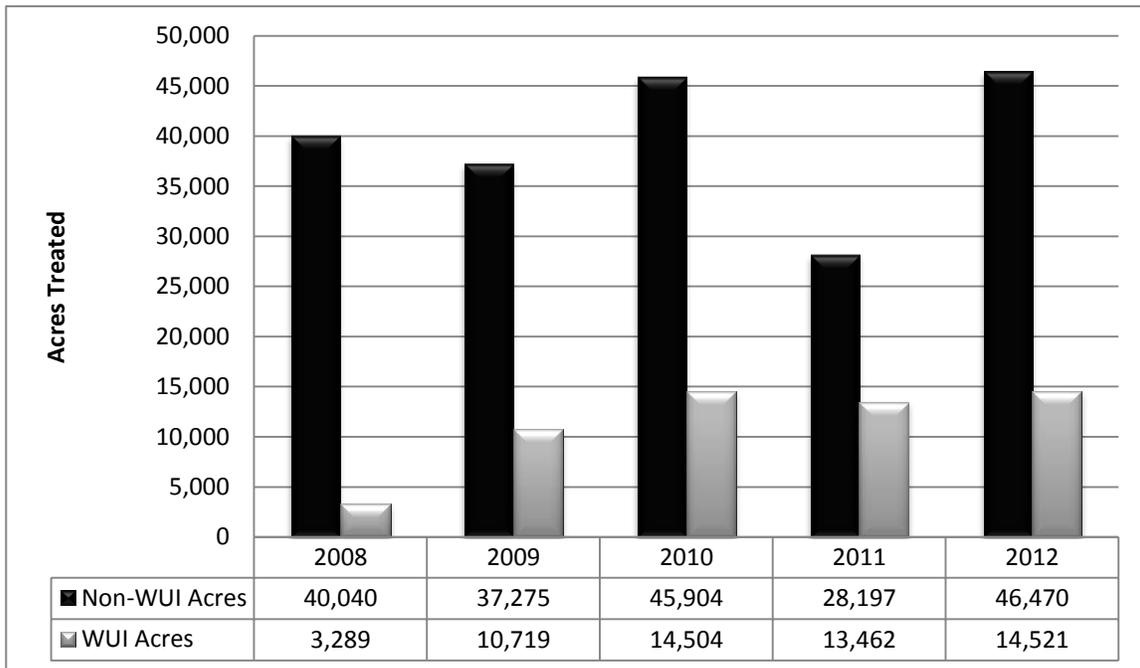
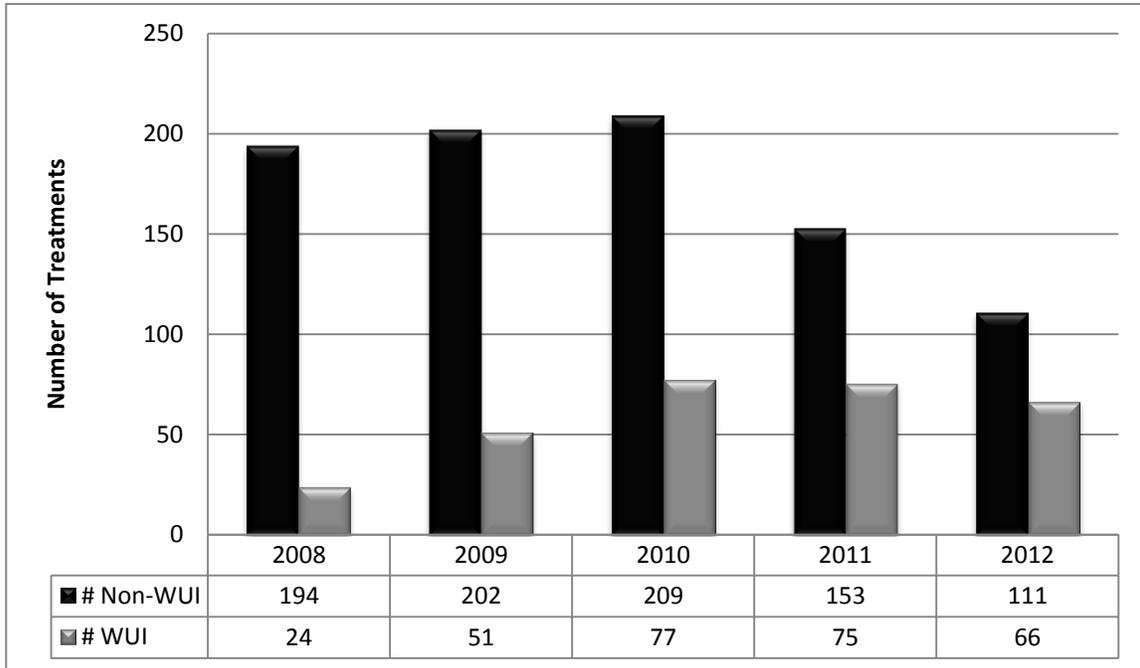
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# MOUNTAIN-PRAIRIE REGION

## Wildfires 2008 - 2012

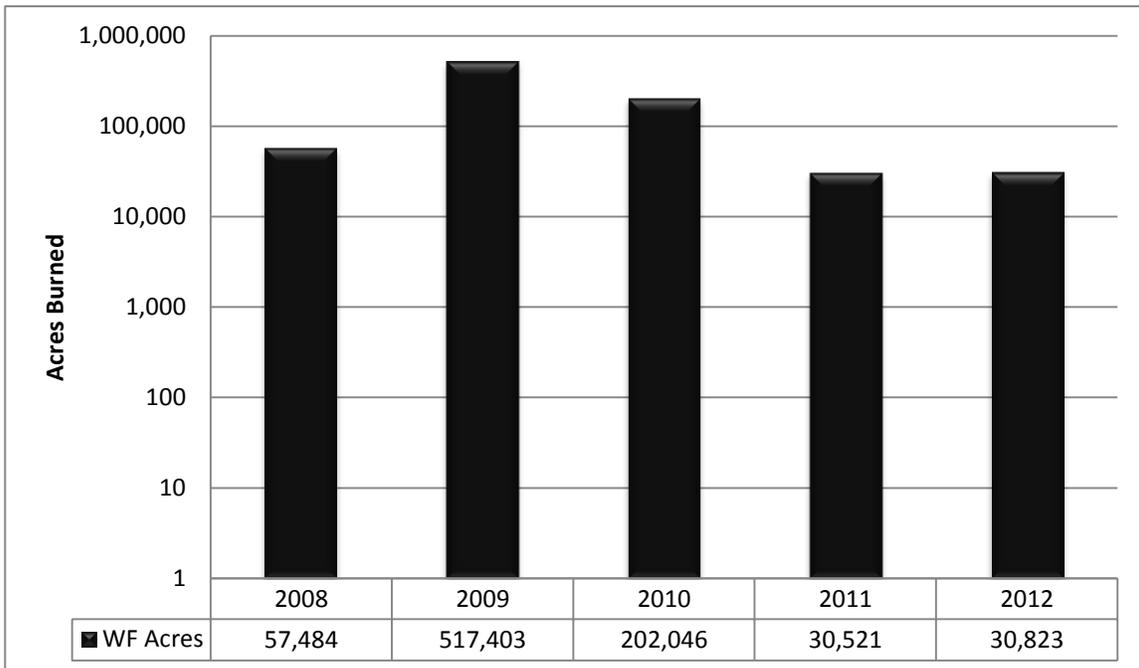
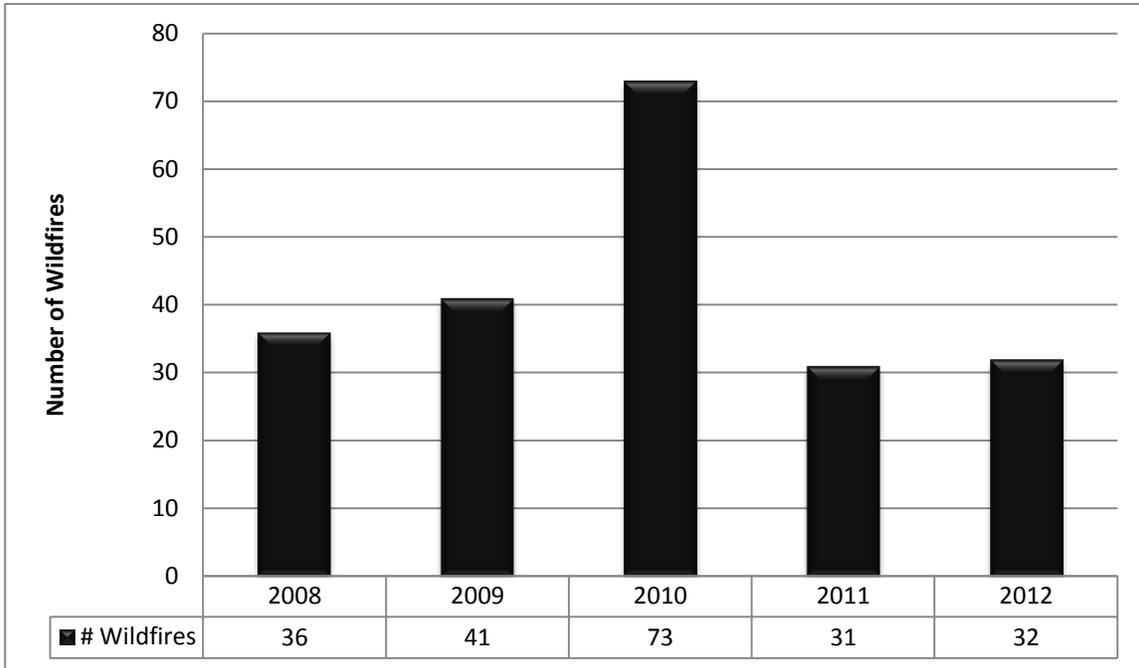


## MOUNTAIN-PRAIRIE REGION Treatments 2008 - 2012

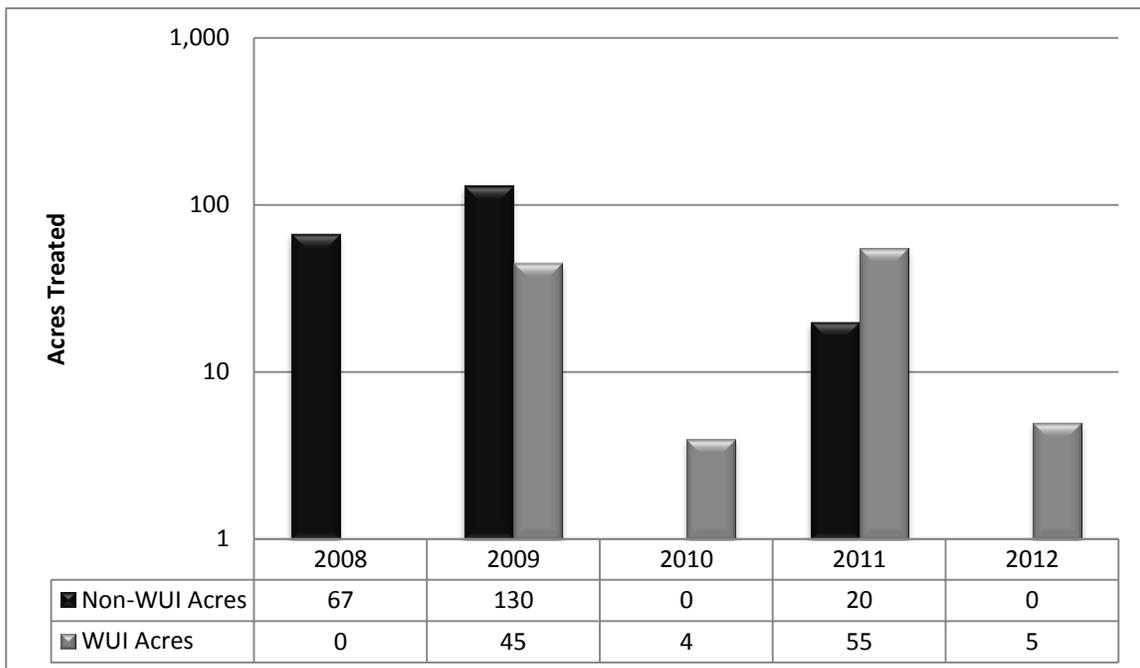
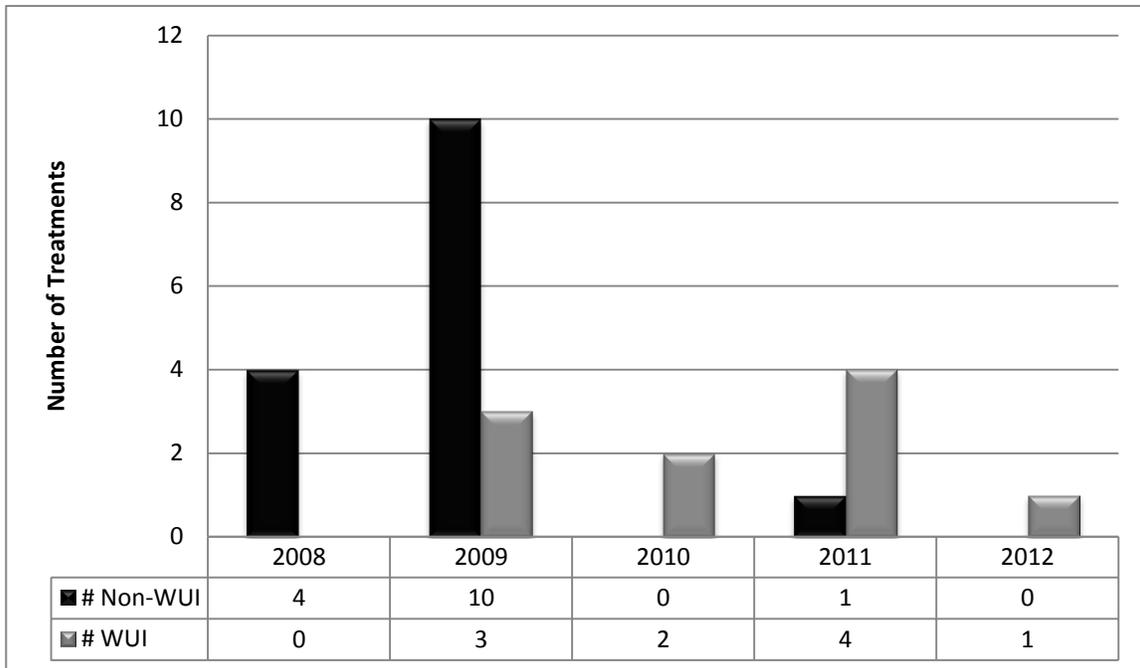


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## ALASKA REGION Wildfires 2008 - 2012

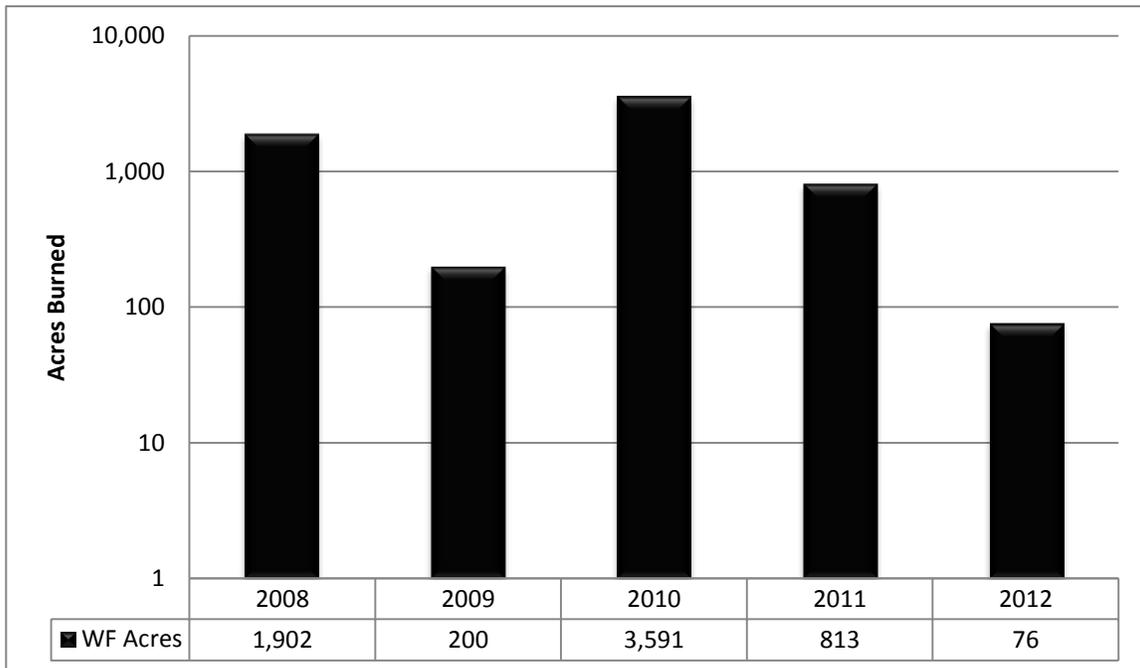
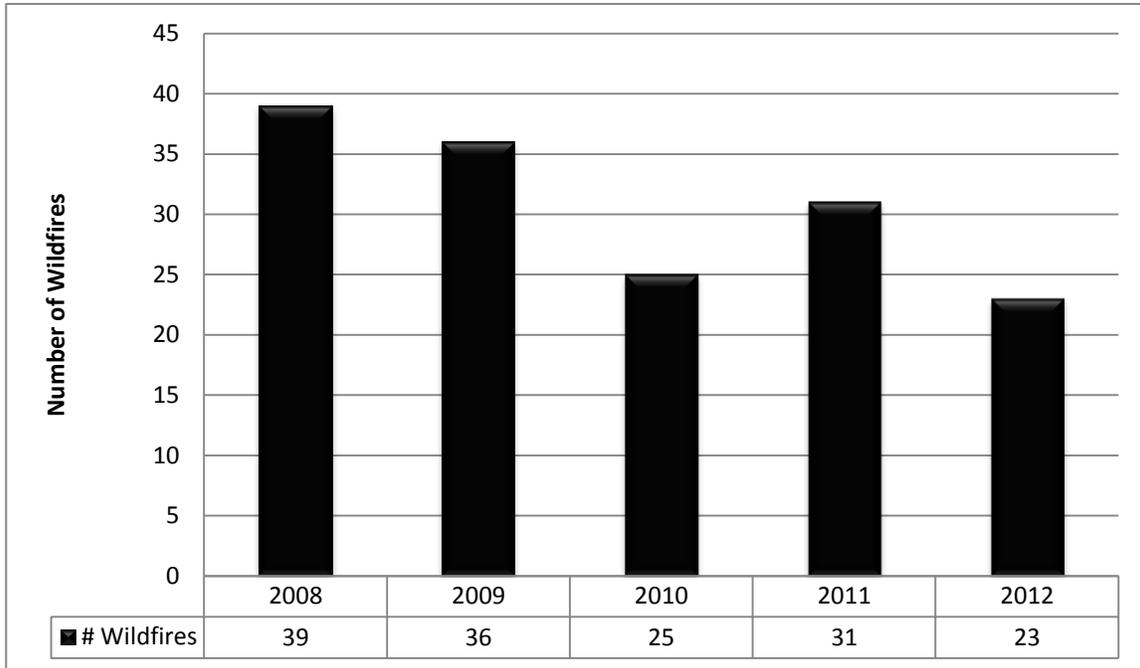


## ALASKA REGION Treatments 2008 - 2012

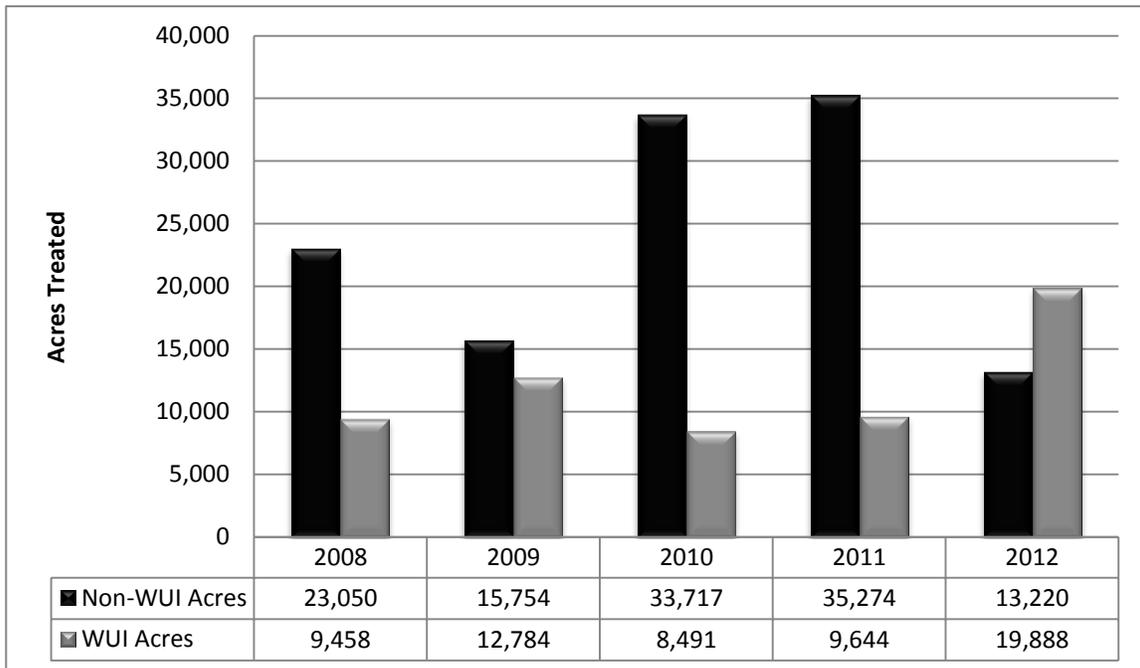
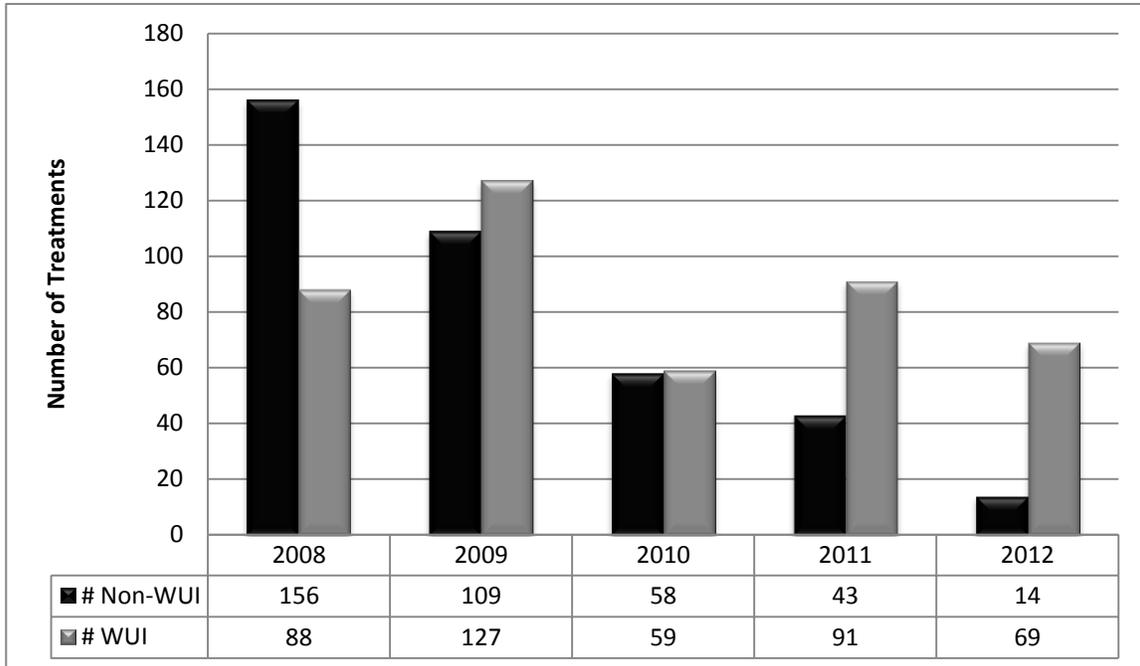


WUI = Wildland Urban Interface

## PACIFIC SOUTHWEST REGION Wildfires 2008 - 2012



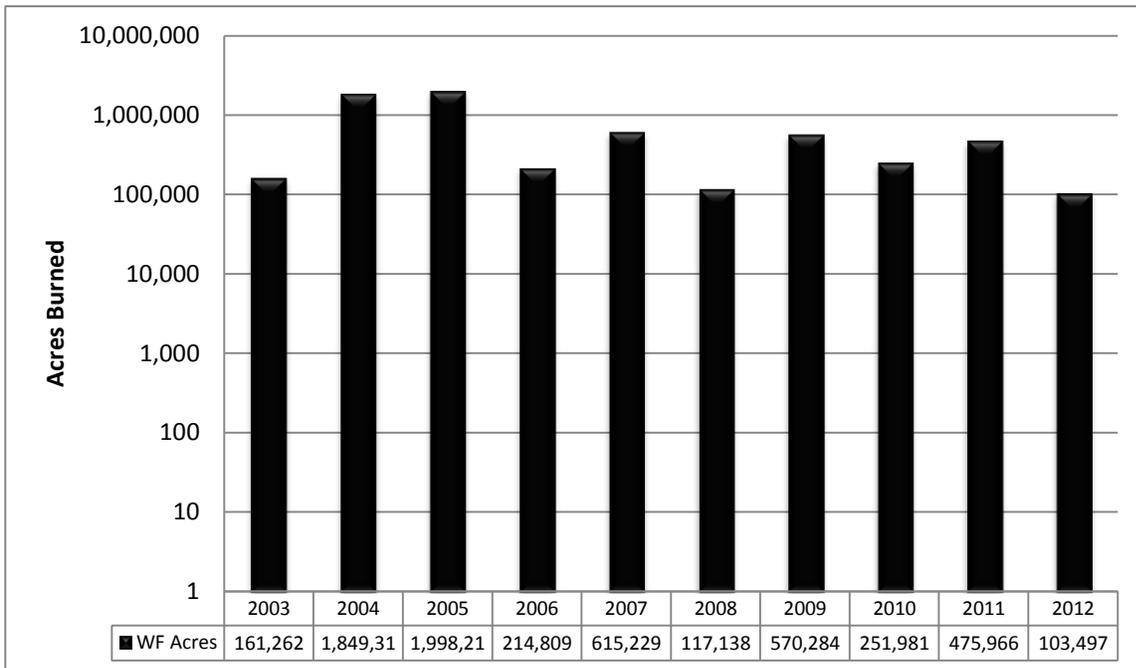
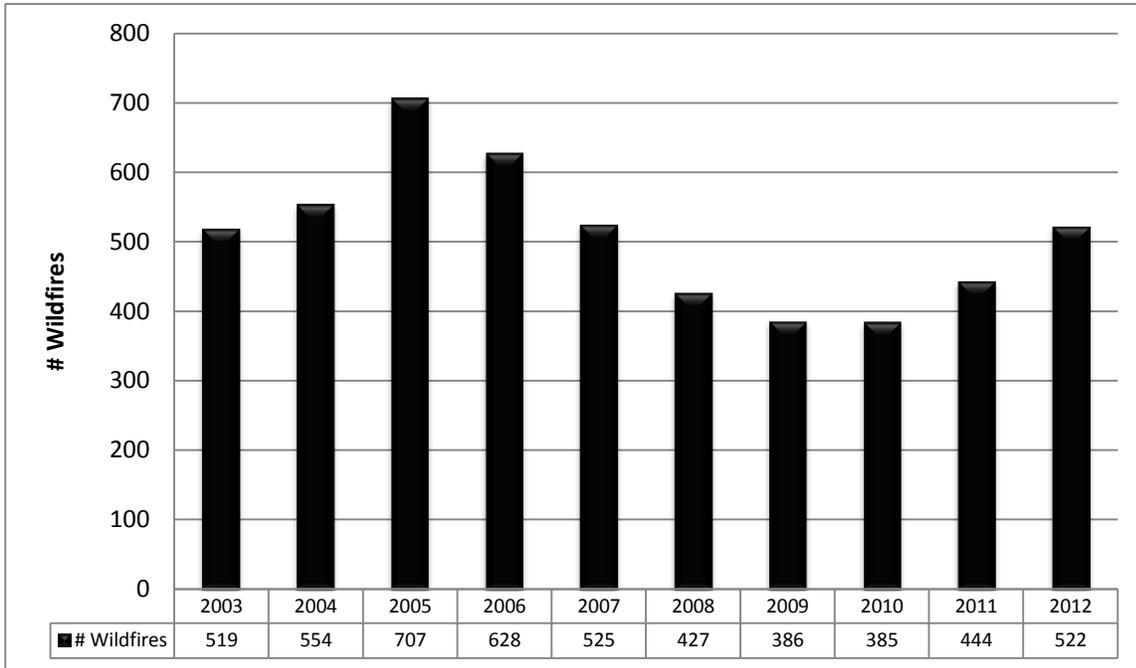
## PACIFIC SOUTHWEST REGION Treatments 2008 - 2012



WUI = Wildland Urban Interface

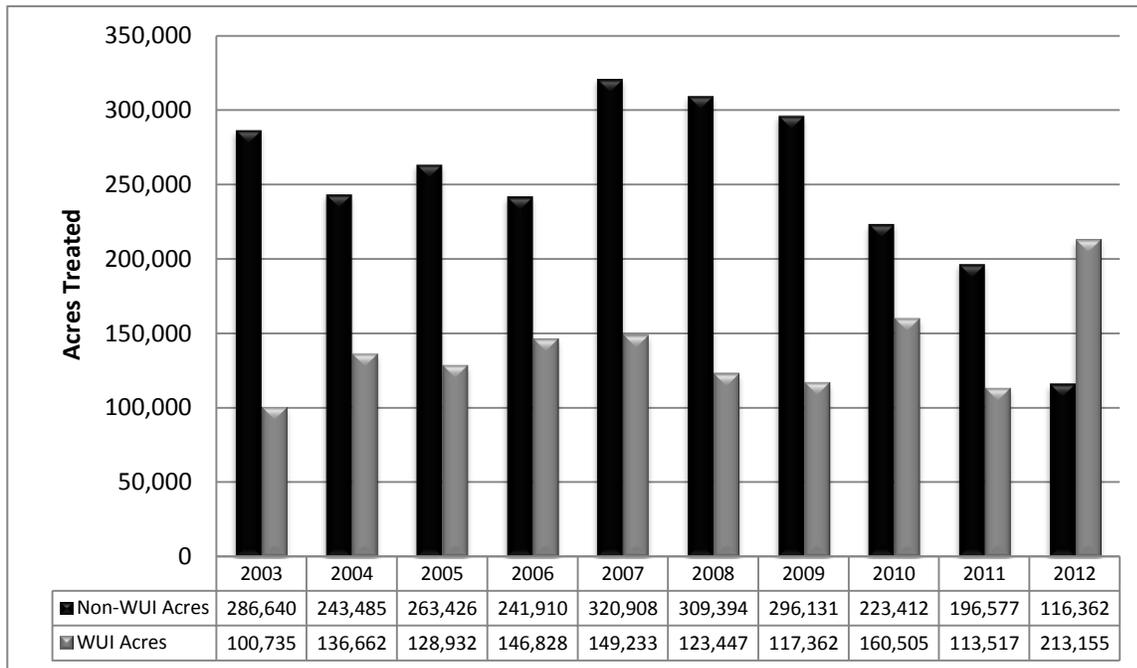
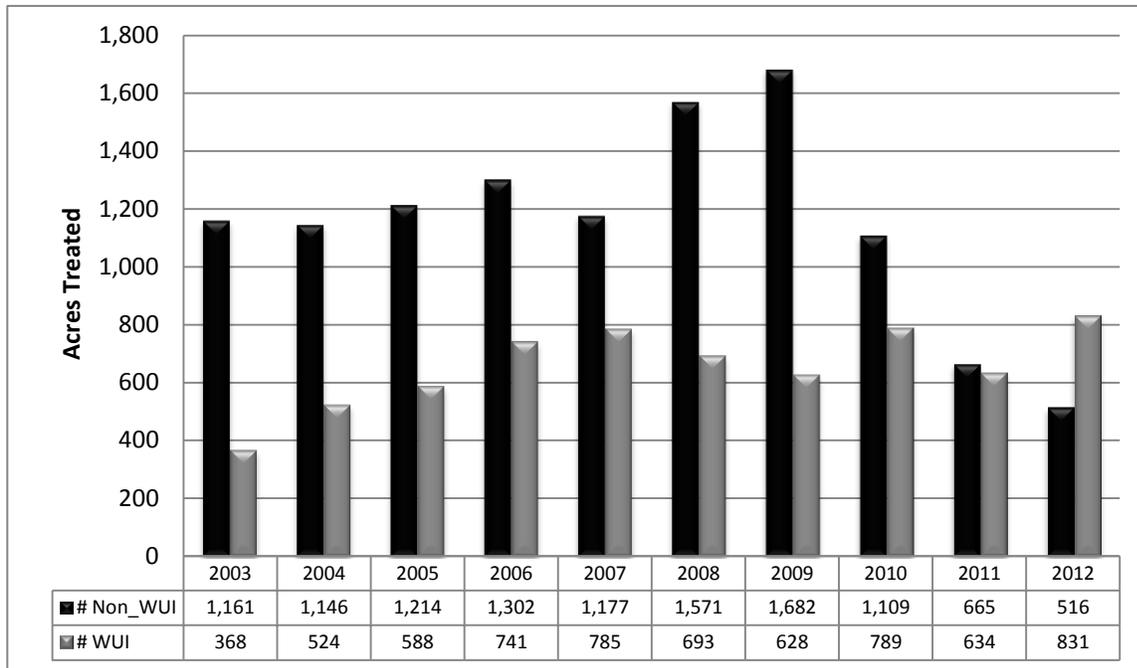
# WILDFIRES

## 2003 - 2012



# TREATMENTS

## 2003 - 2012



WUI = Wildland Urban Interface