



FY 2015 Wildland Fire Management Annual Report

November 29, 2016

U.S. Department of the Interior

USDA Forest Service



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Table of Contents

Introduction.....	1
FY 2015 Fire Season at a Glance.....	1
Fires Reported and Acres Burned.....	1
Structures Destroyed.....	1
Requests for Firefighting Resources.....	2
Aircraft and Equipment.....	2
Incident Management Teams and Support Personnel.....	2
FY 2015 International Assistance and Interaction.....	2
International Support Received.....	2
Wildland Fire Support to the National Response Framework.....	3
FY 2015 Federal Disaster Response.....	4
Financial Highlights.....	5
FY 2015 Wildland Fire Management Appropriation.....	5
FY 2015 Wildland Fire Statistics.....	7
Estimated Numbers of Fires and Acres Burned.....	7
Fuels Management Program.....	10
Fatal and Non-fatal Serious Accidents.....	12
Fatal Accidents.....	12
International Fire Program.....	16
North American Forest Commission – Fire Management Working Group meeting.....	17
International Liaison Committee.....	17
International Fire Aviation Working Group and Wildland Fire Advisory Group.....	17
North American Study Tour.....	17
Other International Efforts.....	18
Major Program Initiatives.....	19
Joint Initiatives – U.S. Department of the Interior / U.S. Forest Service.....	19
Rangeland Fire Prevention, Management, and Restoration.....	19
Wildland fire Management and Clean Air Act Implementation.....	21
Wildland Fire Air Quality Response Program.....	21

Wildland Fire Information and Technology.....	22
Wildland Fire Science.....	22
USDA Forest Service Specific Initiatives.....	24
Forest Service National Aviation Program.....	24
Human Performance.....	25
Risk Based Wildland Fire Management.....	26
The Department of the Interior Specific Initiatives.....	26
Wildland Fire Resilient Landscapes.....	26
Risk Based Wildland Fire Management.....	27
Secretarial Order 3336 – Integrated Rangeland Fire Prevention, Management, and Restoration.....	27
Community Assistance.....	30
Reviews and Open Recommendations.....	32
Department of the Interior.....	32
USDA Forest Service.....	34
Other Forest Service Audits.....	36
Performance Measures.....	38
Department of the Interior.....	38
Goal #1: Protect America’s Landscapes.....	38
USDA Forest Service.....	40
USDA Strategic Plan.....	40
10-year Comprehensive Strategy Implementation Plan (updated December 2006).....	40
Forest Service Measures Set.....	42
Success Stories.....	44
USDA Forest Service.....	44
Bureau of Indian Affairs.....	46
National Park Service.....	48
U.S. Fish and Wildlife Service.....	50
Bureau of Land Management.....	51

Introduction

Together, the U.S. Department of the Interior (Interior) and U.S. Forest Service (Forest Service) prepare an annual report of accomplishments that encompasses the highlights of the Federal Wildland Fire Management program. This report provides interested parties a review of the 2015 fire season, shared and agency-specific initiatives and associated accomplishments, performance measure achievements, and challenges and successes experienced throughout the year.

FY 2015 Fire Season at a Glance

Fires Reported and Acres Burned¹

The number of wildfires reported during the 2015 fire season was 7 percent below the 10-year annual average. Total, all agencies reported over 68,000 wildfires nationally, as compared to 63,000 in 2014.

Across the United States, more than 10.1 million acres burned, representing 145 percent of the national 10-year average. Alaska led the Nation with 5.1 million acres, or 420 percent of the state's 10-year average, reported burned. Of the total acres, 433,000 were naturally ignited Forest Service wildfires that met land management objectives.

Alaska, the Northwest, Northern Rockies, and Northern California Geographic Areas reported above-average fire occurrences in 2015. The Eastern Area reported normal fire occurrence, and the Southern California, Southern Area, Great Basin, Rocky Mountain, and Southwest areas reported below-normal activity.

Alaska, the Northwest, Northern California, and Northern Rockies were the only Geographic Areas to experience above-average acres burned. All other Geographic Areas were below their annual average acres.

Fifty-three (53) fires exceeded 40,000 acres in 2015—10 more than in 2014. Of the total, 30 burned in Alaska, 7 in Washington, 5 each in California and Oregon, 4 in Idaho, and 2 in Montana.

Structures Destroyed

Nationally, wildfires destroyed over 4,600 structures in 2015, surpassing the annual average, and the fifth highest number since 1999. California accounted for the highest number of structures lost in one state during 2015 (over 3,000 structures including residences, outbuildings, and commercial buildings). Washington State reported the second highest total number at 548.

¹ Numbers of fires and acres burned represent numbers from FAMWeb, generated by the ICS-209 data.

Requests for Firefighting Resources²

Aircraft and Equipment

Requests for firefighting resources placed to the National Interagency Coordination Center during the 2015 fire season were right at or higher than the 10-year average in most categories. Filled requests for overhead, engines, Type 2 helicopters, and heavy air tankers exceeded their respective 10-year averages.

Incident Management Teams and Support Personnel

Both the number of assignments and the duration of assignments for incident management teams and support personnel during the 2015 fire season exceeded the 2014 fire season statistics.

- National Type 1 teams were mobilized 39 times (up from 33 in 2014), and spent 572 days on assignments (up from 411 days in 2014);
- All 16 national teams had between one and four assignments each;
- Type 2 Teams were mobilized 121 times (up from 98 in 2014), for a total of 1,537 days assigned to incidents (up from 971 days in 2014);
- Area Command team were mobilized eight times for a total of 85 days assigned in 2015; and,
- National Incident Management Organizations (NIMO) mobilized 12 times in 2015 to both wildland fire and non-fire incidents.

FY 2015 International Assistance and Interaction

The United States provided crews, overhead, and an airtanker to the Canadian provinces of Alberta and Saskatchewan during the 2015 fire season.

- On July 5, a heavy airtanker mobilized to Alberta. Canada released the airtanker back to the United States on July 14.
- On July 10, the United States mobilized 3 crews and 7 overhead personnel to Alberta, and 2 crews and 23 overhead personnel to Saskatchewan. These resources returned to the United States on July 27.
- On July 19, an additional five crews mobilized from the United States to Alberta and returned on August 4.

International Support Received

Canada provided crews, overhead, and airtankers to the United States beginning August 20, when five crews from the province of Ontario, one Convair 580 airtanker group from both Saskatchewan and Alberta mobilized to the Northern Rockies Geographic Area. On August 22, one CL415 scooper group from Ontario joined the fire suppression efforts in the Northern Rockies Geographic Area. On August 27, fifty-eight overhead from Alberta and Ontario mobilized to the Northern Rockies Area. On August 31, an additional CL-415 scooper group from Ontario Canada mobilized to the Northern Rockies Geographic Area and then re-assigned to the Great Basin Geographic Area on September 2. On September 7, the five

² Statistics on team, personnel and equipment mobilizations was acquired from the Resource Ordering and Status System (ROSS)

crews from Ontario and two CL-415 scooper groups released back to Canada. On September 8, both Convair 580 airtanker groups released back to Canada. On September 9, all fifty-eight overhead released back to Canada.

On August 27, sixty-eight overhead personnel from Australia and New Zealand mobilized to support fire suppression operations in the Northwest Geographic Area. On September 27, all Australian and New Zealand overhead personnel released back to their home countries.

Wildland Fire Support to the National Response Framework

The *National Response Framework (NRF)* details how the Nation conducts all-hazard response from the smallest incident to the largest catastrophe. The NRF describes special circumstances where the Federal Government exercises a larger role, including incidents where Federal interests are involved and catastrophic incidents where a state would require significant support.

The NRF builds upon the coordinating structures identified in the National Incident Management System (NIMS) to align key roles and responsibilities linking all levels of government and non-governmental organizations with the private sector. Incidents, under the NRF, are managed locally. For most non-fire incidents, requests for Federal assistance are coordinated through the affected state to the Federal Emergency Management Agency (FEMA). Requests for Federal assistance for oil spills and other hazardous substance releases are coordinated through the U.S. Coast Guard or the Environmental Protection Agency (EPA), under the National Oil and Hazardous Substance Pollution Contingency Plan.

There are 14 Emergency Support Functions (ESFs) identified in the NRF to provide resource support to FEMA or the affected state or states. At the Federal level, the Forest Service is Coordinator and Primary Agency for ESF #4, Firefighting (ESF4). The mission of ESF4 includes coordination of Federal firefighting activities and resource support to rural or urban firefighting operations. Interior provides support to the Forest Service for ESF4. The Forest Service and Interior also provide support to the remaining 13 ESFs.

The Forest Service Fire and Aviation Management (FAM) and Interior provide national and regional coordinators that work with their FEMA counterparts on a day-to-day basis. In addition, the agencies maintain qualified ESF4 personnel to staff FEMA national, regional, and field coordination centers to provide FEMA with access to wildland and structural firefighting resources during, and in anticipation of, presidentially declared emergencies and major disasters.

During FY 2015, the Forest Service and Interior participated in planning for and conducting of six multi-day national- and regional-level exercises. The included the:

- SoCal 15 Exercise – Southern California earthquake exercise;
- Swift Wind 15 – Mid-Atlantic hurricane exercise;
- Vibrant Response 15 Exercise – Improvised Nuclear Device exercise;
- Eagle Horizon 15 Exercise – National-level Continuity of Operations exercise;
- Southern Exposure 15 Exercise – Nuclear power plant accident exercise; and

- Columbia River SONS 15 Exercise – Oil Spill of National Significance exercise.

FY 2015 Federal Disaster Response

Federal disaster response was light during FY 2015 at both the national and regional levels. Listed below are highlights of agencies' support to FEMA, other Federal, state, and local agencies during FY 2015:

Northeast U.S. Blizzard

A severe winter storm paralyzed the northeastern U.S. in January 2015. The Forest Service coordinated with FEMA and the U.S. Army Corps of Engineers in anticipation that they would need crews to assist with emergency road clearing of downed trees. Fortunately, the anticipated support was not required as the impact of the storm was not as bad as predicted.

Washington Wildfires

In August 2015, after extreme drought continued to result in a critical fire situation throughout much of the Pacific Northwest geographic area, the President issued a Declaration of Emergency. FEMA activated ESF4 to establish a mobilization center and pre-position structure firefighting resources in the event FEMA needed to support the state of Washington. Structure firefighting resources from five states, as well as an All-Hazard Incident Management Team from San Diego, were mobilized for this mission. ESF4 also provided enhanced situational awareness regarding the wildfire situation across Washington State and provided coordination with the incident management teams managing the wildfires.

Papal Visit

In support of the Pope's visit to the U.S., a leadership activated a National Special Security Event ESF4 in September because of the potential for a major emergency due to the number of people expected in Philadelphia, Pennsylvania, Washington, D.C., and the surrounding communities. ESF4 was prepared to coordinate firefighting resources in support of FEMA or other ESFs, as well as Pennsylvania, the District of Columbia, Maryland, and Virginia should it have been necessary.

Refugio Oil Spill

FAM continued to support the Forest Service Engineering and USDA Departmental Management, as they fulfilled support responsibilities to the U.S. Coast Guard and the state of California in response to the Refugio Oil Spill near Monterey, California, in May 2014, as result of a broken pipeline. It became clear, after significant water quality testing, that no Forest Service emergency response resources would be required.

Financial Highlights

FY 2015 Wildland Fire Management Appropriation

The Consolidated Appropriations Act of 2015, signed into law on January 17, 2014, as Public Law 113-76 funded the Interior and Forest Service wildland fire management programs for FY 2015.

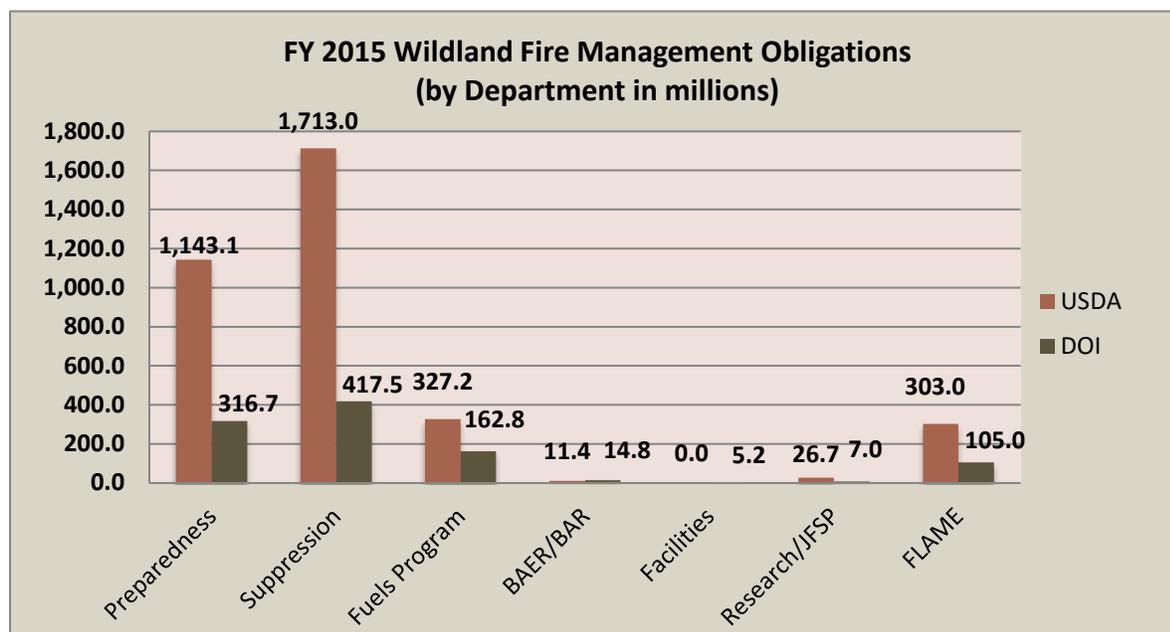
The FY 2015 Wildland Fire Management Appropriation provided funding to maintain sufficient wildland firefighting resources for the wildfire season, including over 14,500 firefighters, 1,300 firefighting aircraft, 1,600 engines, and nearly 400 other pieces of heavy equipment used in wildland firefighting, including dozers, water tenders, etc.

The FY 2015 Appropriations covered funding for suppression based on the 10-year suppression average along with funding for preparedness, fuels management, post-fire rehabilitation and restoration, science and other program components of the Federal wildland fire management program.

The Federal Land, Management, and Enhancement (FLAME) Wildfire Suppression Reserve Fund was established in the 2010 Appropriations Act to fund more severe or complex fires. The fund serves as a contingency to suppression funds. In 2015, the Forest Service and Interior supplemented the 10-year average of suppression costs by funds appropriated into the FLAME account (\$303 million for the Forest Service and \$105 million for Interior).

Figure 1 shows FY 2015 obligations by Department and program area, in millions of dollars.

Figure 1 - FY 2015 Wildland Fire Management Obligations by Department and Program Area^{3, 4}



³ In Figure 1, Research obligations for the Forest Service reports the combined Research and Development and Joint Fire Science Program obligations rounded to the nearest thousands.

⁴ The Suppression obligation figure reported in Figure 1 is inclusive of those figures reported for Burned Area Emergency Rehabilitation (BAER)/Burned Area Rehabilitation (BAR) and FLAME. BAER/BAR and FLAME are included in Figure 1 for reference purposes only.

Table 1 reflects amount of funds expended by each bureau and office in FY 2015, by program area, and in millions of dollars.

Table 1 – FY 2015 Distribution of the DOI Obligations by Bureau/Office (in millions)

Bureau	Preparedness	Suppression	Fuels Program	BAR ⁵	BAER	Facilities
BIA	58.4	60.2	35.7	3.8	0.0	1.8
BLM	182.1	263.2	74.5	9.1	0.0	2.1
FWS	30.2	16.6	23.1	0.6	0.0	1.1
NPS	38.4	77.4	25.3	1.3	0.0	0.2
OS	7.6	0.1	4.2	0.0	0.0	0.0
Total	316.7	417.5	162.8	14.8	0.0	5.2

Table 2 shows the USDA FY 2015, reflected in millions, by agency.

Table 2 – FY 2015 USDA Obligations, by Agency and Program Area (in millions)

Agency	Preparedness	Suppression	Fuels Program	BAER
	1,143.1	1,713.0	327.2	11.4

Table 3 is a comparison of obligations, by Department and program area, from 2006 – 2015. Amounts are reflected in millions.

Table 3 - FY Comparison of Obligations by Department (in millions)⁷

Fiscal Year	Agency	Preparedness	Suppression	Program	BAR	Facilities	NFP	
							Development	JFSP
	DOI	316.7	417.5 ⁹	162.8	14.8	5.2	0.0	7.0 ¹⁰
	DOI	280.1	326.2	150.2	20.6	7.0	0.0	10.0
	DOI	266.2	399.2	137.6	12.0	5.5	0.0	5.3
	DOI	286.4	465.8	185.9	35.8	5.7	0.0	9.6
	DOI	296.5	318.8	188.8	13.5	4.7	0.0	10.5
	DOI	292.0	231.2	212.1	14.9	9.7	0.0	10.1
	DOI	286.5	218.4	215.4	27.9	7.1	0.0	6.4
	DOI	282.4	392.8	223.2	29.3	6.4	0.0	9.2

⁵ Burned Area Rehabilitation (BAR) and Burned Area Emergency Rehabilitation (BAER) program funding comes from the Suppression accounts of DOI and USFS respectively.

⁶ DOI's Joint Fire Science funding includes a USFS transfer in addition to DOI Appropriation funds.

⁷ USFS hazardous fuels program funding in 2012 – 2014 excludes funds transferred to the Integrated Resource Restoration program.

⁸ DOI BAR and FS BAER (Emergency Stabilization) costs for FY 2015 are included in the total Suppression Obligations reported.

⁹ DOI's Severity Costs of \$10.1 million for FY 2015 are included in the total Suppression Obligations reported.

¹⁰ DOI's Joint Fire Science funding includes a Forest Service transfer in addition to DOI Appropriation funds.

Fiscal Year	Agency						NFP	
		Preparedness	Suppression	Fuels Program	BAER/ BAR ⁸	Facilities	Research Development	JFSP
2007	USFS	681.2	1,374.0	310.6	28.8	0.0	26.9	0.0
	DOI	280.0	470.4	203.9	28.9	8.8	0.0	6.3
2006	USFS	632.2	1,501.0	274.3	13.1	0.0	22.6	0.0
	DOI	269.5	424.1	207.1	22.9	5.8	0.0	7.5
2005	USFS	676.1	690.0	294.5	9.6	0.0	21.7	0.0
	DOI	270.3	294.1	207.9	15.0	13.6	0.0	7.8

FY 2015 Wildland Fire Statistics

Estimated Numbers of Fires and Acres Burned¹¹

The number of wildfires reported during the 2015 fire season (over 68,000) was 7 percent below the 10-year annual average. Across the United States, more than 10.1 million acres burned, representing 145 percent of the national 10-year average. A combination of 4-years of drought, extreme temperatures, and summer thunderstorms in the western United States and Alaska resulted in above-normal acres burning in FY 2015. The Pacific Northwest, Northern California, Northern Rockies, and Alaska geographic areas in particular experienced extreme fire behavior during the 2015 fire season.

Figure 2 shows the numbers of fires reported by jurisdiction during the 2015 fire season.

Figure 2 – FY 2015 Numbers of Fires by Jurisdiction



¹¹ Estimated numbers of fires and acres burned were obtained from the [2015 NICC Wildland Fire Annual Report](#)

Table 4 indicates the numbers of Department fires reported during the 2015 fire season, by bureau.

Table 4 – FY 2015 DOI Numbers of Fires by Bureau

DOI Bureau	Numbers of Fires
Bureau of Indian Affairs (BIA)	3,886
Bureau of Land Management (BLM)	2,093
U. S. Fish and Wildlife Service (FWS)	194
National Park Service (NPS)	398
Total (DOI)	6,571

Table 5 is a comparison of the numbers of fires reported by agency and year for the past 10 years, from 2006 through 2015.

Table 5 – 10-year Comparison of Numbers of Fires (by Agency, by Year)

Fiscal Year	BIA	BLM	FWS	NPS	State/Other	USFS	Total
2015	3,886	2,093	194	398	54,524	7,056	68,151
2014	3,409	2,065	444	544	36,321	6,514	49,297
2013	3,530	2,769	498	562	33,820	7,857	49,036
2012	5,946	2,697	505	539	51,129	7,566	68,382
2011	4,282	2,571	466	668	59,527	7,970	75,484
2010	3,514	2,092	311	477	58,324	6,697	71,415
2009	5,116	4,159	339	775	63,307	8,145	81,841
2008	5,463	4,024	376	751	64,140	7,603	82,357
2007	5,490	6,757	481	896	69,128	9,186	91,938
2006	8,695	7,143	556	1,013	74,305	11,429	103,141
10-yr Avg.	4,890	3,615	438	681	56,825	7,954	74,403

Figure 3 shows the numbers of acres burned by jurisdiction, reflected in thousands of acres.

Figure 3 - FY 2015 Acres Burned by Jurisdiction

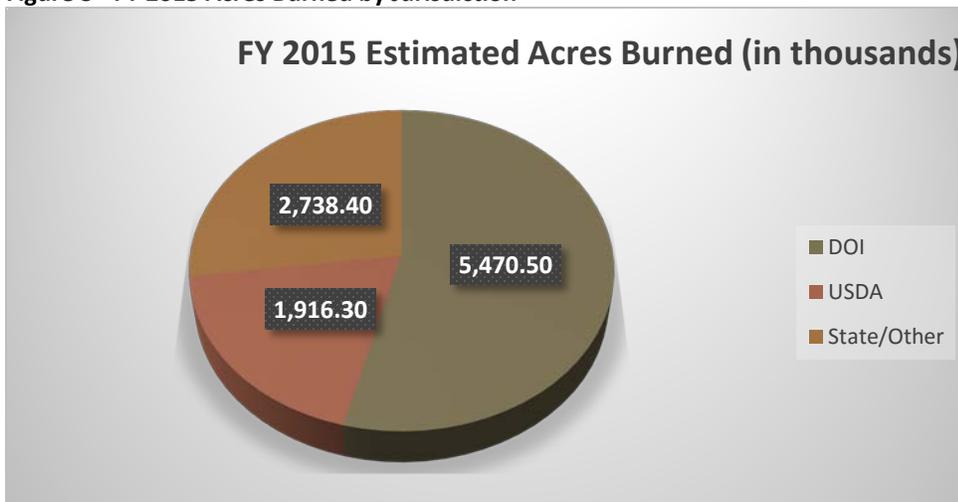


Table 6 showed the numbers of acres of Department lands burned, by bureau. Numbers of acres are listed in thousands.

Table 6 – FY 2015 DOI Acres Burned (in thousands, by Bureau)

DOI Bureau	Acres Burned
BIA	591.6
BLM	4,770.1
FWS	33.9
NPS	74.8
Total DOI	5,470.5

Table 7 is a comparison of the numbers of acres burned by agency. Numbers are reflected in thousands, by fiscal years (2006 – 2015).

Table 7 – FY 2016 10-year Comparison of Numbers of Acres Burned by Agency (in thousands, by FY)

Fiscal Year	BIA	BLM	FWS	NPS	State/Other	USFS	Total
2015	591.6	4,770.1	33.9	74.8	2,738.4	1,916.30	10,125.1
2014	326.8	858.4	265.7	48.9	1,208.0	1,370.5	4,078.4
2013	208.6	1,603.3	288.8	334.6	1,363.8	1,534.1	5,333.1
2012	845.2	3,966.3	273.1	152.5	2,205.7	3,328.5	10,771.3
2011	406.3	1,158.1	526.6	487.3	5,387.7	1,965.9	9,931.9
2010	444.4	1,101.5	339.0	488.5	1,803.4	378.9	4,555.7
2009	764.3	3,503.9	612.0	386.8	3,012.6	883.4	9,163.0
2008	234.7	1,187.4	123.4	172.8	3,373.7	2,228.6	7,320.6
2007	260.7	3,536.2	606.2	166.5	3,601.4	3,319.9	11,490.9
2006	577.0	3,977.8	243.9	678.9	4,883.9	2,748.9	13,110.4
10-Yr Avg.	458	2,293	537	339	2,940	1,966	8,533



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Fuels Management Program

The purpose of the Interior and Forest Service fuels management programs is to reduce the risk of



wildland fire to people, communities, and natural resources while creating resilient forest and rangeland landscapes. Fuels treatments accomplish these goals by removing or modifying wildland vegetation to mitigate the potential for severe wildland fire behavior, lessen the post-fire damage, enhance threatened and endangered species habitat, and limit the spread or proliferation of invasive species and diseases. Treatments are accomplished using prescribed fire, mechanical thinning, herbicides, grazing, removal of fuels, or combinations of these, and other methods. Fuels management improves the health and resilience of our forests and rangelands, contributes to community awareness to

A prescribed fire operation conducted in the Sequoia Kings Canyon National Park to achieve resource benefits wildland fire, and improves the ability to manage a wildfire event safely and effectively.

The Departments' programs align with the three goals of the National Cohesive Wildland Fire Management Strategy to:

- support healthier, resilient ecosystems and provide many benefits to society, including clean water, scenic and recreational values, wood products, and biodiversity;
- be committed to safer, more resilient communities; and
- respond safely and effectively to wildfire.

Figure 4 shows FY 2015 fuels treatment accomplishments by jurisdiction. Numbers of acres are reference in thousands of dollars.

Figure 4 - FY 2015 Fuels Treatment Accomplishments (by Federal Bureau/Agency, in thousands of acres)

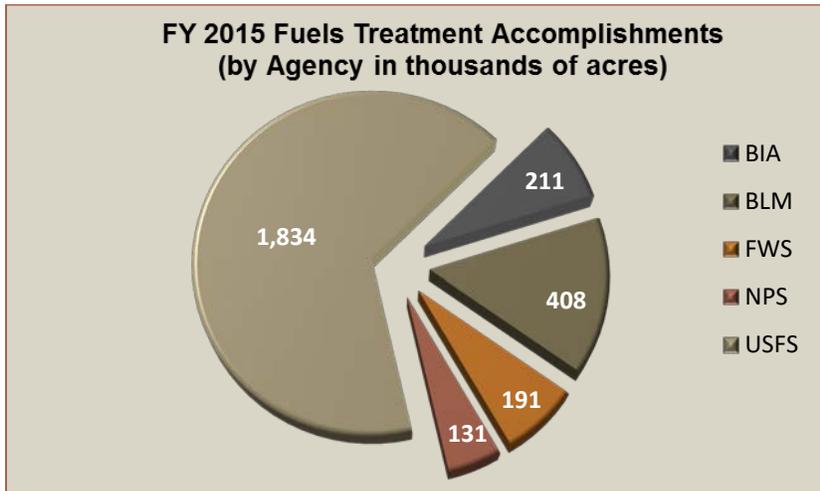


Table 8 is a comparison of fuels treatment accomplishments by jurisdiction for the fiscal years 2006 – 2015.

Table 8 - 10-Year Comparison of Fuels Treatment Accomplishments (by Bureau/Agency, in thousands)¹²

Fiscal Year	BIA	BLM	FWS	NPS	BOR	USFS	Total
2015	211.0	408.3	190.6	131.1	0.00	1,834.8	2,775.8
2014	168.7	453.7	178.2	94.2	0.00	2,094.3	2,989.1
2013	161.6	248.0	108.6	124.9	0.00	1,923.0	2,566.1
2012	166.6	468.0	206.9	158.5	0.00	1,931.3	2,931.3
2011	232.4	400.8	155.9	201.0	0.10	2,067.6	3,057.8
2010	293.9	436.0	379.4	195.5	0.00	3,071.3	4,376.1
2009	280.1	533.4	432.9	252.7	0.06	2,747.4	4,246.6
2008	239.1	452.2	431.0	137.0	0.00	2,571.7	3,831.0
2007	214.4	495.9	413.3	209.9	0.00	2,690.1	4,023.6
2006	187.7	419.4	373.9	116.6	0.00	2,690.8	3,788.4
10-Yr Avg.	215.6	431.6	287.1	162.1	0.0	2,362.2	3,458.6

¹² The National Fire Plan Operations and Reporting System (NFPORS) provided the Fuels Treatment Accomplishment information. The DOI includes National Fire Plan (NFP) Key Point 3 (Hazardous Fuels Reduction) fuels treatments only. The Forest Service includes NFP Key 3 and 6 (non-NFP treatments). Accomplishments exclude acres for preparation of treatments and acres from resource benefit wildfires.

Fatal and Non-fatal Serious Accidents

Fatal Accidents

During calendar year 2015, thirteen wildland firefighters died in line of duty deaths. Of those 13, eight were either federally employed or federally contracted firefighters—6 Forest Service, 1 Forest Service contractor, and 1 Bureau of Land Management employees.

Table 9 is a list of fatal and non-fatal accidents by jurisdiction and type for calendar year 2015.

Table 9 – Calendar Year 2015 All Agencies Fatal and Non-Fatal Accidents (by Type of Accident and Agency)

Date	Incident Name/ Jurisdiction	Activity	Agency	Type of Accident	# of People	# of Shelters Deployed	Fatalities	Injuries
1/29	Grass Fire, Caney, KS	Initial Attack (IA)	Caney VFD	Heart Attack	1	0	1	
2/12	Fairmont Prescribed Burn Sabine NF, TX	Prescribed Fire Burn Operations	USFS	Burns	1			1 st /2 nd degree burns
2/16	Langdale Prescribed Burn Valdosta, GA	Prescribed Fire Burn Operations	FWS	Burns	1			1 st and 2 nd degree burns
2/26	Kisatchie NF	Prescribed Fire Saw Operations	USFS	Hazard Tree	1			Hospitalized released
3/6	Alma Helitack Base, CA	On the Ground at base	CAL FIRE	Heart Attack	1		1	
3/6	Carlton County, MN	Work Capacity Testing (WCT)	State	Collapsed	1			Hospitalized surgery
3/30	Harrison Prescribed Burn, MS	Aviation	USFS	Aviation	3		2	1 Hospitalized
3/31	Big Cypress Natural Preserve, FL	WCT	NPS	Rhabdomyolysis	1			Hospitalized
4/6	Phoenix District Office, AZ	WCT	BLM	Rhabdomyolysis	1			Hospitalized
4/6	Merlin High School, OH	WCT	State	Heart Attack	1		1	

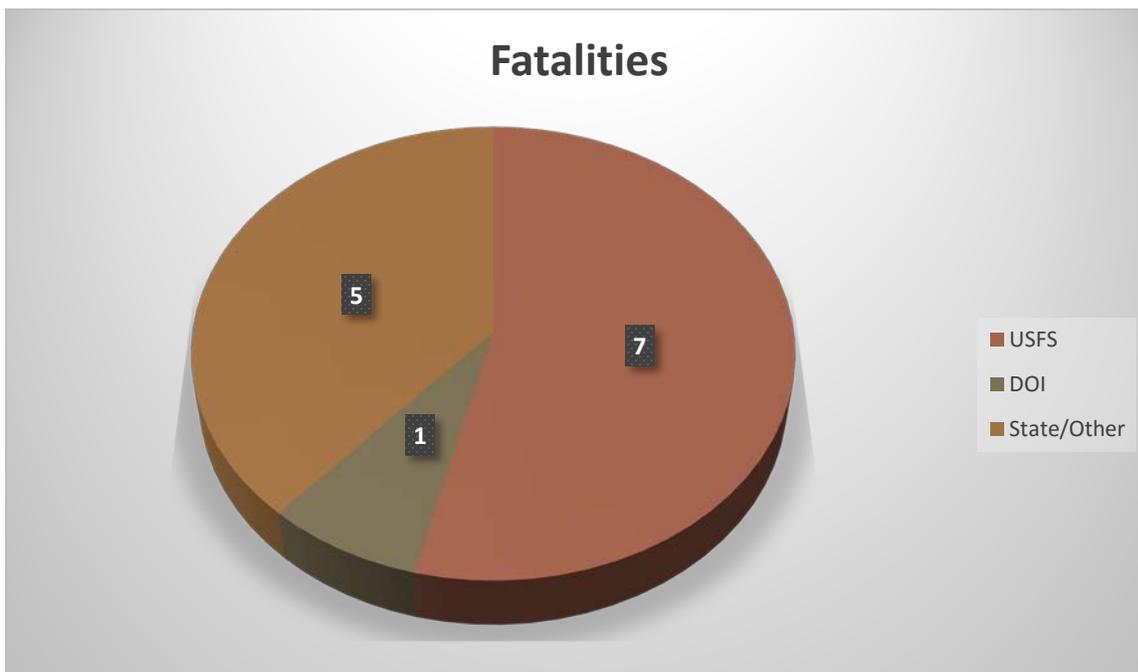
Date	Incident Name/ Jurisdiction	Activity	Agency	Type of Accident	# of People	# of Shelters Deployed	Fatalities	Injuries
4/13	Morongo Reservation CA	Training Exercise	State	Heart Attack	1		1	
4/13	Cold Brook Prescribed Fire, SD	Prescribed Fire	FWS	Rollover UTV	2			No injuries
4/13	Farm Fire, UT	IA	BLM	Burns	1			1 st /2 nd degree burns
4/14	GMUG NF, CO	WCT	USFS	Exertion Compartment Syndrome	1			Hospitalized
4/15	Black Creek, ID	Smoke-jumping Refresher	BLM	Hard Parachute landing	1			Hospitalized broken arm, separated shoulder
5/1	San Diego Unit, CA	Prescribed Fire	CAL FIRE	Rhabdomyolysis	1			Hospitalized release
5/13	Deschutes NF, OR	WCT	USFS	Heart attack	1			Hospitalized
5/15	Warm Springs, VA	Mop-up Operations	USFS	Burns/electrical	1			Hospitalized
5/21	Cascade RD, Boise NF, ID	WCT	USFS	Heart attack	1			Hospitalized surgery
5/27	Mt Charleston, NV	IA	USFS	Burns	1			2 nd /3 rd degree burns
6/6	Buenos Aires NWR, AZ	WCT	Contractor/SCA	Heart attack	1		1	
6/10	Boise District, BLM	Physical Training	BLM	Medical Emergency	1		1	
6/19	Woodrow Fire, Gila NF, NM	Smoke-jumping	USFS	Hard parachute landing	1			Hospitalized
6/30	Idaho City District, Boise NF, ID	Physical Training	USFS	Heat related injury	1			Hospitalized

Date	Incident Name/ Jurisdiction	Activity	Agency	Type of Accident	# of People	# of Shelters Deployed	Fatalities	Injuries
7/3	Three Rivers/Case Mountain Fire, CA	IA	CAL FIRE	Hazard Tree	3			Hospitalized
7/12	Clovis, Sierra NF	Driving	USFS	Rollover	5			2 Hospitalized
7/22	539 Fire, AK	IA	BLM	Hazard Tree	1			Hospitalized
7/27	Bitter Creek Fire, WY	IA	BLM	Burns	2			Hospitalized 2 nd degree burns
7/27	Lowell Fire, CA	IA	CAL FIRE/ USFS	Entrapment/ Burnover	4			Hospitalized (1) burns/ 3 treated & released
7/30	Frog Fire, CA	IA	USFS	Entrapment/ Burnover	1		1	
8/2	Watson Butte Fire, OR	IA	BLM	Hard parachute landing	1			Hospitalized surgery
8/4	Boise NF	IA	BLM	Hard parachute landing	1			Hospitalized
8/8	Sierra Fire, Lake Tahoe Basin MU, CA	IA	USFS	Hazard Tree	2		1	1 Hospitalized/ Released
8/11	Big Hill Fire, Nez Perce/ Clearwater NF	IA	USFS	Smokejumping Hard parachute landing	1			Hospitalized broken femur
8/19	Twisp Fire, NE Region WA DNR	IA	USFS WA DNR	Entrapment/ Burnover	6	2	3	Hospitalized (3), 2 nd and 3 rd degree burns
8/24	Grizzly Bear Complex, Umatilla NF	Driving	USFS	Engine Rollover	3			Hospitalized released
8/26	First Creek Fire, SE Region WA DNR	Driving	Contractor	Water Tender Rollover	1			No injuries

Date	Incident Name/ Jurisdiction	Activity	Agency	Type of Accident	# of People	# of Shelters Deployed	Fatalities	Injuries
8/29	Rapid Fire, Payette NF	Structure Protection	USFS	Medical Emergency/ Fall	1			Hospitalized
9/7	Rough Fire, Sierra NF	Line Construction	USFS	Medical Emergency/ Burns	1			Hospitalized
9/9	Perdida Fire, BLM Farmington District	Initial Attack	BLM	Medical Emergency/ Burns	1			Hospitalized
9/12	Valley Fire, S-LN Unit, CA	Initial Attack	CAL FIRE	Entrapment/ Burnover	4	4		Hospitalized 2 nd degree burns
Total					64	6	13	

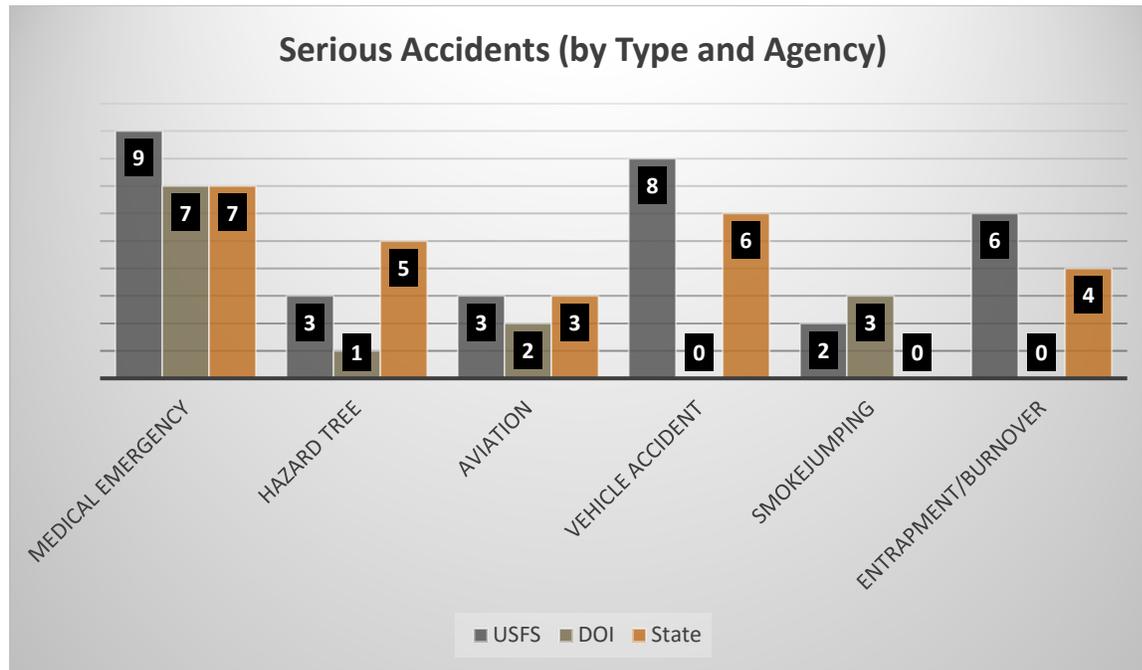
The pie chart in Figure 5 shows fatal accidents by agency.

Figure 5. Fatal Accidents (by Agency)



The bar chart in Figure 6 shows serious accidents for calendar year 2015 by type and agency.

Figure 6. Serious Accidents (by Agency)



International Fire Program

International cooperation in suppression and support of wildland fire incidents has been a decades-long program. It is the result of long standing, codified international agreements/arrangements and accompanying operating plans, couple with the willingness of nations to assist each other for the common good and develop strong trusting relationships. It precipitated the development of common expectations and qualifications of personnel, as well as the sharing of wildland fire management techniques, advancements in science-based research, and the acceptance of a common operating picture.

The International agreements/arrangements currently in place include:

1. **The United States of America and Canada:** An agreement or Exchange of Notes between the Government of Canada and the Government of the United States of America exists and allows for the suppression of wildfire, within the border region of either country (defined as 10 miles on each side of the border). The agreement provides a process for requesting and ordering resources for support of fires outside the border region.
2. **The United States of America and Mexico:** A Wildfire Protection Agreement between the United States (Departments of Agriculture and Interior) and Mexico (the Secretariat of Environment, Natural Resources, and Fisheries of the United Mexican States for the Common Border) exists. The Agreement allows for the suppression of fires that happen within the border region of both countries (defined as 10 miles on each side of the border).

In 2015, the Governments expanded the Agreement on Wildfire Protection. The expanded Agreement allows for only continued cooperation beyond the 10-mile border zone as the need

arises, but also includes cooperation on preparedness as well. The development of a new National Operating Plan, detailing the Agreement's implementation, is nearing completion.

3. **The United States and Australia:** The Wildfire Arrangement between the U. S. Departments of the Interior and Agriculture and the Australian Participating States allows for the exchange of personnel, on a case-by-case basis, when the ordering nation exhausts their available forces.
4. **The United States of America and New Zealand:** The Wildfire Arrangement between the U. S. Departments of the Interior and Agriculture and the New Zealand Participation Agencies allows for the exchange of personnel on a case-by-case basis, when the need arises and the ordering nation exhausts available forces.
5. **Regional/Local Unit Agreements and Operating Plans:** Several Regional/Local unit agreements and Operating Plans exist along border countries. The agreements define the process for resource exchange and support and tier from the National Operating Plan.

Prior to the 2014 fire season, the Departments reviewed, updated, and received approval for the National Operating Plans associated with International Agreement/Arrangements. Revisions and expansion of the agreement with Australia and New Zealand are underway. The Departments expect completion in 2016.

North American Forest Commission – Fire Management Working Group meeting

Representatives of Interior and the Forest Service hosted the annual meeting of the North American Forest Commission – Fire Management Working Group (NAFC-FMWG) in Scottsdale, Arizona, in November 2015. NAFC-FMWG is comprised of representatives from the Mexico National Forestry Commission, Mexico National Protected Areas Commission, and the Mexican Nature Conservation Fund; the Canadian Forest Service and California Interagency Forest Fire Center, Interior, Forest Service, and the National Association of State Foresters.

International Liaison Committee

The Forest Service chaired meetings of the International Liaison Committee (ILC) in October 2015 to confirm implementation of plans for the Sixth International Wildland Fire Conference in South Korea, and initiated the planning process for the Seventh International Wildland Fire Conference in Brazil, in 2019.

International Fire Aviation Working Group and Wildland Fire Advisory Group

The International Fire Aviation Working Group and Wildland Fire Advisory Group met in South Korea in October 2015, with representatives of the Forest Service and Interior participating.

North American Study Tour

Planning is underway for the North American study tour scheduled for Fall 2016, when representatives of Australia and New Zealand wildland fire agencies will travel to North America to participate in a five-week educational exchange with hands-on field visits highlighting wildland fire management issues. Every four years since 1951, a delegation from North America travels to Australia and New Zealand, and visitors from Australia and New Zealand tour the U.S. and Canada on a four-year cycle as well—with an exchange between the two hemispheres about every two years. Countries exchange and adopt many

important tools and technologies, based on information gained on these study tours, including the use of the Incident Command System in Australia and New Zealand, the exchange of research, and emergency operational assistance during severe fire seasons among the United States, Australia, and New Zealand.

Other International Efforts

FAM, in cooperation with Forest Service International Programs, assisted in the identification and selection of Forest Service employees as instructors and subject matter experts for training and consultation projects related to wildland fire management and incident command system at numerous international locations.



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Major Program Initiatives

Joint Initiatives – U.S. Department of the Interior / U.S. Forest Service

Rangeland Fire Prevention, Management, and Restoration

On January 5, 2015, the Secretary of Interior issued Secretarial Order 3336 (SO 3336) that identifies protecting, conserving, and restoring the health of the sagebrush-steppe ecosystem and, in particular, greater sage-grouse habitat, while maintaining safe and efficient operations, as a critical fire management priority for Interior. In collaboration with other agencies, Interior and the Forest Service prepared an Implementation Plan identifying actions to take in 2015 and 2016 and beyond. Senior Interior leadership identified nine task groups. These groups continue work to improve:

1. fire response plans;
2. prioritization and allocation of fire management resources and assets;
3. fuels reduction;
4. incorporating science on resistance and resilience in habitat management, fuels management and restoration;
5. update emergency stabilization programs to incorporate long-term restoration;
6. multi-year investments in restoration of sagebrush-steppe ecosystems;
7. cheatgrass and other invasive species removal;
8. science and research; and
9. plant materials acquisition, storage and distribution.

During the 2015 fire season, Interior and the Forest Service implemented initial actions with sagebrush protection a high priority consideration in fire response, with additional action items identified for completion in 2016.

Fire Prevention Education Teams

Changes in our climate are resulting in a longer wildfire season with more intense wildfires. Continuous development into wildland urban interface (WUI) areas makes engagement in wildfire suppression activities in these areas more difficult. As a result, the need to prevent unplanned, human-caused wildfires is of increased importance. With each wildfire prevented, financial, human, and other resources are more readily available to proactively reduce unwanted vegetation and restore vitally important habitats.

Fire Prevention Education Teams (FPETs) are groups of trained interagency personnel that have experience in wildfire prevention planning and implementation. The Forest Service funds these teams by severity, suppression, or state grant funds. This year, the Forest Service and BLM deployed 17 national FPETs to Arizona, California, Georgia, Idaho, Nevada, New York, Wyoming, and to the Pacific Northwest. Education efforts included the “*One Less Spark, One Less Wildfire*” educational campaign to prevent ignitions from campfires and other education efforts to increase public awareness about the benefits of fire-adapted communities, the benefits of the Firewise program, and the development of

implementation plans for “*Ready, Set, Go!*,” wildfire preparedness program for volunteer fire districts. The Long Island FPET developed materials regarding the Southern Pine Beetle, tree removal, and wildfire mitigation and prevention.

The BLM hosted five FPETs to address the hazards within the severe tree mortality areas of California. A prolonged drought and subsequent bark beetle infestation affected more than 60 percent of the conifers within the BLM Central California District, and turned to the Forest Service and the resource of the Forest Service’s FPETs to provide the extra capacity needed during this crisis. The FPETs completed situational assessments, made recommendations, and implemented statewide safety and wildfire prevention education.

Secretarial Order No. 3336 Rangeland Fire Prevention, Management, and Restoration identifies that certain ecosystems, such as sage-steppe, are in immediate need of protection and action. The Order supports the need for targeted wildfire prevention and education initiatives that increase public awareness to the link between wildfires, sage-grouse and sage-steppe ecosystems. With Forest Service and BLM severity funding, two wildfire prevention and education teams in Oregon and Washington created numerous “Steppe Up” products and resources now available to interagency partners to help elevate wildfire prevention education in the Pacific Northwest’s sage steppe.

To expand the number of trained personnel available for FPETs, the Forest Service sponsored an Alpha test of offering the NWCG Fire Prevention Team Member training (P310), virtually. This was very successful, with a Beta test planned next year.

The agencies made advancements in communicating wildfire prevention messages to Limited English Proficiency (LEP) people by collaborating with the Hispanic Communications Network (HCN) to develop and air Spanish wildfire prevention messages on radio stations throughout Forest Service Region 3 (Arizona and New Mexico). Region 3 coordinated with the Forest Service Washington Office of Communications to develop a new Spanish Website for the Forest Service, <http://bosque.gov/>, which provided a location for the listening audience to visit after hearing the call to action of “*One Less Spark, One Less Wildfire.*”

The Cooperative Forest Fire Prevent Program (CFFP) committee spent much of FY 2015 revising the existing Smokeybear.com website. This project should be launched in March 2016 and available in all media platforms. The CFPP also repurposed Smokey’s 70th Birthday Campaign and made the messages “evergreen” to carry us into the next set of campaign creatives.

The Smokey Bear License program contract needs renewed in FY 2016. Royalties are lower than in the past several years, but plans are in the process to build this program to a higher level. There are currently over 100 licensees and approximately 85 new products approved this year.

Smokey’s popularity continues to grow with numerous requests received for his appearance. Of particular note was the request to have him at the White House Easter Egg Roll. Smokey’s presence lead to numerous local TV station interview, as well as a quick spot on the NBC Today Show where Al Roker, which afforded the opportunity to link current wildfire activity with weather and the need to be vigilant with wildfire prevention.

Wildland fire Management and Clean Air Act Implementation

Wildfire smoke can result in significant air quality impacts to public health, particularly for at-risk groups and to safety, and to transportation through diminished visibility on roads and aviation corridors as well as impacts to fire personnel. In contrast, prescribed fires provide an opportunity to adjust the timing of fire and some ability to manage the amount of smoke and its path, thereby reducing the impact of fire emissions. Prescribed fire, managed using basic smoke management practices, can reduce the impacts on air quality while meeting fire-related objectives¹³. Concurrently, the Environmental Protection Agency (EPA) is strengthening air quality standards and implementation guidelines for criteria pollutants, visibility protection and carbon emissions; the U.S. Department of Agriculture (USDA) and Department of the Interior (DOI) share an affirmative role towards these efforts.

Over the last year, the DOI, USDA, and EPA Office of Air Quality Protection and Standards (OAQPS) collaborated on implementation of policies, communications, and programs that encourage the appropriate use of prescribed fire to benefit ecosystem restoration and reduce risk to communities from wildfire. This work was done while seeking to reduce the impact of catastrophic wildfire-related emissions on concentrations of particulate matter, ozone and other emissions of concern. Reduced wildland fire risk, reduced air quality impacts, reduced long-term carbon emissions and healthy, resilient landscapes are mutual benefits for each of the agencies. Furthermore, the agencies recognize that their respective policies, programs, plans, and activities may significantly affect efforts by the other agency to support air quality improvements and forest restoration. Collectively the agencies will continue to build federal leadership in their respective programs to improve air quality and restore wildland vegetation where fire plays a critical role.

Wildland Fire Air Quality Response Program

As wildfire and impacts of smoke have increased, there has been proactive response to this air quality impact to the health and safety of the public and fire personnel. The Forest Service with many interagency partners such as the National Park Service has developed the Wildland Fire Air Quality Response Program, which directly address these risks posed by smoke. The Program developed a national cache of smoke monitoring equipment that deploy to incidents as well as used on prescribed fires to understand the magnitude of smoke impacts. In 2015, twenty-five units were available including four donated to the cache from EPA. The monitors were heavily used in western wildfires in 2015 with first ever deployments in Alaska during the high wildfire and smoke activity. Smoke monitors, which measure fine particulate matter, PM_{2.5}, tied into the GOES satellite system similar to Remote Automated Weather Stations (RAWS). The near-real time data is available to the public via EPA's AirNow system as well as smoke monitor data display systems developed by Desert Research Institute and the Pacific Northwest Research Station's AirFire Team to support operational smoke forecasting.

The AirFire Team with their BlueSky smoke modeling system provides daily smoke impact modeling of active wildfires throughout the lower 48 states. The BlueSky operational model products frequently

¹³ USDA Forest Service and Natural Resources Conservation Service, Basic Smoke Management Practices Tech Note, October 2011, http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046311.pdf.

utilize fine scale meteorological data, supplied by NOAA, for greater resolution and model performance, support active smoke and air quality impact forecasting downwind of large wildfires. When combined with the monitoring data, technical specialists called Air Resource Advisors (ARAs) interpret these tools and products. ARAs craft messages for the public, which are then coordinated with air quality and health agencies as well as other partners. The ARA is a new position, which last year deployed to forty assignments on individual incidents as well as at larger, multi-fire scales due to shortages of available personnel. As the overall Program is new and developing, management anticipates that ARA shortages will continue until the pool of qualified technical specialists is larger. The current pool of ARAs includes Federal employees from the USDA Forest Service, EPA, NRCS, BLM, NPS, FWS, as well as employees from state, tribal and local government. With the significant wildfire activity in Alaska in 2015, ARAs dispatched there for first time and the AirFire Team launched BlueSky model runs successfully to support smoke impact predictions. Deployments also occurred in California, Oregon, Washington, and Idaho. The monitoring and modeling of smoke impacts of wildfires help fire managers, regulators, and the public understand the magnitude of air quality impacts while the forecasting of future impacts allows development of effective messaging so that the public and fire personnel can respond accordingly and, when needed, take actions to reduce their exposure. Air quality messaging and pre-exposure forecasting is effective, especially for those who are sensitive to high air pollution levels. The focus on these serious wildfire smoke impacts has helped the public and governmental agencies become more aware of the health risk they pose but also to emphasize distinct benefits of proactive fuels management including use of prescribed fire.

Wildland Fire Information and Technology

The Wildland Fire Information and Technology (WFIT) framework provides an enterprise approach to managing the wildland fire information technology investment portfolios of the Forest Service and the DOI, in partnership with state partners. WFIT provides cohesive, repeatable processes to meet interdepartmental, interagency fire business needs and IT requirements.

Success of the WFIT investment management process requires coordination and integration with the fire agencies and the Department-level investment management and budget management processes. It maintains the integrity of the reporting relationships within the Forest Service and the DOI wildland fire management programs and personnel.

The WFIT Investment Management Overview outlines roles and responsibilities for program.

Under the WFIT framework, a multi-year Roadmap is under development. This Roadmap will be based on a comprehensive review of wildland fire business processes, with an emphasis on the collection, enhancement, display, and storage of data needed by the wildland fire community.

Wildland Fire Science

Joint Fire Science Program

The U.S. Congress established the Joint Fire Science Program (JFSP) in 1998 as a partnership between the USDA and the DOI to support applied research focused on fuels mapping and treatment, fire effects

and behavior, and monitoring and evaluation. Subsequent legislation in 2002 added restoration of fire-adapted ecosystems, post-fire stabilization and rehabilitation, remote sensing, and development and integration of research information for local land managers.

JFSP is set apart from other fire research funding entities in that the emphasis centers on addressing manager-driven questions. For example, in response to Secretarial Order 3336, JFSP actively engaged with the interagency effort to develop a science strategy and prioritized research on maintenance and restoration of sagebrush habitat. This response allowed two key research projects to launch in April of 2016. A new manager-driven question the Program is poised to support is research addressing climate change responses in fuels, fire behavior and fire seasonality.

JFSP has provided support to over 670 projects at nearly 100 colleges and universities with annual funding that has ranged from \$8 million to \$16 million annually since 1998. JSFP funds do not support Federal salaries; however, the operating expenses of these projects often seed collaborative activities, leveraged extensively by other sources. By using an open solicitation and peer review process, JSFP selects their projects. The role JFSP plays in the fire science arena is much larger than its direct funding of projects. Its investment strategy and research questions needs addressed to set the agenda for other fire science programs.

In 2015, JFSP funded 32 research studies on the following topics:

- Fuels mapping for emissions inventories
- Smoke hazard warning system
- Implications of changing fuels and fire regimes – selected regions
- Fire ember production
- Fire effects on soil heating
- Fire weather and decision making: a social and modeling analysis
- Re-measurement – long-term fire effects on vegetation and fuels
- Graduate Research Innovation (GRIN) Award

For the upcoming year, JFSP has selected to fund 32 research studies on topics including:

- Restoration of sagebrush habitat in the Great Basin
- Fire and Smoke Model Evaluation Experiment (FASMEE)
- Graduate Research Innovation (GRIN) Award
- Implications of changing ecosystems in selected regions
- Effects of fire on tree mortality
- Post-fire landscape management
- Social and regulatory barriers and facilitators to implementing prescribed fire
- New Science Initiative – Ecological and social dimensions of resilient landscapes maintenance

Forest Service Research

To better equip managers to deal with wildland fires, Forest Service fire scientists develop and provide knowledge and tools that help reduce the negative impacts of wildfire while enhancing the beneficial effects of fire and fire management on society and the environment. The research focuses on understanding and modeling fundamental fire processes, interactions of fire with ecosystems and the environment, social and economic aspects of fire, evaluating integrated management strategies and disturbance interactions, and applying fire research to management problems.

Since the early 1900s, Forest Service fire research has played a vital role in the agency's fire and fuels management program. Managers use the results and products from this work in making tactical firefighting decisions, in prioritizing and implementing fuel hazard reduction projects, in smoke forecasting, in rehabilitating and restoring land after severe wildfire, and in providing information to homeowners in the wildland-urban interface.

There are five current emphasis areas of Forest Service fire and fuels research:

1. Physical Fire Science: basic fire science, including physical fire processes, the characteristics of fire at multiple scales, and fire danger assessment
2. Ecological and Environmental Fire Science: fire effects on ecosystem components, and fire and environmental interactions
3. Social Fire Science: public interactions with fire and fuels management, socioeconomic aspects of fires and fuels management, and organizational effectiveness
4. Integrated Fire and Fuels Management Science: management strategies at multiple scales, treatment and disturbance effects on ecosystem components, and forest operations, including biomass utilization and product development associated with fire and fuel management activities
5. Science Delivery: ensuring that knowledge generated by Forest Service scientists reaches groups and individuals who will benefit from it, including policy makers, wildland fire managers, and local communities

USDA Forest Service Specific Initiatives

Forest Service National Aviation Program

In order to support sustaining our nation's forests and grasslands during FY2015, the Forest Service Aviation Program –

- Flew an estimated 67,580 hours in approximately 530 government-owned, contracted, or leased aircraft
 - 67,580 hours is slightly below the 10-year average of 69,864 flight hours
 - A majority of the 530 aircraft utilized were contracted
- Operated an HC-130H large air tanker during wildland fire season which –

- Has been loaned to the Forest Service by the U.S. Coast Guard
- Utilized a second generation Modular Airborne Firefighting System (MAFFS II)
- Flew 99 operational flight hours and dropped 274,133 gallons of retardant over 19 different wildfires
- Successfully implemented an Emergency Medical Short-Haul Program which completed its first full operational field season
 - Consolidated training associated with this new capability was executed with support from the National Park Service
 - 30 team members earned qualifications as Short-Haulers and an additional 8 team members earned qualifications as Short-Haul Spotters
- The Aerial Firefighting Use and Effectiveness (AFUE) Study, which was implemented by FS FAM through T&D in order to quantify and measure the effective use of firefighting aircraft during fire suppression efforts, executed its first full season of collecting data using permanent employees
 - The AFUE Study observed 81 Wildfire Incidents and approximately 5,796 drops during the May – October data collection period
 - Cumulatively, the AFUE Study has observed 151 Wildfire Incidents and approximately 6,671 drops cumulatively since its inception in 2012
 - Preliminary exploration of the 2015 dataset has validated the AFUE Study's efforts thus far and is aiding in the identification of factors that explain outcomes. These factors will scientifically inform fire management on current utilization and support future decision making about aerial assets that have the ability to deliver water and wildland fire chemicals. Analysis and statistical assessment is ongoing and will require several more seasons of intensive data collection

Human Performance

The FS continues to move forward on developing a comprehensive approach to Critical Incident Stress Management (CISM) with increased training and awareness on CISM, Peer Support, and Resilience for all employees. You Will Not Stand Alone courses inform and education employees on dealing with traumatic events. Several Regions delivered these classes in 2015. Efforts in 2016 will focus on formalizing and enhancing agency efforts.

For all serious accident and fatality events in 2016, officials conducted Learning Reviews. As part of the Coordinated Response Protocol (CRP), Learning Reviews focus on informing and educating the agency on why unintended outcomes occur. Learning Review Teams are comprised of internal and external subject matter experts, academia and agency leadership. A Learning Review Board, comprised of senior leadership, will review the findings of 2015 incidents and recommend changes.

Human Performance initiatives in 2015 included extensive research on Fire Firefighter Fitness Standards, Human Factors/Human Performance courses at the Wildland Firefighter Apprenticeship Academy and on-going research on decision-making. Leadership is reviewing recommendations from agency

researchers for 2016 implementation with an increased emphasis on holistic physical and mental fitness for agency firefighters to significantly reduce accidents and injuries.

Risk Based Wildland Fire Management

In 2015, the Forest Service continued its emphasis on risk assessments as a foundational aspect of our investments, planning, and decision-making. We are expanding our efforts to conduct risk assessments, incorporate risk management concepts into land management, project, and fire management planning, and improve science regarding wildfire risk and analysis. Risk assessments are recommended to focus restoration and/or risk mitigation efforts in places where risk of severe wildfire is high and important resources are exposed, and to determine where there are opportunities for achieving resource benefits and where fire suppression is most appropriate. Risk assessments will consider the benefits of fire, including wilderness values, and the losses associated with not having fire on the landscape. Decision tools incorporate the results of assessments to ensure the information is readily available when wildfire response strategies are developed. Comprehensive risk assessment and analyses will form the cornerstone of accountability. For example, a National Risk Assessment to evaluate potential fire impacts on NFS lands is underway and expected to be complete in FY 2016. Regional and sub-regional efforts are also underway. Quantitative risk assessment analysis in the Region 5 links land management and fire management through the development of wildfire response zones that delineate hazards, risks, and opportunities on the landscape. A Technical Guide for Incorporating Fire Management Considerations in Land Management Plan Revision is under development. We also worked to develop internal capacity for conducting quantitative risk assessments.

The Department of the Interior Specific Initiatives

Wildland Fire Resilient Landscapes

The Department of the Interior supports the implementation and goals of the [National Cohesive Wildland Fire Management Strategy](#) including the goal that "Landscapes across all jurisdictions are resilient to wildfire-related disturbances in accordance with land management plan objectives," through the various wildland fire management program activities, including the Wildland Fire Resilient Landscapes (WFRL) program. The WFRL program work also supports Secretarial Order (SO) 3336, [Rangeland Fire Prevention, Management and Restoration](#), signed January 5, 2015, which establishes "protecting, conserving, and restoring the health of the sagebrush-steppe ecosystem and, in particular, greater sage-grouse habitat, while maintaining safe and efficient operations, as a critical fire management priority for the Department."

In FY 2015 and 2016, combined, Congress provided a total of \$20 million for the WFRL program within the Department's wildland fire management program to address broad land-health outcomes in wildfire-adapted ecosystems by conducting treatments across multijurisdictional landscapes that improve the integrity and wildfire resilience of forests and rangelands. The FY 2017 President's Budget proposed continuation of the Department's WFRL program by requesting \$30 million to fund the ongoing program.

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Secretarial Order 3336 – Integrated Rangeland Fire Prevention, Management, and Restoration

Summary

The Bureau of Land Management has taken comprehensive and extraordinary steps to address wildfire in the sagebrush steppe and to vastly enhance its preparedness, response, and overall management of fuels and fire relative to impacts on important sage-grouse habitats. Recognizing the importance of protecting, conserving, and restoring these areas, in the absence of dedicated funding, BLM Fire and Aviation took the initiative and found means internally to add capacity and implement strategies to respond to and support Secretarial Order 3336. Thus, making the BLM a singular leader in actions designed to more efficiently and effectively address fire and sage-grouse habitat.

Operationally, BLM Fire and Aviation's efforts for 2015

- Moved approximately \$4 million in additional base funding to the field to bolster fire programs for the longer term, including hiring an estimated 37 additional career and permanent firefighters combined in four states.
- Approximately \$3 million in one-time funding went toward hiring an estimated 82 additional temporary seasonal firefighters; allowing the BLM to staff an additional 12 engines in states having important sage-grouse habitat.
- Another \$4.7 million went to four priority states to purchase or contract line building and support equipment, resulting in four dozers, eight dozer transports, three water trailers, three water tanks and pumps and two engines.

- Strengthened aviation capacity by adding two Type 2 call-when-needed helicopters, one in Oregon and one in Idaho, one Type 3 helicopter in Nevada and one exclusive-use air attack platform in Idaho.
- In keeping with the Bureau's history of working closely with partners, \$500,000 went toward further training rural fire departments and Rangeland Fire Protection Associations located in key sage-grouse areas; and hired a National Cooperator Coordinator to further develop the RFPA program.
- BLM Fire and Aviation also led a collaborative effort to establish an on-call large air tanker base in Wendover, Utah (on the Nevada border) to more rapidly respond and support fire suppression efforts throughout the Great Basin sage-grouse habitat areas in Nevada, southern Idaho, Wyoming, Utah and other areas.
- Implemented a strategic plan to pre-position crews, equipment, and aircraft to enhance a rapid and effective response to fire ignitions in important sage-grouse habitat areas.
- Trained more than 200 veterans as firefighters in collaboration with Team Rubicon, an international disaster response organization comprised solely of U.S. military veterans. The added capacity offered by these firefighters either directly or indirectly (by freeing up internal BLM forces) enhanced the BLM's response capacity in important sage-grouse habitat areas.
- Funded \$460,000 in FIAT (Fire and Invasives Assessment Tool) fire prevention and education campaigns to reduce the incidence of human-caused fire ignitions in high-priority sagebrush habitat and to educate the public on the importance of preserving this habitat. BLM-NIFC established an ongoing internal and external outreach campaign regarding sage-grouse, which continues.
- Conducted an analysis of data on fuels, fire starts and weather conditions in five FIAT assessment areas to determine if the measures taken in 2015 (added resources, pre-positioning of assets, etc.) had been successful in reducing acres burned. Preliminary results show those steps taken effectively reduced the number of acres burned compared to other years having same or similar fuels, fire starts, and weather conditions.
- The BLM completed three Large Fire Response Assessments (LFRAs) in 2015 per Instruction Memorandum Number FA IM-2015-030, Large Fire Assessments for Wildfires Occurring in Sage Grouse Habitat. The assessments are conducted on a wildland fire with any BLM administered lands that have burned 10,000 acres or more of Primary, General or Sagebrush Focal Area habitat. These assessments provide a learning tool to enhance the work of dispatchers, fire management staffs, agency administrators, and fire responders.
- The BLM is expediting the development of comprehensive Emergency Stabilization and Burned Area Restoration plans for fires that have burned sage-grouse habitat, the most extensive of which are the Soda Fire in Idaho and Oregon, and the Bendire Fire in Oregon. These plans outline the series of treatments to be undertaken beginning immediately and extending over the next several years to restore sage-grouse habitat in these burned areas. Actions will include

seeding, planting seedlings, herbicides, and treatments to protect investments. The BLM is hopeful that favorable updated ES and BAR policies will be forthcoming from the DOI Office of Wildland Fire; these proposed new policies offer flexibilities that help promote sage-grouse habitat restoration.

Fuels Management Work

- As of August 31, the BLM has completed 351 sage-grouse related fuels projects in FY15 on 181,551 acres designed to enhance fire protection and improve habitat. Another 155 projects on 62,270 acres were in progress as of September 1.
- New and separate Resilient Landscape funds went toward completing an additional two projects on 178 acres late in the summer with another 23 projects covering 27,062 acres still in progress.
- The BLM also is continuing to prioritize conservation and restoration projects in the sagebrush-steppe habitat, including allocating fire and fuels funding using a risk-based model to enhance resources and aggressive initial attack this year. Prioritizing fuels program funding to the Great Basin states;
- Prioritizing fuels treatment projects based on location, opportunities for success and overall benefit to protecting, conserving and restoring the sage-steppe ecosystem and key sage-grouse habitat;
- Prioritizing restoration projects, using available resilient lands funding and other sources in greater sage-grouse habitat; and
- Planning to remove wild horses from the Beatty's Butte Herd Management Area (HMA) this fall to reach low Appropriate Management Level in a Sage-Grouse Focal Area in Oregon.

BLM Planning Efforts

- Amendments to land-use and resource management plans to focus on enhanced management of the sage-steppe ecosystem and sage-grouse habitat, including improvements in fire prevention and management.
- Working with its state partners to implement the Fire and Invasives Assessment Tool, or FIAT, which allows the BLM to prioritize resources to prevent and suppress wildfires and to restore ecosystem health and balance when wildfires occur.
- Conducting interagency, landscape-scale assessments to prioritize at-risk habitat and identify priorities for wildland fire fuels management, preparedness, suppression and restoration based on the quality and resilience of habitat at risk from loss to fire;
- Working with interagency partners, states and rural fire fighting organizations across jurisdictional and ownership boundaries based on priorities identified in the landscape-scale assessments to improve fire prevention, suppression, and restoration efforts;
- Developing strategies to check the spread of invasive species -- especially cheatgrass -- which contribute to the decline in rangeland health and increase the threat and severity of rangeland;

- Enhancing fire response, including training for local volunteers and Rural Fire Protection Associations; increased recruitment of veterans for fire crews; improving dispatch plans to focus fire suppression efforts on important habitat areas; pre-positioning firefighting assets to improve initial attack as a means of reducing acres lost when a fire occurs; and other operational elements to better protect and conserve crucial habitat.
- The recent completion and announcement of a National Seed Strategy provides a path to work with the Western states, federal partners, and private seed providers to increase the production of seed necessary to help accelerate efforts to quickly restore fire-impacted landscapes and important sage-grouse habitat.
- The BLM issued policy August 21, 2015 addressing Fire Management Plans (FMPs) with accelerated due dates and emphasis on FMP updates/revisions in areas with sage-grouse habitat. The policy instructs BLM offices to update FMPs to ensure consistency with newly developed Resource Management Plan Amendments and Revisions for sage-grouse, and Secretarial Order 3336.

Community Assistance

The nature of community assistance in the DOI has evolved between the National Fire Plan in 2001 and the 2014 National Cohesive Wildland Fire Management Strategy (Cohesive Strategy). Many early efforts focused on residences within the wildland-urban interface; however, communities and agencies recognize that additional components across the landscape, (e.g., infrastructure, socio-economic factors, cultural-historic values, and watersheds) are also important to community health and well-being. Hence, community assistance activities occur across the landscape and are not limited solely to the wildland-urban interface.

The Cohesive Strategy established its foundation on three goals:

- **Restore and Maintain Landscapes:** Landscapes across all jurisdictions are resilient to fire-related disturbances in accordance with management objectives.
- **Fire-Adapted Communities:** Human populations and infrastructure can withstand a wildfire without loss of life and property.
- **Wildfire Response:** All jurisdictions participate in making and implementing safe, effective, and efficient risk-based wildfire management decisions.

Each of these three goals embraces collaboration with other Federal, tribal, state, and local governments and non-governmental partnerships. Community assistance activities are an important component of the Department's Cohesive Strategy implementation goal.

The DOI and its bureaus collaborate with communities to assist them in becoming fire-adapted through the following activities: 1) Assist tribes, state and local government, communities and stakeholders to take responsibility and ownership of their wildfire risk by supporting efforts to build and sustain Fire-Adapted Communities; 2) Reduce the risk and impact of wildfire to communities and tribes; 3) Partner with communities and tribes with training and assistance to live safely and compatibly with wildland fire.

Table 10, on the subsequent page, demonstrates the occurrence of tribal or field unit sponsored fire-adapted communities activities at the unit level and the number of Community Wildfire Protection Plans or Equivalent Plans (CWPP-E) actions that included tribal or field unit participation.

Table 10. Represents a list of Fiscal Year 2015 Community Assistance accomplishments.

Bureau	The occurrence of tribal or field unit sponsored fire-adapted community activities at the unit level			Number of CWPP-E actions that include tribal or field unit participation	
	Wildland Fire Education	Wildfire Prevention Education	Assistance Actions	Number of CWPP-E created or updated in which the unit participated	Number of Activities or treatments completed and associated with a CWPP-E ¹⁴
BIA	70	73	66	46	461
BLM	122	122	122	110	1,668
FWS	142	127	120	240	424
NPS	77	89	78	174	769
FY Totals	411	411	386	570	3,322

¹⁴ Derived from NFPORS Data



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Reviews and Open Recommendations

Department of the Interior

The Department of the Interior has open recommendations for two Government Accountability Office (GAO) reports. In addition, the Department has completed closure for one Office of Inspector General (OIG) report. Both agencies provided updates, as of December 2015:

Wildland Urban Interface Community Assistance (ER-EVMOA-0012-2009), October 2010

The Department of the Interior has completed the last recommendation from report number ER-EVMOA-0012-2009, as follows:

Recommendation #2: Strengthen the Interagency National Fire Plan Operating and Reporting System (NFPORS) Wildland Urban Interface (WUI) community assistance module, including issuance of comprehensive guidelines for users, defined project activity elements, and performance monitoring and tracking tools.

September 2014 Status: OWF received a set of recommendations from a wildland fire task group and developed a policy memorandum to address IG recommendation; an action plan is being implemented to record specific data, reporting and performance monitoring and tracking. OWF submitted a closure memo August 2015.

The Department's progress on outstanding recommendations to open GAO reports is as follows:

Wildland Fire Management: Improvements Needed in Information, Collaboration, and Planning to Enhance Federal Fire Aviation Program Success (GAO-13-684)

Recommendation #1: Expand efforts to collect information on aircraft performance and effectiveness to include all types of firefighting aircraft in the federal fleet.

September 2014 Status: The Fire Executive Council has tasked the Fire Management Board to work with state and other partners to develop a strategy that will meet the GAO recommendations by the target date. Office of Wildland Fire is coordinating with the DOI Office of Aviation Services and the Forest Service.

Target Date: December 31, 2016

Recommendation #2: Enhance collaboration between the agencies and with stakeholders in the fire aviation community to help ensure that agency efforts to identify the number and type of firefighting aircraft they need reflect the input of all stakeholders in the fire aviation community.

September 2014 Status: Closure for this recommendation was requested in September 2015; the Office of Wildland Fire is coordinating with the Forest Service and the Fire Management Board to execute the communications plan developed by the National Interagency Aviation Committee. GAO agreed that the agencies are responsive to the recommendation, but has requested additional time for some of the

planned actions to improve communication and collaboration among the agencies to be fully demonstrated prior to issuing closure.

Target Date: June 30, 2016

Recommendation #3: Subsequent to the completion of the first two recommendations, update the agencies' strategy documents for providing a national firefighting aircraft fleet to include analysis based on information on aircraft performance and effectiveness and to reflect input from stakeholders throughout the fire aviation community.

September 2014 Status: The Fire Executive Council has tasked the Fire Management Board to work with state and other partners to develop a strategy that will meet the GAO recommendations by the target date. The Office of Wildland Fire is coordinating with the DOI Office of Aviation Service and the Forest Service.

Target Date: December 31, 2016

Wildland Fire Management: Agencies Have Made Several Key Changes but Could Benefit from More Information about Effectiveness (GAO-15-772)

Recommendation #1: Develop specific criteria for selecting wildland fires for review and for conducting the reviews as part of their efforts to improve their approach to reviewing fires, and

December 2015 Status: The Office of Wildland Fire (OWF) completed an analysis of Large Fire Cost Reviews from 2007 to 2014. OWF shared the findings and recommendations from that analysis with the Interior Fire Executive Council (IFEC). The IFEC will provide advice to the OWF regarding specific criteria for reviews of wildland fires in the context of determining adjustments to the Department and bureau approach to managing wildland fire. OWF will coordinate with the Forest Service on criteria to enhance interoperability and increase efficiencies in managing wildland fire. Because of the importance of coordinating with the Forest Service, as well as the need for OWF to involve bureau leadership in defining specific criteria for fire reviews, this process will extend beyond calendar year 2015, as is identified in the report.

Target Date: March 1, 2017

Recommendation #2: Once such criteria are established, revise agency policies to align with the specific criteria developed by the agencies.

December 2015 Status: In conjunction with Recommendation #1, the Office of Wildland Fire is leading and coordinating the development of policy direction on conducting fire reviews that includes specific criteria for selecting wildland fires to review, as well as outlines the objectives of these reviews. OWF will coordinate with the Forest Service to ensure alignment of policies so that reviews of wildland fire provide meaningful information that increases our ability to identify potential improvements in the federal government approach to wildland fire management.

Target Date: December 1, 2017

USDA Forest Service

At the close of fiscal year 2015, the Forest Service has three Government Accountability Office reports with open recommendations. The Forest Service has three Office of the Inspector General reports and one GAO report ongoing as of the end of the fiscal year. The following is a list of reports and the status of the associated open recommendations:

GAO-13-684, Wildland Fire Management – Federal Fire Aviation

Improvements Needed in Information, Collaboration, and Planning to Enhance Federal Fire Aviation Program Success (August 2013)

Recommendation:

To help the agencies enhance their abilities to identify their firefighting aircraft needs and better ensure they obtain aircraft that meet those needs, we recommend that the Secretaries of Agriculture and the Interior direct the Chief of the Forest Service and Deputy Assistant Secretary for Public Safety, Resource Protection, and Emergency Services, respectively, to take the following three actions:

1. Expand efforts to collect information on aircraft on aircraft performance and effectiveness to include all types of firefighting aircraft in the federal fleet.

Corrective Action Milestone:

Expand the Forest Service Aerial Firefighting Use and Effectiveness Study (AFUE) to include helicopters and water scoopers as well as large airtankers. AFUE will continue to analyze the effectiveness of aerial firefighting aircraft, using data collected from the broad spectrum of sources, including dedicated ground crews, ground, and aerial resources observation forms, aircraft infrared/color camera sensors, aircraft data collection sensors, such as Operational Loads Monitoring Systems, Additional Telemetry Units, Automated Flight Following, and other technology as it become available.

2. Enhance collaboration between agencies and with stakeholders in the fire aviation community to help ensure that agency efforts to identify the number and type of firefighting aircraft they need reflect the input of all stakeholders in the fire aviation community.

Corrective Action Milestone:

An executive level planning session is being coordinated to develop senior executive leaders' (FS and DOI) intent, determine strategic aviation requirements, identify additional stakeholders, and establish a timeline for building a plan, which identified the number and type of firefighting aircraft on an interagency basis. Additionally, the Forest Service will offer to include stakeholders in the collection and analysis of stakeholder aerial firefighting aircraft to develop interagency use and effectiveness parameters.

3. Subsequent to the completion of the first two recommendations, update the agencies' strategy documents for providing a national firefighting aircraft fleet to include analysis based on information on aircraft performance and effectiveness and to reflect input from stakeholders throughout the fire aviation community.

Corrective Action Milestone:

After collecting and analyzing effectiveness data and collaborating with the DOI and other stakeholders, the agency will update its strategy documents accordingly.

Status of Corrective Actions:

Implementing the recommendations

GAO-12-155 Station Fire: Forest Service’s Response Offers Potential Lessons for Future Wildland Fire Management (December 16, 2011)

Recommendations:

To improve the Forest Service’s response to wildland fires, we recommend that the Secretary of Agriculture direct the Chief of the Forest Service to clarify the Forest Service’s intent and to reduce uncertainty about how its assets are to be used relative to those of other agencies, issue guidance describing when it expects its own firefighting assets to be used instead of contract or state and local agency assets.

To improve the Forest Service’s response to wildland fires, we recommend that the Secretary of Agriculture direct the Chief of the Forest Service to document the steps it plans to take and the associated time frames to implement the lessons it identified in its review of the Station Fire.

Corrective Action Milestone:

The Pacific Southwest Region of the Forest Service has implemented the recommendations and FAM headquarters is gathering proof of implementation for Recommendations 1 and 2.

Status of Corrective Action:

Implemented and waiting for closure.

GAO-07-1168 Wildland Fire Management

Better Information and a Systematic Process Could Improve Agencies’ Approach to Allocating Fuel Reduction Funds and Selecting Projects (September 28, 2007)

Recommendation 1:

Secretaries of Agriculture and the Interior should direct their agencies to develop information to support this systematic process. Development of the information should include using information on risk and fuel treatment effectiveness, once available, in concert with information on the cost of treatments, to assess the cost-effectiveness of various potential fuel reduction treatments.

Status of Corrective Action on Recommendation 1:

This recommendation remains “Open.” GAO says, “Although the Forest Service expects to implement this recommendation in the future, it has not yet done so because the agency must first collect more data on treatment effectiveness. The agency submitted information to GAO; however, GAO requested additional information. Agency continues to work on acquiring additional information.

Recommendation 2:

Secretaries of Agriculture and the Interior should provide guidance that clearly distinguishes the relative importance of the various factors used in allocating funds and selecting projects, including the importance of risk, effectiveness, and cost in comparison with other factors. This guidance should also distinguish the relative priority of different values at risk, especially different elements within the wildland-urban interface, such as homes, power lines, and municipal watersheds.

Status of Corrective Action on Recommendation 2:

This recommendation remains “Open.” GAO says, “The Forest Service has not provided additional clarification on the relative importance of various factors considered in allocating fuels reduction funding. In particular, the agency has not clarified the relative importance of different elements within the wildland-urban interface.” The agency submitted additional information to GAO; however, GAO requested more information. Agency continues its work to acquire additional information.

Other Forest Service Audits

GAO-15-772, Federal Wildland Fire Management, Engagement Code: 361590

Objective: To examine various issues related to federal wildland fire management, including processes federal land management agencies use to determine wildland fire asset needs; agency consideration of firefighting approaches to maximize the effectiveness of their firefighting assets; wildland fire funding issues; and federal, state, and local agency interactions.

OIG 08601-0004-41 Forest Service Wildland Fire Activities – Hazardous Fuels Reduction

Objective: To determine if the Forest Service’s compliance and monitoring activities are adequately structured to oversee the effectiveness and efficiency of its operations. (1) assess the Forest Service’s (FS) controls over identifying, prioritizing, implementing, monitoring, and reporting hazardous fuels reduction projects on National Forest System lands, particularly those in the Wildland Urban Interface areas where human development intermingles with undeveloped wildland; (2) assess the impact that the Community Wildfire Protection Plans have on the FS’ process for selecting hazardous fuels reduction projects; and (3) follow up on the corrective action FS took on the recommendations made in our prior audit of FS’ Implementation of the Healthy Forest Initiative (Audit 08601-0006-AT, issued September 2006).

OIG 08099-0001-12 Forest Service’s Next Generation and Legacy Air Tanker Contract Awards

Objective: To determine if the FS’s next generation and legacy air tanker contracts were properly solicited, competed, and awarded, according to the FAR, and that contract modifications are within the scope of the original award.

OIG-08601-0002-41 – Firefighting Cost Share Agreements with Non-Federal Entities

Objective: To evaluate the adequacy of the FS controls surrounding the administration of cost-share agreements. Specifically, we will determine whether 1) agreements were properly established and implemented, 2) firefighting suppression costs were equitably distributed, and 3) reimbursements were properly determined (actual v. estimated) and consistent with the agreed-upon cost-share agreements.

Performance Measures

Department of the Interior

Goal #1: Protect America's Landscapes

Supporting Performance Measure	Type	2015 Actual
<i>Strategy #3: Management wildland fire for landscape resiliency, strengthen the ability of communities to protect against fire, and provide for public and firefighter safety in wildfire response.</i>		
Percent of DOI-managed landscape areas that are in a desired condition, as a result of fire management activities. (SP¹⁵)	A ¹⁶	36.2%
Percent of DOI-managed treatments that reduce risk to communities that have a wildland fire mitigation plan. (SP)	A	88.6%
Percent of wildfires on DOI-managed landscapes where the initial strategy(ies) fully succeeded during the initial response phase. (SP)	A	97%
New performance measures were established in 2014; Implementation occurred in 2015, with a baseline extrapolated from historical data		
Number of high-priority acres treated in the wildland urban interface (WUI)	A	714,260
Number of acres in fire regimes 1, 2, or 3 moved to a better condition class (WUI and non-WUI)	A	WUI: 231,795 Non-WUI: 102,344 Total: 334,139
Numbers of acres in fire regimes 1, 2, 3, moved to a better condition class per million dollars of gross investment (WUI and non-WUI)	A	WUI: 1,350 Non-WUI: 512 Total: 1,862
Number of acres in fire regimes 1, 2, or 3 moved to a better condition class, as a percent of total acres treated (WUI and non-WUI). This is also a long-term measure.	A	WUI: 23% Non-WUI: 9% Total: 32%
Percent of all fires not contained in initial attack that exceeded a stratified cost index (BUR¹⁷)	A	15%

¹⁵ SP = Strategic Plan Measure

¹⁶ A = Annual Measure

¹⁷ BUR = Fire Program Specific Measure

Supporting Performance Measure	Type	2015 Actual
Percent change from the 10-year average in the number of acres burned by unplanned and unwanted wildland fires on Interior lands (BUR)	A	77%
Number of treated acres that are identified in Community Wildfire Protection Plans (CWPPs) or other applicable collaboratively developed plans (BUR)	A	651,874
Percent of treated acres that are identified in CWPPs or other applicable collaboratively developed plans (BUR)	A	91%
Number of acres in WUI treated per million dollars gross investment (BUR)	A	5,332
Number of treated burned acres that achieve the desired condition (BUR)	A	2,135,965
Percent of treated burned acres that have achieved the desired condition (BUR)	A	91%
Percent of DOI and USDA acres in good condition (defined as condition class 1)	F ¹⁸	TBD ¹⁹

¹⁸ F = Future Measure

¹⁹ TBD = To be Determined

USDA Forest Service

USDA Strategic Plan

Numeric Designation (if appropriate)	Measure	2015 Actual	2015 Target (if appropriate)
2.4.1	The cumulative number of acres in the National Forest System that are in a desired condition relative to fire regime.	60,417,289	61,500,000

Program Assessment

Measure	2015 Actual	2015 Target (if appropriate)
Percent of fires not contained in initial attack that exceeded the stratified cost index.	24.8%	24%
Percent change from the 10-year average for number of wildfires controlled during initial attack.	-2.4%	0.2%
Total acres treated in WUI and non-WUI and also acres treated for other vegetation management activities that achieved fire objectives as a secondary benefit.	2,538,283	2,145,000

10-year Comprehensive Strategy Implementation Plan (updated December 2006)

Measure	2015 Actual	2015 Target (if appropriate)
Percent change from 10-year average for a percent of wildfires controlled during initial attack.	-2.4%	0.2%
Percent of fires not contained in initial attack that exceeded SCI	24.8%	24%
Percent of collaboratively identified high priority acres treated where fire management objectives are achieved as identified in applicable management plans and strategies.	71.5%	N/A ²⁰

²⁰ N/A = Non-applicable

Measure	2015 Actual	2015 Target (if appropriate)
<p>Number and percent of acres treated through collaboration consistent with this Implementation Plan, identified by treatment category (i.e., prescribed fire, mechanical, and fire use²¹)</p> <p>Prescribed Fire</p> <p>Mechanical Treatments</p> <p>Fire Use</p> <p>Total</p>		<p>1,131,388; 50%</p> <p>696,418; 30.8%</p> <p>436,090; 19.2%</p> <p>2,264,896; 100%</p>
<p>Percent and number of burned acres identified in approved post-wildfire recovery plans as needing treatments and that actually received treatments.</p>		<p>19,300; 100%</p>
<p>Percent of burned acres treated for post-wildfire recovery that are trending toward desired conditions.</p>		<p>95%</p>
<p>Numbers and percent of communities-at-risk (CAR) covered by a CWPP or equivalent that are reducing their risk from wildland fire. A community is at reduced risk if it has satisfied at least one of the following requirements:</p> <ol style="list-style-type: none"> 1. Recognized as a Firewise community or equivalent 2. Enacted a mitigation/fire prevention ordinance; 3. High priority hazardous fuels identified in CWPP or equivalent are reduced or appropriate fuel levels on such lands are maintained in accordance with a plan. <p>Number of CAR</p> <p>Number of CAR covered by CWPP or equivalent</p> <p>Percent of total CAR covered by CWPP</p> <p>Number of CAR at reduced risk</p> <p>Percent of total CAR at risk</p> <p>Percent of CAR covered by CWPP at reduced Risk</p>	<p>76,217</p> <p>15,380</p> <p>20.2%</p> <p>4,210</p> <p>5.5%</p> <p>27.3%</p>	

²¹ Fire Use = those portions of naturally ignited wildfires that resulted in favorable ecological conditions.

Measure	2015 Actual	2015 Target (if appropriate)
<p>Percentage of at-risk communities who report increased local suppression capacity as evidenced by:</p> <ol style="list-style-type: none"> 1. The increasing number of trained and/or certified firefighters and crews; 2. Upgraded or new fire suppression equipment obtained; 3. Formulation of a new Fire Department or expansion of an existing department involved in wildland firefighting. 		
Total firefighters trained	149,458	
State Fire Assistance (SFA)	127,186	
Volunteer Fire Assistance (VFA)	22,272	
Funding provided for upgraded or new fire suppression equipment	\$5,959,837	
SFA	\$8,130,633	
VFA		
Formation of new Volunteer Fire Department or expansion of existing Department	20	
Total number of communities assisted with increased capacity	13,195	
Total CAR	76,217	
Percent of CAR with increased capacity	17.3%	
Number and green tons and/or volume of woody biomass from hazardous fuels reduction and restoration treatments on Federal land that are made available for utilization through permits, contract, grants, agreements, or equivalent.	2,381,503	2,500,000

Forest Service Measures Set

Measure	2015 Actual	2015 Target (if applicable)
Acres of hazardous fuels treated outside the WUI to reduce the risk of catastrophic wildland fire.	961,095	N/A
Acres of WUI high-priority hazardous fuels treated to reduce the risk of catastrophic wildland fire.	1,577,188	1,725,000

Measure	2015 Actual	2015 Target (if applicable)
Three-year percent of fires not contained in initial attack that exceeded SCI.	29.3%	26%
Number of communities receiving firefighting capacity building from the SFA.	16,859	12,500
Number of small communities receiving firefighting capacity building from the VFA.	9,318	8,500

Success Stories

USDA Forest Service

Ochoco National Forest, Oregon – Fuel Treatments Improve Control of Spread and Favorable Resource Outcomes, Including Sage Grouse Habitat Protection on the Corner Creek Fire

The Corner Creek fire started by lightning on June 29, 2015 on the Ochoco National Forest approximately 11 miles south of Dayville, Oregon. Because of the fire's growth potential and expected negative consequences if it reached surrounding private lands, communities, and sage grouse habitat, the management response was to extinguish the fire before it could affect those surrounding values.

Unseasonably hot, dry weather, with daytime temperatures reaching 100 degrees Fahrenheit and relative humidity at or near single digit hampered firefighter efforts to control the fire. Such extreme weather resulted in aggressive fire behavior that made control efforts more hazardous and often ineffective. In these conditions, the fire continued to surge past control efforts to the south for over a week forcing firefighters to concentrate efforts on holding the fire west of the South Fork of the John Day River. By July 5, the weather eased slightly allowing firefighters the opportunity to control the fire's southern progression.

Previously treated areas where thinning and/or prescribed fire occurred aided containment efforts. Besides providing opportunities for firefighters to control the fire, the treatment areas also experienced less damage from the passing fire resulting in only minor impacts that are largely favorable in terms of reducing fuel accumulations and mimicking natural disturbance patterns. Fuel treatments proved to be a considerable advantage in halting the southerly march of the Corner Creek Fire toward private property and sage grouse habitat. One firefighter interviewed commented that the more recently treated areas acted as barriers to fire spread and allowed firefighters opportunities to engage the fire directly while the older treatments did not slow the fires spread as much but did effectively lower the intensity of the fire as compared to surrounding untreated areas.



Corner Creek Fire moved from the untreated area (left) into a prescribed fire conducted earlier in the year (right). Visual evidence suggests that fire intensity significantly reduced as the fire entered the treated area, allowing for direct control of the fire edge.

Bureau of Indian Affairs

Colville Reservation - North Nespelem Fuels Treatment

The North Star Fire started on the Colville Reservation August 13, 2015. Prolonged hot weather, dry conditions, and sustained winds created perfect conditions for large fire growth. Over the course of the 57-day fire, a single structure burned, despite frequent evacuations, road closures, and severe fire behavior. While just over 28,000 acres of the Colville Reservation burned, the total size of the fire was over 217,000 acres and cost roughly \$48 million to put out. It was Washington State's largest fire in 2015.

The North Nespelem Underburn Fuels Treatments planned objectives intended to reduce potential damages to homes, ranches, and infrastructure near the community of Nespelem. It was also an opportunity to reintroduce prescribed fire as a natural process. By strategically placing the treatment next to a main dirt road, the project was also intended serve as an anchor point for future burnout operations to protect firefighters and nearby public in the event of a wildfire.

On August 20, 2015, the southernmost tip of the fire was less than three miles from scattered homes and ranches in the Nespelem River Valley north of Nespelem. The treatments were located on the lowest forested slopes on both sides of the valley along a main dirt road, which firefighters later identified as an important containment line used to keep the fire from spreading to the larger town of Nespelem.

When the North Star Fire hit the treatment, the fire intensity, and flame lengths decreased markedly, indicated by green tree crowns in the treated area, in contrast to mostly browned and scorched tree crowns outside the treated areas. The calmer fire behavior slowed the fire's pace, reduced the amount of spotting, and allowed firefighters to hold the road below the treated stand.



Treated stand with green foliage on the left stands in contrast to brown, scorched trees in untreated stand on the right.

While protecting critical infrastructure and providing a safe area for firefighters to contain the fire is the primary success of this treatment, additional successes include the avoided unquantifiable costs. These include health due to reduced smoke emissions, reduced soil erosion due to the lower fire intensity levels that did not over-cook the forest soils, and an overall cost savings to public and firefighter safety.

National Park Service

2015 Rough Fire – Kings Canyon National Park

Lightning ignited the Rough Fire on July 31, 2015 in the Kings River Drainage adjacent to Kings Canyon National Park. Within the park, infrastructure, the private community of Wilsonia, and cultural and natural resources fared well due to the use of previous fuel treatments and managed fires. Although parklands were experiencing the fourth year of drought, bark beetle infestation, and the likely effects of climate change, the park *landscape proved resilient* to the effects of the wildfire. The Rough Fire burned 9,285 acres in Kings Canyon National Park out of a total of 151,623 acres. Areas with fuels treatments in the park showed the greatest *resilience*, such as decreased overstory scorch. Below is a brief summary of fire and fuels management effectiveness.

Previous Fuel Treatments

Critical prescribed burn treatments in Grant Grove and Cedar Grove permitted relatively easy holding actions. Firefighters were able to construct line with ease through treated areas. In some locations, burning as an active head fire, the Rough Fire ran into these treated areas with their open stands of forest and stopped. Additionally, previous burns created an anchor point for firelines and allowed fire suppression resources to fall back and build secondary containment lines in areas with reduced fuel loadings and open forest canopies. Fire managers observed that the Rough Fire never made it to those secondary containment lines because of the previous reduction of fuels within the national park.



Grant Grove in the foreground of the photos and McKensy Ridge (west of park) in distance.

Fire managers recognized the need to implement and maintain prescribed fire and mechanical treatments to ensure a healthy and resilient forest. Reduced fuel loads mitigate the amount of smoke released during major wildfire events so that visitors do not experience the impacts of smoke for extended periods. In Grant Grove, the community and residents of Wilsonia have been generally supportive of these treatments, with demonstrated additional support following the Rough Fire, since they were able to see concrete results from all the previous work.

Previous Fire History

Fire managers witnessed how previous fire history played a key role in the containment of the Rough Fire. Three previous fires, managed for resource benefit, stopped the progress of the fire on the majority of the eastern perimeter. Those fires included the 2005 Comb, 2008 Tehipite, and 2010 Sheep fires. In comparison, the Rough Fire burned through the 1997 Choke Fire as a head fire with high intensity, almost as if there was no fire history in that area. Whereas, when the Rough Fire reached the 2005 Comb Fire burn area, it stalled briefly before continuing as a head fire with a mix of moderate intensity and some areas of higher intensity. Additionally, the 2010 Sheep Fire was a barrier to fire spread and did not require control operations within its footprint. When the Rough Fire met the western edge of the Sheep Fire perimeter, it initially reduced, and then stopped, spread all together. This was confirmed via subsequent mapping and demonstrates the more frequently fire is managed in a particular area, the more resilient the area becomes.



High severity fire effects in ponderosa pine forest, near Observation Point in Lewis Creek that last burned in the 1980 Lewis Creek Fire



Low severity fire effects in ponderosa pine forest in Lewis Creek in an area last burned by the 2005 Comb Fire

Conclusion

Previous fuel treatments including prescribed fire, managed natural fire, and mechanical methods, reduced risk and exposure for fire personnel in areas compared to those that had little to no recorded fire history. Fire managers used previously treated areas as containment and control lines on more than 40 percent of the fire perimeter. The use of previous fuel treatments and prescribed fires allowed firefighters to focus their attention on other areas, reducing risk from cutting line on steep slopes, and saving time, energy, and money. Fire managers at the park have long realized that, at some point, their fuel treatments would play a role in the suppression of a major wildfire. Their work came to fruition with the Rough Fire, the 13th largest wildfire in recorded California history.

U.S. Fish and Wildlife Service

Longleaf Pine-South Atlantic LCC Resilient Landscapes Cooperative Improves Integrity of the Pine and Prairie Ecosystem and Generates Optimism with Partners

The Longleaf Pine-South Atlantic Land Conservation Cooperative (LPSALCC) Resilient Landscapes (RL) Cooperative to improve the integrity of the Pine & Prairie Ecosystem generated optimism within the Department of the Interior and among all 14 conservation partners.



The Cooperative, led by U.S. Fish and Wildlife Service (FWS), supported stewardship of Departmental lands and strategic properties through prescribed burning across six states; stimulated deliberate planning among DOI Bureaus that share a common vision; and catalyzed cooperation across a wide range of state, federal, and private organizations throughout the South Atlantic.

The Cooperative focused on building and strengthening relations with the various conservation organizations around four core areas:

Great Dismal Swamp National Wildlife Refuge (NWR), Carolina Sandhills NWR, Okefenokee NWR/Cumberland Island National Park, and St. Marks NWR/ Lathrop Bayou (BLM). Prescribed fire treatments to restore longleaf pine on these four refuges totaled nearly 40,000 acres. Through the Cooperative, prescribed burn operations on associated state lands in Florida, North and South Carolina, and Georgia totaled 768,000 acres. Additionally, the Cooperative provided 33,435 hours of prescribed fire training, demonstrations, and outreach across the six states.

The Cooperative also modeled and measured the positive impacts of prescribed fire on its ecosystem indicators – including changes in the pine bird index and regularly burned habitat. Efforts to improve tracking of other actions, beyond prescribed fire, that improve ecosystem condition include land protection, restoration, and economic incentives. Progress to both track where these actions occur and predict the impact on the overall resiliency of the landscape continues.

The Cooperative is a true partnership, funded through a combination of Federal funding, cost-sharing, and in-kind contributions. Partner organizations contributed 2,700 hours of volunteer labor. Membership in the Cooperative includes U.S. Fish and Wildlife Service, U.S. Forest Service, Department of Defense, Longleaf Pine Stewardship Fund, The Conservation Fund, Nature Conservancy, and Virginia Department of Forestry.

Bureau of Land Management

Fuels Management Benefits towards Sage-Grouse Habitat

One of the single greatest threats to the survival of the Greater Sage-Grouse is fire and invasive plant species. If the Sage-Grouse is listed, protection measures and recovery efforts will affect all public land



users and most citizens in the western U.S. The physical and economic impacts of a listing at this magnitude would be unprecedented for western rangelands. The Utah Bureau of Land Management (BLM) Fuels Management Program has played, and continues to play, a key role in the conservation, maintenance, and restoration of sagebrush landscapes on public lands as a primary means of preventing the Sage-Grouse

listing. The BLM fuels management program involvement with Sage-Grouse spans the three National Cohesive Wildland Fire Management Strategy goals: Restoring and Maintaining Fire Resilient Landscapes, Creating Fire-Adapted Communities, and Responding to Wildfire.

Corporately, conserving, maintaining, and restoring, sagebrush habitat is one of the BLM's highest renewable resource priorities. Fuels Management provides one of the BLM's best lines of defense through habitat conservation and maintenance treatments. Offices have placed a high priority on planning and implementing fuels treatments intended to reduce fire behavior characteristics and benefit the Sage-Grouse habitat.

The Fuels Management program cooperates extensively with other resource programs, and external partners, to **conserve and maintain** Sage-Grouse habitat by:

- removing early to mid-phase pinyon-juniper encroachment,
- establishing fuel breaks in strategic locations to protect areas with sagebrush where large and destructive wildfires have occurred in the past, and
- treating new non-native weed infestations.

The fuels program, in combination with the Emergency Stabilization and Rehabilitation (ESR) program, places priority on pro-actively working to **restore** Sage-Grouse habitat by:

- From 2003 to 2013, the BLM Fuels Management Program has invested over \$92 million in Fuels funds for treatments and activities resulting in over 1.3 million acres treated in areas identifying Sage-Grouse as a Species of Interest (based on historic data in the National Fire Plan Reporting

and Operating System [NFPORS]). Utah BLM was one of the first states to identify Sage-Grouse habitat for Fuels Management treatments expending more than \$26 million in fuels funding for 334,136 acres of treatment.

- Utah ranks #2 in both acres treated and investment towards Sage-Grouse habitat. Even with fluctuations in funding and Departmental direction placing emphasis on Wildland Urban Interface (WUI) protection, the general trend in funding and acres treated benefitting Sage-Grouse has been upward. Budget reductions in FY2013 did show a significant reduction, but upward trajectory resumed in FY2014 in fuels funding within Utah BLM.
- In the Fuels Treatment Effectiveness Monitoring (FTEM) System, 162 out of 625 wildfire/treatment intersections reported since data collection began within the BLM in FY2012, were within 2 km of Sage-Grouse habitat.
- For Utah BLM 25 out of 147 intersection were in proximity of Sage-Grouse habitat. This represents areas where fuel treatments aided in wildfire suppression efforts and/or reduced the acres burned within or adjacent to Sage-Grouse habitat. Within the BLM as a whole, 32 percent of the intersections are credited with keeping a fire to less than 1,000 acres, reducing both the size and adverse effects of wildfires, and thereby minimizing the potential negative impacts on Sage-Grouse habitat, showing a positive return on investment.
- For Utah, only six fires grew beyond 1,000 acres with 19 fires staying under 1,000 acres for 76 percent of the interactions. Firefighters suppressed 11 of these fires at one acre or less (44 percent).
- While Department direction has been for fuels funding to go towards treatments to protect the Wildland Urban Interface (WUI), communities and their values, in many cases Sage-Grouse, has benefitted. When WUI is in proximity to Sage-Grouse habitat, treatments have kept fires starting in the WUI small and manageable, thus reducing negative effects to Sage-Grouse habitat. For Utah BLM from 2002-2013, nearly 192,000 of the acres for 69 percent have been within the WUI.
- The fuels program has been heavily involved with research in rangeland ecosystems, such as Joint Fire Science Project sponsored SageSTEP.
- SageSTEP is a long-term multidisciplinary experiment evaluating methods of sagebrush steppe restoration in the Great Basin. Four of the 19 sites are located in Utah, including Onaqui (two sites), Scipio, and Greenville Bench. Brigham Young University and Utah State University are the primary research institutions working with the BLM along with other universities and the U.S. Geological Survey. Starting in 2005, initial research was funded through the Joint Fire Science Program with the fuels program funding the planning and implementation of associated treatments. The Fuels Program has continued to support long term monitoring, providing \$275,000 towards this effort over the past two fiscal years.
- In FY2012, the Fuels Program provided \$981,000 in funding for contracts associated with the Resource Management Plan (RMP) amendments and revisions as part of the BLM Great Basin

and Rocky Mountain Greater Sage-Grouse regional planning efforts. Over \$200,000 was provided to Utah's planning effort and associated contracts. Fire planners and fuels personnel are contributing time towards this planning effort.

- Utah BLM has been part of the Utah Catastrophic Wildfire Reduction Strategy. This statewide effort identifies Sage-Grouse habitat, the potential for extremely large fires (several fires of over 100,000 acres), the risk to the ranching interests, and the remoteness of areas within the state. Mitigation strategies that were discussed include an acceleration of the fuels projects that have been going on, especially removing pinyon-juniper that has encroached on historical sagebrush communities. Additional green strip firebreaks were also identified as a strategy to help limit the size of fires. The concept of keeping fires smaller in size would also help in having the ability to restore burned areas after a fire because the means to do so would be available on a year-to-year basis. There is a need to have firefighting resources staged closer to areas.

Under the FY2014 Omnibus Appropriation, BLM is prioritizing the funding of all treatments and activities identified by the States that benefit Sage-Grouse.

- Bureau-wide treatment and activities identifying Sage-Grouse as a Species of Interest within NFPORS account for more than \$28.3 million in funding and treatments of 241,343 acres.
- This level of funding encompasses 62% of the total fuels program project allocation toward treatments and activities identifying Sage-Grouse. For Utah, 77 percent of the fuels program project allocation is going towards Sage-Grouse.
- In FY2014, Utah BLM Fuels Management made its largest contribution towards the Sage-Grouse effort with over \$6 million in funding and a target of 62,227 acres. This is the second largest effort within the BLM Fuels Management program. Utah BLM has identified \$2.3 million in Planned Contributed Funds from other programs/partners. This is a million dollars more than any other state in Planned Contributed Funding.
- Within NFPORS, nationally the field has identified \$2 million in unfunded Fuels projects that would benefit Sage-Grouse habitat for FY2014. Utah BLM identified an additional \$807,640 in unfunded work and an additional capacity of 6,172 acres if funds were available towards projects with Sage-Grouse habitat.
- At the field, state, and national level, Fuels Management and Fire Planning continue to support various planning efforts related to Sage-Grouse. This includes the RMP amendments and revisions as part of the BLM Great Basin and Rocky Mountain Greater Sage-Grouse regional planning efforts. The BLM Fuels Program has also taken an active role in the Western Association of Fish and Wildlife Agencies, Fire and Invasive Assessment Team. The Utah BLM Fire Planner has spent countless hours working on this planning effort.

For FY2015 and beyond, there continues to be opportunities for the Fuels Management Program to contribute towards positive outcomes for Sage-Grouse:

- For FY2015, Utah BLM has identified over \$9.1 million in capacity to treat Sage-Grouse habitat for nearly 100,000 acres of treatments. Allocations of FY2015 funds are currently underway with implementation and planning occurring on the ground.
- There is encouragement for increased funding in FY2016 as the President's Budget proposes a new Department of Interior Landscape Resiliency Treatments Program within the Wildland Fire Management Program. The new programs proposed funding is \$30 million and recognizes the importance of treating fire adapted ecosystems for land health benefits, including area outside of the WUI. Land resiliency requires both the fire program and resource management to work together and the program places prioritization on a match from bureau base funds. For the BLM, these additional funds could benefit Sage-Grouse habitat.
- The Utah BLM Fuels Program is already heavily engaged in the Utah Partnership for Conservation and Development and the Watershed Restoration Initiative. Many of the Fuels Specialist has served as regional chairs and much of the implementation of associated projects occur through the Fuels Program.
- BLM will continue to facilitate the development of the Healthy Landscapes Initiative (HLI) and the Fuels Management Program to accomplish landscape stewardship actions. This new effort and identified Focal Areas aligns with the Landscape Resiliency Treatments Program, to positively impact Sage-Grouse habitat. At the District level within Utah, the Fuels program has taken a lead on the HLI.
- Provisions within the 2014 Farm Bill allow for greater collaboration and leveraging of funds between ranchers and agencies for activities to reduce hazardous fuels. Several Districts have already taken advantage of the Farm Bill and the Sage- Grouse Initiative with the Natural Resources Conservation Service (NRCS) to work with permittees and treat sagebrush communities benefitting both Sage-Grouse habitat, hazardous fuels, and forage for rangeland management. One of the focuses of the recent Utah BLM Prescribed Fire and Fuels Workshop was the efforts occurring with NRCS and included a field trip to Twin Falls where such partnership occurs.
- Conduct project and NEPA planning along with associated implementation at a landscape scale. Single small-scale treatments are not affecting the large catastrophic fires effects on Sage-Grouse habitat. For some states there will be some transition in moving from working on smaller WUI planning areas to landscape level projects and it is expected that some lag time will occur with the shift in focus before implementation can occur bureau-wide, whereas Utah is positioned with numerous NEPA sufficient landscape level projects on the shelf and ready to implement.
- In 2010, the BLM Great Basin Restoration Initiative Workgroup developed the "Considerations for Strategically Reducing Fuels and Wildfires on Public Lands in the Great Basin with Targeted Grazing," for the application of domestic livestock grazing as a strategic resource to reduce fuel in specific areas to accomplish defined vegetation or landscape goals through the use of fences, water sources, or dietary supplements. Efforts to expand target-grazing

opportunities need further investigation regarding the conservation of Sage-Grouse habitat. The Utah State Fuels Specialist was on the team that developed this paper with several Districts employing this practice and incorporating the concept into new NEPA.

- The field level recognizes the Fuels Management Program as the implementation arm of vegetation management. The program is positioned to not only implement projects, but also to plan and monitor both Fuels Management and other treatments such as those benefiting Sage-Grouse habitat.

Utah Fire Zone-By-Fire Zone Summaries

The Fuels Management Program throughout Utah BLM demonstrates numerous examples of positive impacts toward Sage-Grouse.

Green River Fire Zone

The Green River District Fuels Program has been working to improve and enhance Greater Sage-Grouse and other sagebrush obligate species habitat since 2003. Pinyon-juniper encroachment removal by mechanical means has been a major focus. To date through BLM fuels funding paid treatments in over 56,000 acres in Greater Sage-Grouse habitat; additionally, more than 58,000 treated acres were funded through the wildlife program utilizing UPCD/WRI funding in the Vernal, Utah, area. In mountain sagebrush sites that respond well to fire treatments, over 21,100 acres of prescribed fire was completed. Since 2003, six wildfires have intersected fuels treatments in this occupied habitat that significantly reduced fire size and intensity allowing suppression resources to control the wildfires during the first operational period. In addition, another six wildfires intersected ten treatments adjacent to occupied habitat and were instrumental in the suppression efforts.

Working closely with the district wildlife staff, Northeastern Utah Division of Wildlife Resources habitat and Sage-Grouse coordinator, and local landowners, the Green River District has been able to pool knowledge, resources, and funding to accomplish our goals of hazardous fuels reduction and habitat improvement. We have also acquired additional funding sources which included \$50,000 of oil and gas offsite-mitigation that were utilized in 2013 for the Anthro Bullhog treatment and this year an additional \$20,000 in funding from NRCS through a permittee/UPCD agreement towards two mastication treatments. Sage-Grouse sightings have increased in a majority of treatment areas located in the Red Fleet and Diamond Mountain areas and this year a bird-collaring project is scheduled using the telemetry data to validate and improve our treatment selections.

Color Country Fire Zone

The Color Country District in Utah treats approximately 20,000 acres of public land each year to reduce hazardous fuels and restore wildlife habitats that were altered by past management practices. Accomplishments include increasing Sage-Grouse habitat at a cost of approximately \$500,000 per project annually. Since 2010, the district completed five landscape-scale project areas in Sage-Grouse habitat and invested nearly \$4 million. Utah's Watershed Restoration Initiative (WRI) leverages these investments by contributing money from state agencies, non-profit sportsmen's groups, and other partner organizations. As a result, the number of Sage-Grouse sightings has doubled since 2012. Projects

designed to protect and improve habitat for Sage-Grouse, mule deer and other wildlife are multi-year, multi-phase treatments planned and funded through the initiative to accomplish common wildlife and fuels management goals.

The Kanab Watershed contains the southernmost population of Greater Sage-Grouse in the Western United States. Color Country Fuels Program, the Kanab Field Office, private landowners, and the NRCS have placed a significant amount of project planning and implementation dollars into Upper Kanab Creek over the past five years. Color Country Fuels has taken the lead in developing a multi-year watershed level NEPA document, to help prioritize and fund a variety of vegetation projects over the next 15 years.

The agency has completed over 4,000 acres of hand thinning, 3,400 acres of mechanical treatments and 4,400 acres of seeding. In addition, as part of the Hazardous Fuels Reduction Categorical Exclusion and prior to the larger Upper Kanab Creek Watershed restoration effort, 3,000 acres were completed.

Telemetry data documents grouse actively using these older treatment areas (see photo), and the newer treatments will expand both winter and brood rearing habitat near known occupied habitat.

One of the focuses of the Kanab Watershed project area has been to conduct treatments that cross-jurisdictional boundaries to provide landscape level benefits for Sage-Grouse working closely with private landowners, and NRCS and Utah's Watershed Restoration Initiative.

The Alton Sage-Grouse Project was a joint project between BLM and a private landowner, near the town of Alton, Utah. BLM removed Phase III trees through a mechanical contract and aerial seeding, and the private landowner simultaneously bulldozed trees and drill seeded the private land. In total, there were approximately 1,500 acres of pinyon-juniper removed to benefit mule deer, Sage-Grouse and turkeys, as well as provide a fuel break near the town of Alton.

Color Country Fuels coordinated with the Cedar City Field Office and mechanically treated Stage II and Stage III pinyon-juniper, within the Long Hollow Grazing Allotment. Approximately 1,000 acres were treated by mastication and hand thinning during 2006 to remove hazardous fuels and provide for Sage-Grouse habitat. This year, another 950 acres were treated, to release the sagebrush understory and improve Sage-Grouse brood-rearing and winter habitat. Approximately 850 acres of this year's project was completed as part of the mitigation for the Sigurd to Red Butte 345 kV Transmission Line.

In recent years, Sage-Grouse have been documented strutting at a historical lek within the 2006 project area. The newer treatment will provide connectivity between this project and several thousand acres of sagebrush habitat, which would provide for Sage-Grouse brood-rearing and winter habitat. Aerially seeded grasses, forbs, and sagebrush will provide for additional Sage-Grouse habitat needs. This year's treatment is Phase I of several Sage-Grouse and Utah prairie dog habitat improvement projects within this area.

West Desert Fire Zone

Since 2004, the West Desert Fire Zone near Salt Lake City had 69 treatments interact with wildfires. Current Utah BLM Operations Specialist and former West Desert Fire Management Officer Jeff Kline said, "The location of these fuels treatments has affected the fire behavior. They have been strategically

located over the past decade in areas with high fire occurrence and intensity. I am convinced that we have reduced the number of acres burned, minimized the risk to firefighters and the public, and reduced impacts to Sage-Grouse.” The photo shows where the Pine Creek wildfire burned into the Cook Canyon Fuels Treatment, illustrating how the treatment helped slow the spread and assist in controlling the fire. The Cook Canyon Fuels Treatment occurred within Sage-Grouse habitat. Within the West Desert Fire Zone, 13 of the 69 treatment interactions reported occurred within Sage-Grouse habitat.

Summary

While Utah may support five to eight percent of the total range-wide population of greater Sage-Grouse, opportunities exist to not only conserve existing habitat, but also expand upon such habitat. The Utah BLM Fuels Management program has and will continue to play a significant role in providing for the conservation, maintenance, and restoration of Sage-Grouse habitat as demonstrated through the acres treated and dollars invested. The examples highlighted represent a fraction of the positive work occurring within the BLM and across Utah. The BLM Fuels Management program is positioned to continue such work and contribute towards positive outcomes for the Sage-Grouse while meeting hazardous fuels objectives and continuing with traditional work, reducing the hazardous fuels and mitigating negative impacts to firefighter and public safety, infrastructure, and the natural resources.



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