Department of the Interior
Wildland Fire Management
Fiscal Year 2018 Annual Report

U.S. Department of the Interior
Office of Wildland Fire

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Director, Office of Wildland Fire

Letter from the Director

With each passing year, fires are burning larger and fire seasons are lasting longer, exposing our firefighters and communities to increasing risk. The situation is complicated by more people living in the wildland urban interface, prolonged drought, abnormal weather conditions, and the prevalence of insects, diseases, and invasive species that have led to mortality of vegetation on Department of the Interior and tribal lands. These conditions have resulted in complex and more costly wildfires. For some time now, fire seasons have not been limited to just the summer months. We now experience fire years, and 2018 was a significant fire year, with over 58,000 fires burning more than 8.8 million acres across nearly every state and Puerto Rico. Fires destroyed more than 25,000 structures, 23,000 of which were in California alone.

In 2018, 19 firefighters lost their lives during wildfire incidents or wildland fire management related activities across the country. We honor the sacrifice they made for our nation, and we offer our most sincere condolences to the families, friends, and colleagues they left behind. We are forever grateful to them and to those who continue to put their lives on the line each day. There were also many fatalities among community members and unimaginable destruction when a fire burned through the entire town of Paradise, California, weeks after the fire season would have ordinarily ended. We will not forget these tragedies. We are applying the lessons we learned from these challenges to create a brighter future.

In 2018, we worked collaboratively with partners on more than 2,500 projects, including reducing burnable vegetation on more than 1.3 million acres of Department-managed and tribal lands in some of the most fire-prone areas of the country. Advancements in technology are supporting our vegetation management efforts and leading to safer and more efficient wildfire operations. These advancements and our cooperative efforts support the safety of firefighters and the public and allow the Department to better respond to wildfires and reduce risks.

Thanks to congressional support, the Department of the Interior now has more tools than ever to help us meet the challenges ahead. Additionally, Executive Order 13855 and Secretarial Order 3372 direct that we work collaboratively with our federal, tribal, state, and local partners to more actively manage the public lands entrusted to us. By jointly developing management priorities with all of our partners and stakeholders, better coordinating the use of our assets and skills across the landscape to the greatest effect, and investing in those specific landscape restoration projects that protect life and property while benefitting rural economies, we will lead the change we need.

Looking forward, I see us making great progress. Collectively, the work we're performing supports a vision where our landscapes are healthy and vigorous and wildfires help to restore rather than destroy them. We will continue to stand with our partners to promote the sustainable recovery of wildfire-damaged lands and to implement the policies and initiatives needed to reduce wildfire risk. And we will continue our efforts to keep our firefighters safe, and in our implementation of Executive Order 13855 and Secretarial Order 3372, to keep our lands healthy. We have a lot of work ahead of us, but we are up to the task.

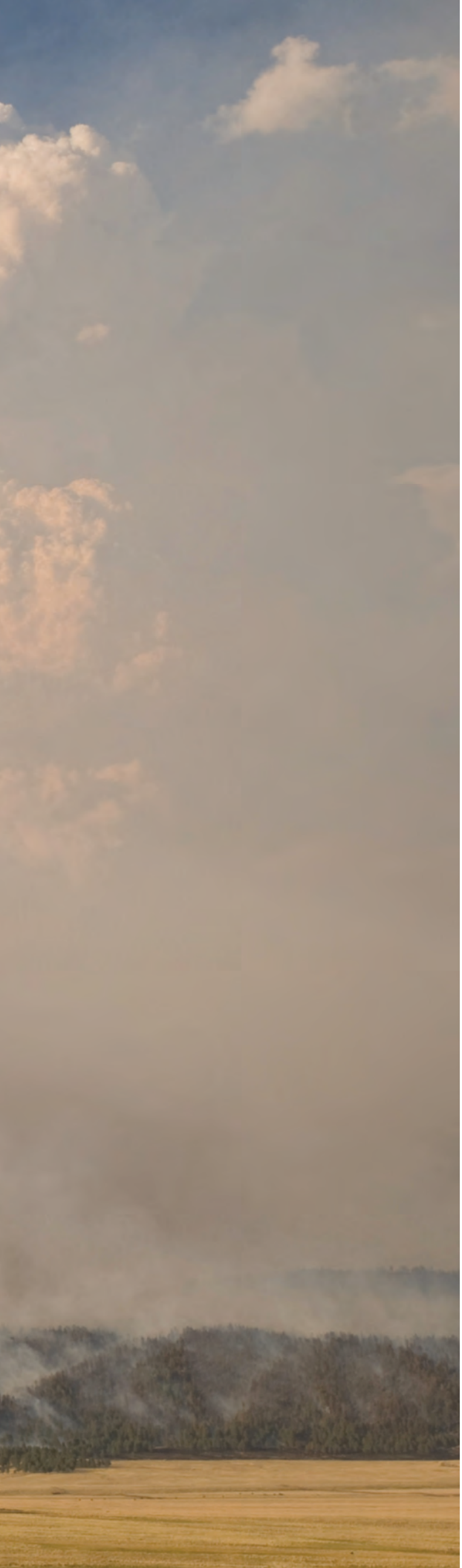


Table of Contents

Introduction

AT A GLANCE

- **Fire plays a natural and beneficial role in a healthy landscape, but much of our forests and rangelands are unhealthy and susceptible to devastating wildfire. Actively managing these lands enables us to respond to wildfire more successfully.**
- **The Department of the Interior manages nearly 500 million acres across the nation. In 2018, 6,895 fires burned over 2.3 million acres of these public lands, an area larger than the state of Connecticut.**
- **The Department has four bureaus with wildland fire programs: the Bureau of Indian Affairs, Bureau of Land Management, National Park Service, and U.S. Fish and Wildlife Service.**
- **The Department's Office of Wildland Fire bridges the bureaus' unique cultures, missions, and authorities to create an integrated, cohesive, and coordinated Departmentwide wildland fire program.**
- **Our coordination with federal, tribal, state, private sector, nonprofit, and local partners is essential for an effective wildland fire management program.**

Fire is a natural occurrence and a critically important ecological process that plays a beneficial role in a healthy landscape. However, the cumulative impacts of a variable climate, drought, and invasive species are creating a landscape more susceptible to devastating wildfire. An ever-expanding wildland urban interface and the inherent complexities and dangers of fighting wildfire in and around these communities exacerbate these conditions. Escalating emergency response requirements and increasingly dangerous and costly wildfire response operations continue to impact us.

The Department, along with our federal, tribal, state, private sector, nonprofit, and local partners, responded to over 58,000 wildfires that burned nearly 8.8 million acres across the nation in 2018. Of these, 6,895 fires occurred on Department-managed lands, burning more than 2.3 million acres, an area larger than the state of Connecticut, which is just over 26 percent of the total acres burned. Our ability to effectively manage wildland fire is critical to ensure the integrity of our public lands. The Departmentwide wildland fire program protects over 511 million acres of public lands, including many of the nation's most iconic natural and cultural treasures as well as critical minerals and energy resources that advance America's energy dominance.

Of the Department's nine bureaus, four have wildland fire programs: the Bureau of Indian Affairs, Bureau of Land Management, National Park Service, and U.S. Fish and Wildlife Service. Fire plays a different role and occurs at a different scale for each of the Department's bureaus. The Office of Wildland Fire bridges these bureaus to create a single, fully integrated, and coordinated Departmentwide program. The Office of Wildland Fire provides budget oversight and programmatic governance for the Department's wildland fire management program and coordinates our essential partnerships.

Our wildland fire management program continues to focus on firefighter and public safety, core values that govern every decision and activity. We strive to keep our employees and the public safe from harm or loss, to effectively suppress unwanted fire, and to do everything we can to improve the health of our landscapes through active management.

Year in Review

AT A GLANCE

- **The Department of the Interior and its partners responded to over 58,000 wildfires in 2018, approximately13 percent below the 10-year average and nearly 19 percent below the number of fires in 2017.**
- **The 2018 fire year was particularly devastating to rural communities, with a 600 percent increase over the average number of residences burned over the last 10 years, the vast majority of these in California.**
- **The 2018 fires burned nearly 8.8 million acres, nearly 26 percent over the 10-year average area burned but nearly 13 percent below the area burned in 2017.**
- **The Bureau of Indian Affairs managed the greatest number of fires. The Bureau of Land Management had the largest area burned. Over half of the BLM-managed acres burned were in Nevada and Alaska.**

When considering the intensity and impact of the 2018 fires, last year was an exceptionally dangerous year. Fires that occurred in November 2018 in northern and southern California resulted in the kind of devastation we have not seen in decades. The Camp Fire completely destroyed the community of Paradise, claiming the lives of 85 civilians and displacing roughly 50,000 residents. The Camp Fire reportedly caused over $16 billion in damage.

During 2018, wildfires destroyed 25,790 structures nationwide, and approximately 92 percent of those (23,647 structures) were in California. Of the total structures destroyed nationwide, 70 percent (18,137) were residences, and 94 percent (17,133) of those residences were in California. This nearly 600 percent increase above the 10-year national average of residences burned (2,701) highlights the devastating impact the 2018 fires had on rural communities, particularly in California.

Significant fire activity also occurred in other areas of the country, including the Great Basin, Northwest, Rocky Mountain, and Southern Regions (see appendix A). According to the National Interagency Coordination Center, the largest fires outside of California were in Nevada, Oregon, Oklahoma, Idaho, Texas, Colorado, and Utah. The largest fire in 2018, the Martin Fire, burned 435,000 acres in Nevada. Of the total fires in 2018, 48 percent were in the Southern Region, with the most fires reported in Texas, North Carolina, Georgia, and Florida.

In 2018, approximately 12 percent (6,895) of the 58,083 wildfires and over 26 percent (2.3 million) of the nearly 8.8 million acres burned occurred on Department-managed lands (see appendix B). The Bureau of Indian Affairs managed the greatest number of the Department's fires (3,472). The Bureau of Land Management experienced the largest area burned (1.9 million acres), with over half of its burned acres in Nevada (620,352) and Alaska (364,642).

The most important values at risk in any fire are the lives of our firefighters and community members. In 2018, we lost 19 emergency responders, including one of our own from the Department. As we reflect on the past year, we remember those who tragically lost their lives protecting our communities. The importance of collaboration to significantly reduce wildfire risk to firefighters, communities, and landscapes cannot be overstated. We continue to cultivate partnerships to foster collaboration with federal partners, tribes, state and local governments, and other stakeholders to find opportunities to better identify and reduce wildfire risk.

Financial Highlights

AT A GLANCE

- **The Department of the Interior's Wildland Fire Management appropriation funds the wildland fire management programs, such as preparedness, suppression operations, fuels management, burned area rehabilitation, facilities construction and maintenance, and others, that are undertaken collaboratively by the Bureau of Indian Affairs, Bureau of Land Management, U.S. Fish and Wildlife Service, National Park Service, and Office of Wildland Fire.**

- **In fiscal year 2018, the Department's appropriation was $948 million, which supported:**
  - **4,492 firefighters, 111 assorted aircraft, 649 engines, and 900 pieces of heavy equipment;**
  - **suppression activities for 6,895 fires that burned over 2.3 million acres;**
  - **nearly 1.3 million acres of hazardous fuels reduction on Department-managed and tribal lands; and**
  - **1.3 million acres of postfire rehabilitation and stabilization work.**

The Department of the Interior's annual Wildland Fire Management appropriation funds six activities (preparedness, suppression operations, fuels management, burned area rehabilitation, facilities construction and maintenance, and the Joint Fire Science Program) performed by the Bureau of Indian Affairs, Bureau of Land Management, U.S. Fish and Wildlife Service, and National Park Service (see table 1 and appendix C). The Office of Wildland Fire provides oversight of Departmentwide policies, programs, and budget to ensure the integration and coordination of the wildland fire management program across the bureaus.

The Consolidated Appropriations Act of 2018, signed into law as Public Law 115-141 on March 23, 2018, provided $948 million for the Department's wildland fire management program. The Federal Land, Management, and Enhancement (FLAME) Wildfire Suppression Reserve Fund is available to support particularly severe or complex fires. While the Department received no FLAME funds in fiscal year 2018, there was $66 million of prior year FLAME fund carryover. The Department of the Interior received an additional $50 million of "Emergency Suppression" funding as repayment for FLAME funding transferred to the Department of Agriculture's Forest Service in the prior year.

In total, the Department obligated $1.1 billion for wildland fire management activities in fiscal year 2018 (see appendix C). This funding supported sufficient wildland firefighting resources for the wildfire season, including 4,492 firefighters, 111 assorted aircraft, 649 engines, and nearly 900 other pieces of heavy equipment used in wildland firefighting, including dozers, water tenders, and other pieces of equipment. The Department spent over $400 million on wildfire suppression for 6,895 fires that burned over 2.3 million acres, and completed nearly 1.3 million acres of hazardous fuels reduction in fire-prone areas and 1.3 million acres of postfire rehabilitation and emergency stabilization.

Table 1. Wildland Fire Management appropriations for the Department of the Interior for fiscal year 2014 through fiscal year 2018.

	Preparedness[1]	Suppression[2]	Suppression Supplemental	Fuels Management[1]	BAR	BAR Supplemental	JFSP[1]	Facilities	Flame	Total Funding
5-Year Average	318,031	330,723	14,320	168,605	18,796	1,380	5,392	9,107	75,200	941,553
2018	**332,784**	**389,406**	**50,000**	**184,000**	**20,470**	**—**	**3,000**	**18,427**	**—**	**998,087**
2017	332,785	395,000	—	180,000	20,470	—	5,990	8,427	15,000[3]	957,672
2016	323,685	291,673	—	170,000	18,970	—	5,990	6,427	177,000	993,745
2015	318,970	291,657	—	164,000	18,035	—	5,990	6,127	92,000	896,779
2014	281,929	285,878	21,600	145,024	16,035	6,900	5,990	6,127	92,000	861,483

[1] *Does not include funding transferred from U.S. Forest Service in support of activity.*

[2] *Does not include funding available under section 102 transfer authority.*

[3] *Enacted funding was $65 million; however, $50 million was transferred to the U.S. Forest Service in support of suppression operations.*

Preparedness Program Update

AT A GLANCE

- **The preparedness program provides an integrated and coordinated framework for wildfire response by funding core firefighting assets and managing operations to respond to fire activities across the nation.**
- **The Department of the Interior makes its firefighting assets available to all of our diverse partners through interagency agreements.**
- **In 2018, the preparedness program supported hiring, training, and equipping 4,492 fire personnel, 151 smokejumpers, and 17 hotshot crews and acquiring and pre-positioning 649 fire engines, 108 dozers and other heavy equipment, 39 single engine air tankers, 40 helicopters, and 5 water scoopers.**
- **In addition to supporting wildfire response, the preparedness program helps achieve objectives established in the land and resource management plans used to manage the Department's public lands.**

The preparedness program administers all the preliminary activities in advance of wildfire ignition. Activities largely include acquiring critical fire suppression resources and pre-positioning them where the need will likely be the greatest. A strong preparedness program ensures the Department can respond more effectively and robustly when the fires start.

While wildfires are certain to occur on our forests and rangelands, it is difficult to predict with certainty where and when they will occur and how damaging they will ultimately be. Extensive and continuous information on weather, climatology, fuels, risks, and resources, as well as current and historical data on wildland fire activity and severity, help identify locations of greatest risk. Once identified, these areas receive additional pre-positioned resources. Wildland fire response relies on the closest available resources first. However, as conditions change during fire season, the Department strategically moves its resources.

Funding from the preparedness program pays for diverse assets, such as aviation resources, fire engines, and firefighter equipment, along with firefighters and support services that provide the capacity to manage wildfires safely and effectively. Across the country, all partners in the federal, state, tribal, and local fire family share all of these critical assets through interagency agreements, making them available at the national, regional, or local level, depending on current need. In 2018, preparedness program resources supported hiring, training, equipping, and deploying 4,492 fire personnel, 151 smokejumpers, and 17 type 1 hotshot crews and acquiring and pre-positioning 649 fire engines, 108 dozers and other pieces of equipment, 39 single engine air tankers, 40 helicopters, and 5 water scoopers. Departmentwide, a total of 23,750 personnel were qualified to respond to wildfire incidents throughout the fire season. This high number of qualified fire personnel shows the Department's commitment to wildfire preparedness.

As with the other programs and initiatives supported by the Department's Wildland Fire Management appropriation, the preparedness program protects human life, property, and other values. By supporting an effective and rapid wildland fire response, the preparedness program also helps the Department achieve natural resource management objectives.

Preparedness Success Story

The Bureau of Indian Affairs' Wildland Fire First Aid Program provides firefighters with critical training on how to provide first aid in wilderness settings. The program curriculum includes a Medical Incident Technician course, a Medical Incident Leaders course, and a Train the Trainer course, which allows certified medical incident technicians to teach medical incident leader courses. In December 2018, the Department of the Interior's Office of Occupational Safety and Health endorsed this Bureau of Indian Affairs program. The program currently serves as a template that other wildland fire land management agencies can adopt and expand to all field-going Department of the Interior programs.

The Bureau of Indian Affairs invests $150,000 annually from its preparedness program budget to provide specialized first aid training to wildland firefighters. The Medical Incident Leader course is the first wildland fire-specific class taught by a land management agency that complies with Occupational Safety and Health Administration requirements. Started in 2017, the course fulfills the 2-year cardiopulmonary resuscitation (CPR) and 3-year first aid requirements for all field-going firefighters. In a 2-year period, the Bureau of Indian Affairs offered 8 training classes and certified 278 agency and tribal employees.

In addition to providing basic first aid training, the Bureau of Indian Affairs provides four 5-day Medical Incident Technician courses annually for wildland firefighters. The training teaches in-depth techniques to stabilize, package, and safely transport patients. Topics include how to stop CPR after 30 minutes, reduce simple dislocations, clean a wound, clear a spine, and treat severe asthma and anaphylaxis.

From 2011 to 2018, over 700 students from more than 50 Indian Country crews have participated in the Medical Incident Technician course. The Bureau of Indian Affairs' use of the curriculum and investment in resources represents a national commitment to provide all Indian Country firefighters with the knowledge, skills, and confidence to perform basic first aid while working in the wildland environment.

Firefighters practice wilderness first aid skills during a Bureau of Indian Affairs training class in El Reno, Oklahoma, in May 2018. Photo by Michelle Moore, wilderness first aid program manager.

Suppression Operations Program Update

AT A GLANCE

- **The suppression operations program supports an effective and robust response to wildfires on the nation's public lands.**
- **The suppression operations program includes a variety of actions taken to suppress and manage wildfires, prevent the movement and growth of unwanted fire, manage fire to achieve natural resource benefits, and stabilize burned landscapes.**
- **In 2018, the Department of the Interior responded to 6,895 fires that burned over 2.3 million acres of Department-managed lands. Suppression costs exceeded $400 million.**
- **Resources mobilized in the Department's wildfire response included incident management teams (4 requests), fire crews (74 requests), fire engines (100 requests), helicopters (17 requests), and single engine air tankers (41 requests).**

The suppression operations program funds the safe and cost-effective management of wildfires. Firefighting agencies may suppress wildfires when they threaten communities, cultural or natural resources, or ecosystems. Alternatively, they may manage wildfires in locations where burning would remove unwanted vegetation or restore habitat. Wildfire is a necessary part of the landscape and achieves numerous resource benefits when it burns in the right place, at the right intensity, and at the right interval for a given site.

Activities under the suppression operations program include incident management and support functions; aviation assets and operations; logistical services, supplies, and equipment; and personnel costs above those covered by the preparedness program. The suppression operations program also funds emergency stabilization of burned landscapes vulnerable to flooding, debris flows, and erosion.

As one of the most challenging fire years on record, 2018 stretched our firefighting capabilities. The Department experienced 6,895 wildfires that burned more than 2.3 million acres of Department-managed lands. Suppression costs exceeded $400 million. Resources mobilized to support large fires on Department-managed lands included incident management teams (4 requests), fire crews (74 requests), fire engines (100 requests), helicopters (17 requests), and single engine air tankers (41 requests). Nineteen firefighters, including one Department employee, died in the line of duty, sacrificing their lives to protect others and the land entrusted to our care.

During periods of peak activity, federal, tribal, state, and local fire managers and firefighters must work together to successfully suppress wildfires. Wildfires do not respect administrative boundaries or county or state lines. Our response must be coordinated across all levels of government regardless of the jurisdiction.

Suppression Operations Success Story

In late July and early August 2018, frequent lightning-caused fires challenged the staff at the Yukon-Charley Rivers National Preserve in Alaska by putting historic and cultural resources at risk. Considerable planning, preparation, collaboration, and prompt action between the Bureau of Land Management's Alaska Fire Service and the National Park Service helped save those resources, such as the cabin at Sam Creek. The cabin, built around 1927 near the Yukon River, is one of the oldest log structures in the preserve. The National Park Service restored the cabin, which had survived harsh winters and wildland fires, in 2014.

Less than 24 hours after the lightning-caused Andrew Creek Fire ignited approximately 47 miles southeast of Circle, it threatened the historic Sam Creek Cabin from the west. Firefighters and pilots from the Alaska Fire Service and National Park Service collaborated to begin suppression operations and to secure the cabin and the fire perimeter. By 12:30 a.m. the following morning, the crew secured the Sam Creek Cabin, reducing the threat from the fire. The crew continued to hold and improve structure protection until August 6, when significant precipitation arrived. Thanks to the crew's efforts, this important cultural relic from the Klondike-Alaska Gold Rush remains standing.

The National Park Service's fire management staff in Alaska prepares for managing large and long-duration fires, balancing the risks and benefits. Committed to safety, science, and resource stewardship, the National Park Service works closely with interagency partners and responds to fires as a team.

The Andrew Creek Fire came within yards of the Sam Creek Cabin (lower center of photo) in Yukon-Charley Rivers National Preserve in Alaska. Firefighters used pumps and hoses to protect the cabin from the fire front and spot fires on July 26, 2018. Photo by Chris Havener, National Park Service.

Fuels Management Program Update

AT A GLANCE

- **The fuels management program represents a strategic investment in reducing and preventing the accumulation of vegetation that contributes to the intensity, severity, or negative effects of wildfire using an array of management practices.**
- **The Department of the Interior works closely with diverse partners to prioritize and implement fuels management activities for the greatest effect.**
- **In 2018, the Department strategically removed roughly 1.3 million acres of burnable vegetation across Department-managed and tribal lands, a 6 percent increase over work completed in 2017.**
- **In 2018, the four bureaus with wildland fire programs (the Bureau of Indian Affairs, Bureau of Land Management, U.S. Fish and Wildlife Service, and National Park Service) participated in 821 wildland fire education and outreach events, provided 352 assistance actions, and supported 228 new or updated Community Wildfire Protection Plans.**

Dead, dry, and overgrown vegetation is combustible material. In a forest or rangeland, this vegetation can be branches and leaves left behind as plant populations grow and die and successive populations of plants replace them. When these fuels accumulate, they can provide dangerous sources of ignition for wildfires. Once a wildfire starts, the living grasses, shrubs, and trees also serve as fuel and facilitate wildfire spread and intensity. The fuels management program strategically invests in managing unwanted vegetative fuels to mitigate the intensity, severity, and negative effects of wildfire.

The Department's fuels management program works in collaboration with multiple partners, including other federal agencies, tribes, states, counties, local organizations, and private landowners. The Department and its partners strategically plan and implement fuel treatments to maximize their effectiveness while minimizing costs. These projects occur year-round depending upon location, vegetation type, and treatment methodologies. The range of treatments is diverse, and local conditions and needs dictate the specific treatments used.

Using a diversity of treatments, including prescribed fire and mechanical, chemical, and biological treatments, reduces the risk of wildfire. Strategic fuels management improves public and firefighter safety, maintains and restores landscapes that are more resilient to fire, supports fire-adapted communities, and provides for a safer and more effective wildfire response and an opportunity for managed wildfires to achieve diverse natural resource management objectives.

In 2018, the Department strategically removed roughly 1.3 million acres of burnable vegetation across Department-managed and tribal lands, including 15,000 acres treated as part of the Southern Border Fuels Management Initiative, a project with the Department of Homeland Security. This is a nearly 6 percent increase over work completed in 2017, and a 19 percent increase over work completed in 2016 (see appendix D for other performance measures pertaining to fuels management). In 2018, the Department worked with 5,500 partners who contributed more than $66 million to support the joint fuels projects. Further, the Department's four bureaus with wildland fire programs (the Bureau of Indian Affairs, Bureau of Land Management, U.S. Fish and Wildlife Service, and National Park Service) did extensive outreach to communities, coordinating 821 wildland fire education and prevention events, providing 352 assistance actions, and updating or initiating 228 Community Wildfire Protection Plans or equivalent plans. These plans are critical to preparing communities in the wildland urban interface for fire.

Fuels Management Success Story

The Bureau of Land Management's hazardous fuels treatments prove their effectiveness when wildfires occur. For example, in August 2018, lightning ignited the Monument II Fire on a hot day in Utah, south of Vernal. The fire quickly became a "crown fire," meaning that intense flames were moving from juniper tree to juniper tree, creating conditions too dangerous for firefighters to conduct aggressive suppression tactics. As soon as the fire burned into areas where the BLM completed hazardous fuels treatments 2 years earlier, fire activity dramatically decreased, allowing fire resources to suppress the flames and effectively manage the incident.

Perspective from a drone looking south where the Monument II Fire burned into an area where fuels were treated using mastication (on the right).

Burned Area Rehabilitation Program Update

AT A GLANCE

- **Unwanted wildfire can greatly diminish the landscape's health and vigor, making sites more susceptible to postfire threats, such as catastrophic flooding and invasive species.**
- **The burned area rehabilitation program provides long-term recovery actions and treatments to restore and improve landscapes damaged by wildfire.**
- **In 2018, the Department of the Interior completed 630,178 acres of burned area rehabilitation work on fire-impacted areas, in both wildland areas and the wildland urban interface. This work represents a more than 6 percent increase over the prior year's work.**
- **The U.S. Geological Survey, Department of Agriculture's Forest Service, and many scientific institutions cooperatively design, implement, and conduct long-term monitoring of all BAR work to ensure that rehabilitation activities are effective.**

A wildfire can greatly diminish the landscape's health and vigor, damaging both the vegetation covering the soil and potentially destroying the soil itself. Once a wildfire is contained, the burned area is immediately vulnerable to postfire threats that can have devastating consequences for both natural and human communities, which requires onsite assessment and planning for future restoration work. Slopes missing native vegetation that once held soil in place are susceptible to landslides and downslope flooding, which can place human lives at risk. Without immediate intervention, invasive species may quickly become established and native vegetation may never reestablish at these sites. The suppression operations program funds these burned area emergency response and emergency stabilization efforts.

The burned area rehabilitation program funds the long-term rehabilitation and restoration work necessary to bring fire-impacted sites back to health. The Department works with partners from federal, tribal, state, county, and local governments and the private sector to develop these nonemergency rehabilitation actions, which may take up to 5 years to complete. Restoration projects include reseeding with trees and plants to reestablish native species and prevent invasive species from becoming established, maintaining soil productivity, repairing wildlife habitat, and rehabilitating tribal trust resources.

Funding for burned area rehabilitation in 2018 totaled almost $20.5 million. With this funding, the Department completed 630,178 acres of burned area rehabilitation projects in areas outside the wildland urban interface as well as 54,061 acres of rehabilitation in the wildland urban interface. Since 2015, the Department has rehabilitated and stabilized over 6.5 million acres.

The U.S. Geological Survey, Department of Agriculture's Forest Service, and various scientific institutions continuously monitor the effectiveness of the burned area emergency response, burned area rehabilitation, and emergency stabilization work completed by the Department. Some of the measurable objectives established by the Department cover the many physical, chemical, hydrologic, and biologic attributes of the restored areas.

Burned Area Rehabilitation Success Story

The Parliament Fire at Big Cypress National Preserve started on March 18, 2017. The human-caused fire burned approximately 26,400 acres. Natural biological systems within the preserve are subject to frequent fires and are well adapted to the associated changes that accompany seasonal burning. However, nonnative invasive species within the preserve's burned areas can rapidly multiply as a result of fire. The preserve has actively managed exotic plants since 1980 and most of the 900 plus known sites are under control, but new invasions are a constant threat. In 2018, using burned area rehabilitation funding, the preserve successfully treated the following invasive species that spread on the area burned by the Parliament Fire:

- Australian pine (*Casuarina equisetifolia*)
- Old World climbing fern (*Lygodium microphyllum*)
- Melaleuca (*Melaleuca quinquenervia*)
- Brazilian pepper (*Shinus terebinthifolius*)

Area burned by the Parliament Fire, seen from Burns Lake Road. Photo by the National Park Service.

Joint Fire Science Program Update

AT A GLANCE

- **The Joint Fire Science Program delivers dedicated wildland fire research and science to inform fire management policies and decisions at local, regional, and national levels.**
- **The Fire Science Exchange Network, supported by the Joint Fire Science Program, provides the most current wildland fire science information to an array of partners, including more than 13,000 fire, fuel, land, and natural resource management professionals.**
- **In 2018, researchers completed 33 projects funded by the Joint Fire Science Program that provided new knowledge about wildland fire and land management on a diversity of topics. All completed research is available at firescience.gov.**
- **Research funded by the Joint Fire Science Program ensures sound and sustainable wildland fire management policies and practices, supports fire-adapted communities, and promotes landscapes that are more resilient.**

The Joint Fire Science Program, which receives support from the Department of the Interior and the Department of Agriculture's Forest Service, funds scientific studies associated with managing wildland fire, fuels, and fire impacts to ecosystems. These studies respond to emerging needs of managers, practitioners, and policymakers at local, regional, and national levels. Funding in fiscal year 2018 focused on four areas: delivery of practical solutions and knowledge exchange; student research/future workforce development; syntheses/assessments; and wildland fire science leadership, coordination, and partnerships.

The Joint Fire Science Program plays a central role in delivering practical, science-based solutions and knowledge exchange by funding and managing the Fire Science Exchange Network. Regional fire science exchanges provide the most relevant, current wildland fire science information to federal, tribal, state, local, and private stakeholders within ecologically similar regions. In 2018, more than 13,000 fire, fuel, land, and natural resource management professionals working in the field were engaged in field tours, seminars, workshops, and training sessions. All completed fire research supported by the Joint Fire Science Program is available for partner and public use at firescience.gov.

In 2018, researchers completed 33 projects that provided new knowledge about fire and land management. Topics included the effectiveness of fuels treatments in changing fire behavior; economics of fuels treatments; effects of wildland fire on soil, plants, and wildlife; and fire-climate interactions and their impacts on air quality. These research projects included participation from 250 undergraduate, masters, and doctoral students, who are the future fire and natural resource managers and scientists. This work informs wildland fire policy and practical solutions leading to fire-adapted communities and more fire-resilient landscapes.

Joint Fire Science Program Success Story

The Joint Fire Science Program supports a national network of 15 regional Fire Science Exchanges that ensure local managers have access to wildland fire science relevant to their location. This includes new science covering firefighter safety, fuels management, and the wildland–urban interface. The exchanges translate scientific research findings into immediately useful and actionable information for managers and decisionmakers. The exchanges continually engage managers to identify new research questions and emerging management needs. This focus on making the latest fire science available through direct engagement with a broad spectrum of end users at the spatial scale and breadth covered by the network of exchanges (see figure) is not duplicated anywhere else.

Through the exchange network, the Joint Fire Science Program continued to transfer useful and actionable science to end-users with a focus on: 1) enhancing on-the-ground outcomes achieved through science delivery; 2) broadening stakeholder engagement—including with state and private entities; and 3) partnering with the Department's U.S. Geological Survey and the Department of Agriculture's Forest Service in efforts to enhance the provisioning of the best available wildland fire science.

The Joint Fire Science Program also continued to fund the Graduate Research Innovation (GRIN) program. This effort, in combination with existing Joint Fire Science Program sponsored research that funds other graduate students and undergraduates, helps future workforce development by supporting the next generation of wildland fire managers and scientists. The Joint Fire Science Program also continued its collaborative efforts with the National Wildland Fire Coordinating Group to integrate fire science into wildland fire workforce development.

Geographic regions covered by the fire science exchanges.

Facilities Construction and Maintenance Program Update

AT A GLANCE

- **The facilities construction and maintenance program provides the infrastructure needed to support firefighters, safeguard the public, and protect values at risk from damage by wildfire.**
- **Facilities projects include the construction and maintenance of fire stations, air tanker bases, helibases, fire crew quarters, fire caches, and emergency communications centers.**
- **Facilities projects are diverse, but the focus is on critical health and safety while achieving the Department of the Interior's long-term infrastructure sustainability goals.**
- **Over the last decade, the Department has funded 76 critical facilities and infrastructure projects in 22 states.**

The facilities construction and maintenance program supports the physical infrastructure necessary to ensure the Department of the Interior's firefighters have the resources they need to protect our treasured public lands and safeguard the public from wildfire. The facilities program maintains fire stations, air tanker bases, helibases, fire crew quarters, fire caches, and emergency communications centers. Each of these infrastructure components is critical to support the Department's wildland fire management program and to meet diverse strategic goals, including protecting some of the nation's most iconic natural spaces.

Each year, the Bureau of Indian Affairs, Bureau of Land Management, U.S. Fish and Wildlife Service, and National Park Service and the Department's Office of Wildland Fire prioritize shared wildland fire facility needs and develop a 5-year deferred maintenance and capital improvement plan that brings together the competing priorities within each bureau. The plan presents the projects of greatest need in priority order, focusing on critical health and safety, mission-critical resource protection, sustainability goals, and long-term operation and maintenance costs.

Over the last decade, the Department has funded 76 facilities projects in 22 states. Alaska, California, Minnesota, Montana, Nevada, Oregon, Utah, and Washington have each had four or more funded projects.

Projects funded in 2018 include:

- seven fire station projects including safety, security, and HVAC repair;
- three fire crew quarters projects;
- two fire cache projects;
- air tanker base and helibase renovations; and
- an emergency communication center renovation, a building roof replacement, and a fuel yard repair.

Facilities Construction and Maintenance Success Story

Insufficient funding to repair or replace crucial crew quarters in Wells, Nevada, led to a unique solution that involved constructing a modular building offsite in Boise, Idaho, and transporting it to the site in Wells. Although past experiences with modular buildings were less than satisfactory, private businesses worked with the Bureau of Land Management's National Operations Center to design a sturdy, long-term, energy-efficient, and comfortable facility. The Wells crew quarters project cost $482,000 to complete in 2018, approximately 40 percent of the standard construction costs.

New crew quarters near Wells, Nevada, completed at 40 percent of the standard cost. Photo by the Bureau of Land Management.

Construction of the Weaver Mountain Fire and Aviation Center, which serves the Bureau of Land Management's Phoenix District and western Arizona, was a multiphased project that began in the early 1990s. The Bureau of Land Management completed the first building, which consists of crew quarters, and the helipad in 2005. The bureau completed offices for the helitack and engine modules, a training/briefing room, a fitness room, and a kitchen in 2016. The project culminated in October 2018 with the construction of engine bays, a locker room, a workshop, and a fire cache. Although the bureau had to complete construction of the center in phases due to funding shortages, the Weaver Mountain facility will benefit fire operations as well as firefighter recruitment and retention efforts for years to come.

The Weaver Mountain fire facility in the Bureau of Land Management's Phoenix District was a multiyear, multiphased project completed in 2018. It will benefit fire response operations as well as firefighter recruitment and retention efforts. Photo by the Bureau of Land Management.

Southern Border Fuels Management Initiative Update

AT A GLANCE

- The Southern Border Fuels Management Initiative targets wildfire risk reduction through vegetation management along our southern border.
- The initiative protects natural and cultural resources on federal and tribal lands and facilitates U.S. Border Patrol national security operations.
- In 2018, 10 projects received a total of $3.4 million in funding through this initiative, with fuels management treatments planned and applied to nearly 15,000 acres in California, Arizona, and New Mexico.
- The initiative is an example of government agencies effectively coordinating management activities to achieve the greatest possible result for the taxpayer.

In 2018, the Department of the Interior and the Department of Homeland Security introduced the Southern Border Fuels Management Initiative as a targeted wildland fire and fuels management initiative along the southern border. The initiative has three primary objectives: 1) protect natural and cultural resources on federal and tribal lands; 2) facilitate national security operations carried out by the U.S. Border Patrol; and 3) strengthen working ties between the Department of the Interior and Department of Homeland Security.

The Department of the Interior's four bureaus that have wildland fire programs carry out the project work, which focuses on the restoration and protection of natural and cultural resources on Department-managed and tribal lands. Each project has the complementary benefit of improving U.S. Border Patrol viewsheds and protecting operational facilities that are critical to national security operations. The Department of the Interior's Office of Wildland Fire, in coordination with the Department's Interagency Borderland Coordinator and the U.S. Border Patrol, formalized the initiative by issuing policy establishing program goals, objectives, and procedures for requesting funding and reporting accomplishments.

As cooperating partners, the Department of Homeland Security's U.S. Border Patrol and the Department of the Interior signed a "Statement of Mutual Benefit" reaffirming both Departments' commitment and support for the Southern Border Fuels Management Initiative. The Director of the U.S. Border Patrol issued separate guidance to field staff encouraging them to take an active role in identifying opportunities and developing projects jointly with their Department of the Interior counterparts. In 2018, the Department of the Interior set aside $4 million in fuels management program funding to support the initiative. The U.S. Border Patrol contributed $1 million. To date, the Departments have allocated a total of $5 million to 10 projects (three from Bureau of Land Management, five from U.S. Fish and Wildlife Service, one from Bureau of Indian Affairs, and one from the National Park Service) in California, Arizona, and New Mexico, and will soon distribute another $1.6 million. To date, the Departments have funded 10 projects (three from Bureau of Land Management, five from U.S. Fish and Wildlife Service, one from Bureau of Indian Affairs, and one from National Park Service) in California, Arizona, and New Mexico.

Southern Border Fuels Management Initiative Success Story

The Bureau of Land Management's California Desert District contracted with the California Conservation Corps to assemble a crew of diverse young adults to assist with the agency's fire management mission. The Bureau of Land Management trained the crew of eight females and five males as firefighters to form a type 2 hand crew. When not performing fire suppression, the crew implements fuels (vegetation) management projects throughout the California Desert District.

The crew started their first project on August 30, 2018, working at a location along the United States–Mexico border. This project provided safe access for the U.S. Border Patrol and other responders performing their work in the border area. The California Conservation Corps crew cut and chipped vegetation along a heavily used route, known as Shockey Truck Trail, that runs from Highway 94 to the border just east of Campo in eastern San Diego County. The crew's work removed hazardous fuels alongside the route, providing a safe area for agents, other responders, and the public to travel in the event of a wildfire. The treatment also provided an area for the California Department of Forestry and Fire Protection to engage in suppression operations during wildfires. The crew worked in the border area and at other sites managed by the Barstow and Ridgecrest Field Offices for several months.

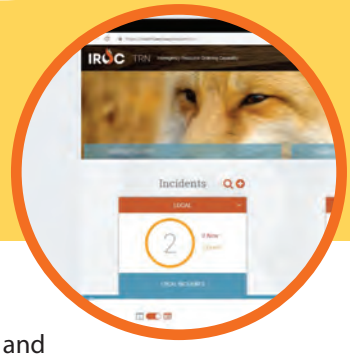
The Bureau of Land Management provided the crew with opportunities to learn about and gain experience in fire management and other land management activities throughout their time with the California Desert District Office. The recruitment effort helps develop a new applicant pool for the Bureau of Land Management in the coming years.

A member of the California Conservation Corps works on the Shockey Truck Trail fuels reduction project, a Southern Border Fuels Management Initiative project in San Diego County.

Wildland Fire Information and Technology Program Update

AT A GLANCE

- **The wildland fire information and technology program is a collaborative effort between the Department of the Interior and the Department of Agriculture's Forest Service to invest in the best information and technology products for effective wildland fire management.**
- **The program works to provide the right information to the right person at the right time through effective data management, collaboration, and connectivity.**
- **The wildland fire information and technology program manages a highly diverse portfolio of over 60 applications and products enhancing resource sharing, interagency communications, data exchange, and informed decisionmaking.**
- **The program's enterprise, cloud-based approach is critical to address the emerging and increasingly complex operational needs of our wildland fire response.**



The wildland fire information and technology program is a collaborative effort between the Department of the Interior and the Department of Agriculture's Forest Service. It ensures efficient investments of resources into information and technology products and services to support robust and effective wildland fire management. The program also focuses on providing the right information to the right person at the right time through data management (right information), collaboration (access by the right people, independent of agency affiliation), and connectivity (providing on time information to users in the field).

The wildland fire information and technology program supports a diverse portfolio of enterprise fire applications for use by federal, tribal, state, and local partners. This portfolio has over 60 applications managed by a combined team of 12 project managers and includes:

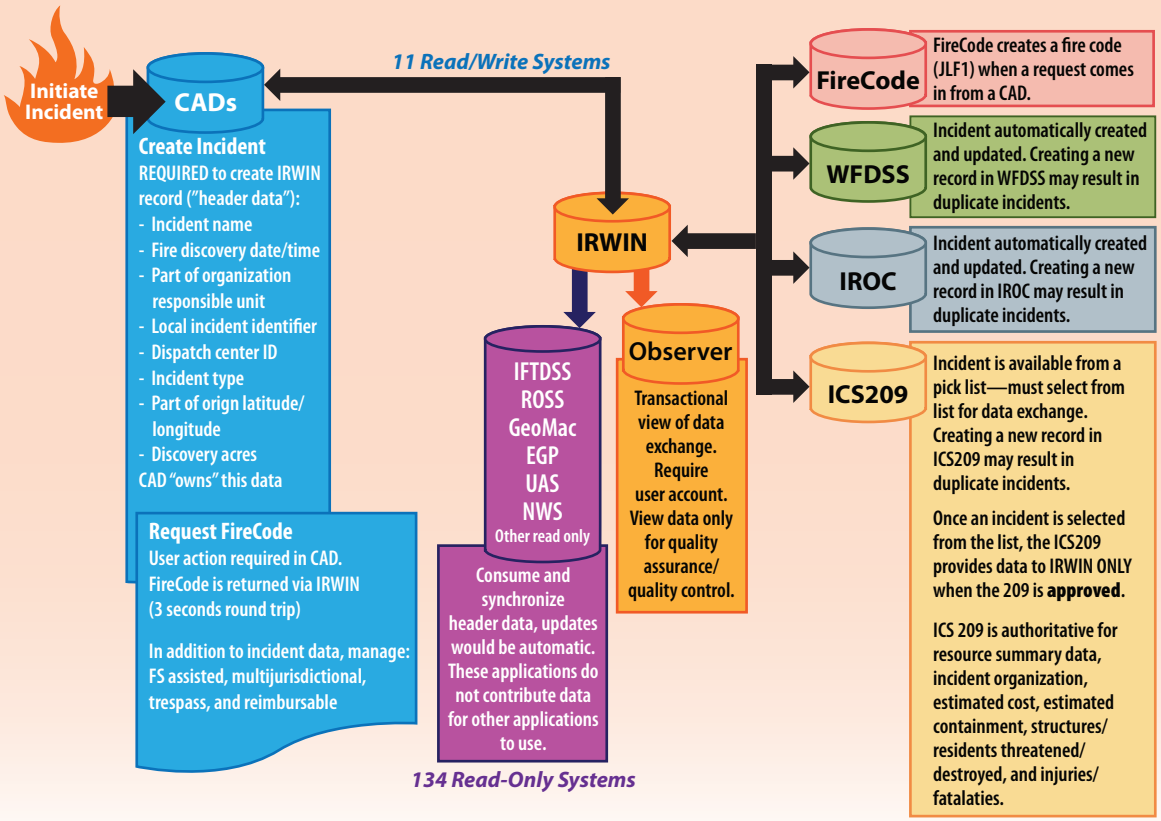
- **Interagency Resource Ordering Capability (IROC)** – an interagency resource management system designed to replace the antiquated Resource Ordering and Status System (ROSS) through cloud-based, service-oriented architecture.
- **FireNet.gov** – an interagency communication and collaboration portal that can be used across the spectrum of wildland fire operations on both mobile and PC platforms.
- **Integrated Reporting Wildland Fire Information (IRWIN)** – a system that allows the exchange of fire-related data between existing applications and reduces redundant data entry to improve data consistency, accuracy, and availability.
- **Interagency Fuels Treatment Decisions Support System (IFTDSS)** – a web-based application designed to make fuels treatment planning, analysis, and management more efficient through the integration of multiple fire behavior and fire effects models.

The Department remains fully committed to the enterprise approach to managing technology assets. An enterprise approach is necessary to address emerging and increasingly complex operational needs and security issues. Moving forward, this program will continue to focus on ensuring the availability and accessibility of wildland fire data through advanced information technology and on finding efficiencies within the existing portfolio to close gaps and reduce costs.

Wildland Fire Information and Technology Success Story

The Integrated Reporting of Wildland-Fire Information (IRWIN) system used by the Department of the Interior's Office of Wildland Fire enables "end-to-end" fire reporting while providing a service to wildfire dispatchers to improve their efficiency. Operationally, dispatchers enter wildfire information into the Computer-Aided Dispatch system and IRWIN makes those data available to other fire management systems in near real time. Prior to IRWIN, dispatchers could enter wildfire data into as many as 6 different systems up to 26 times throughout the life cycle of a wildfire, a considerable duplication of effort. Tasks that used to take dispatchers 10 minutes now only take 10 seconds with IRWIN in place. The efficiencies resulting from using IRWIN are already reducing labor costs, with estimated savings of approximately $12.5 million through 2017 and projected savings of over $41 million through 2025, the project's full life cycle.

In 2018, after 5 years of use, IRWIN underwent a major update to the application coding, migrating the system from a unique, individually developed architecture to a "commercial off the shelf," or COTS, architecture. The COTS-based system allows additional systems to integrate their architecture to interact with IRWIN more easily and to update more efficiently. Accordingly, 2018 also saw a significant increase in the number of systems integrating with IRWIN, including 2 read–write systems and 88 read only systems (see figure). Planning and development began in 2018 to move IRWIN toward the future integration of the Interagency Resource Ordering Capability (IROC) as a key communication and collaboration system. Finally, an independent system review completed in 2018 validated the direction and justification of the return on investment of the IRWIN system. It also identified key areas of future development, such as integration with IROC, to further improve dispatch operations, resource ordering and deconfliction, and associated data management.



Flow chart showing the flow of data from when an incident occurs through the dispatch system and ultimately through the numerous systems used for ordering and tracking incident response resources.

Workforce Initiative Update

AT A GLANCE

- **The wildland fire work environment has evolved over the past 20 years. Fires are occurring outside of their regular "seasons," creating a new norm where wildfires occur all year long. It is imperative we work with our human resources program to meet our current and emerging workforce needs.**
- **The Office of Wildland Fire works with the bureaus' fire directors to coordinate program policies and guidance across the Department of the Interior, creating consistency that enables employees to move between bureaus to advance their careers. This flexibility strengthens the overall wildland fire management program.**
- **Improving the work environment for our firefighters is critical. Consistent with the Secretary's priorities, the Office of Wildland Fire works across the bureaus and issues policy guidance to ensure the work environment is professional and free of harassment.**

The wildland fire work environment has evolved over the last 20 years. As fire seasons get longer and more intense, fire agencies are adjusting to increased demands. Seasonal firefighters have long been the backbone of the wildland fire suppression response. However, extended seasons demand that seasonal personnel frequently work more hours in 6 months (2,500 hours) than full-time federal employees work in a year (2,080 hours). This increasing demand forces seasonal employees to perform suppression activities rather than other critical work that is not fire related, such as trail and road maintenance.

One of the most significant workforce improvements in 2018 was the effort to eliminate harassing conduct and ensure a safe and respectful workplace for our firefighters. The Department of the Interior's Office of Wildland Fire issued policy guidance that clarifies expectations of supervisors in the field to protect our employees from unprofessional and inappropriate conduct and provides a process for employees to report harassment. We must ensure a safe and professional environment that enriches our employees and improves the effectiveness of our wildland fire response.

The Office of Wildland Fire is working with the Department's human resources officials to address workforce challenges affecting retention, recruitment, work and life balance, mental well-being, and risk exposure. This effort has resulted in extensive updates to position descriptions specific to fire. In 2018, the Department redesigned eight position descriptions, ensuring career ladders and professional development opportunities for firefighters. The Bureau of Land Management's pilot work cultivating eight veteran wildland fire crews, including a newly certified hotshot crew in Oregon, has done much to create postservice employment opportunities for our veterans. Updates to salary tables and an annual salary cap adjustment will also help incentivize the fire-specific positions that are so critical to wildland fire operations.

The Office of Wildland Fire and the bureaus' fire directors have also begun discussing shared hiring certificates between the Department of the Interior and the Department of Agriculture to ensure more efficient hiring and sharing of qualified firefighters. Partnering with other federal agencies to help cover surge capacity during the most dangerous fire seasons is a critical next step in the coming years. Such partnerships will help the bureaus meet the challenge of longer fire seasons and mitigate increasing exposure risks to firefighters and communities.

Workforce Initiative Success Story

The Bureau of Land Management is the only agency to have eight veteran wildland fire crews, one of which achieved certification as an Oregon-based hotshot crew. Currently, the veteran wildland fire crews operate out of stations in Arizona, Oregon, Nevada, California, Montana, South Dakota, Wyoming, and Washington. These crewmembers have reputations as dedicated, first-rate firefighters. The Bureau of Land Management is working to increase the number of veterans hired and focus on providing veterans with career opportunities throughout its various programs. The bureau is also developing a strategy to provide current veteran employees with experiences and opportunities in its other programs. These opportunities create pathways between the Bureau of Land Management's fire program and other public land management careers.

The Bureau of Land Management's innovative veterans hiring program provides opportunities for those who served in the military to use their skills in fighting wildland fires and other activities. Photo by the Bureau of Land Management.

Partnerships Program Update

AT A GLANCE

- **The Office of Wildland Fire's partnerships program fosters relationships and builds a foundation for engagement across the diverse suite of vegetation management, fuels reduction, and fire suppression activities.**
- **In 2018, grants and agreements accounted for over 400 partnerships in a variety of management activities, ranging from wildland fire suppression to fuels management.**
- **The Bureau of Indian Affairs' partnership with the Intertribal Timber Council supports activities that improve forest and rangeland health and economic contributions to tribal communities.**

The Office of Wildland Fire's partnership program continues to grow while bureau programs develop and maintain relationships needed to accomplish their missions safely. The resulting relationships build the foundation for engagement across the suite of vegetation management, fuels reduction, and fire suppression activities throughout the nation. In 2018, each of the Department's nine bureaus used a variety of tools, including mutual aid agreements and memorandums of understanding, to support collaborative work across the landscape. Formal grants and agreements alone accounted for over 400 partnerships in a variety of management areas that support wildland fire and fuels management programs. Examples include wildland urban interface/community assistance, Good Neighbor Authority, stewardship contracting, wildfire research, and invasive species management.

The Bureau of Indian Affairs, in cooperation with 310 tribes, actively manages more than 18.5 million acres of tribal trust forest land for a variety of purposes. Forests provide an essential source of revenue and jobs for tribes and play an important role in sustaining tribal cultures and traditions. For this reason, the Bureau of Indian Affairs and Office of Wildland Fire count the Intertribal Timber Council as an important partner.

The Intertribal Timber Council is an organization of tribes with the common interest of advancing the management of forest and other natural resources on trust lands. These tribes have identified wildfire management as critical to restoring forest health and promoting economic opportunities in tribal communities. Through open dialogue, the Office of Wildland Fire staff works closely with the Bureau of Indian Affairs and the council to assist in the development and management of effective wildland fire program strategies. Coordination efforts integrate federal fire policies affecting the management of tribal forest resources, encourage the training and development of Native American and Alaskan Native professionals within the wildland fire management programs, and ultimately facilitate communication among council members and state and federal partners on wildland fire management matters.

Internationally, the Office of Wildland Fire staff continues to engage with Mexico, Canada, Australia, and New Zealand on revising agreements and operating plans that support the continued sharing of firefighting resources across our borders and around the world. In 2018, Australia and New Zealand sent 138 firefighters to help support fire suppression efforts in northern California.

Partnerships Success Story

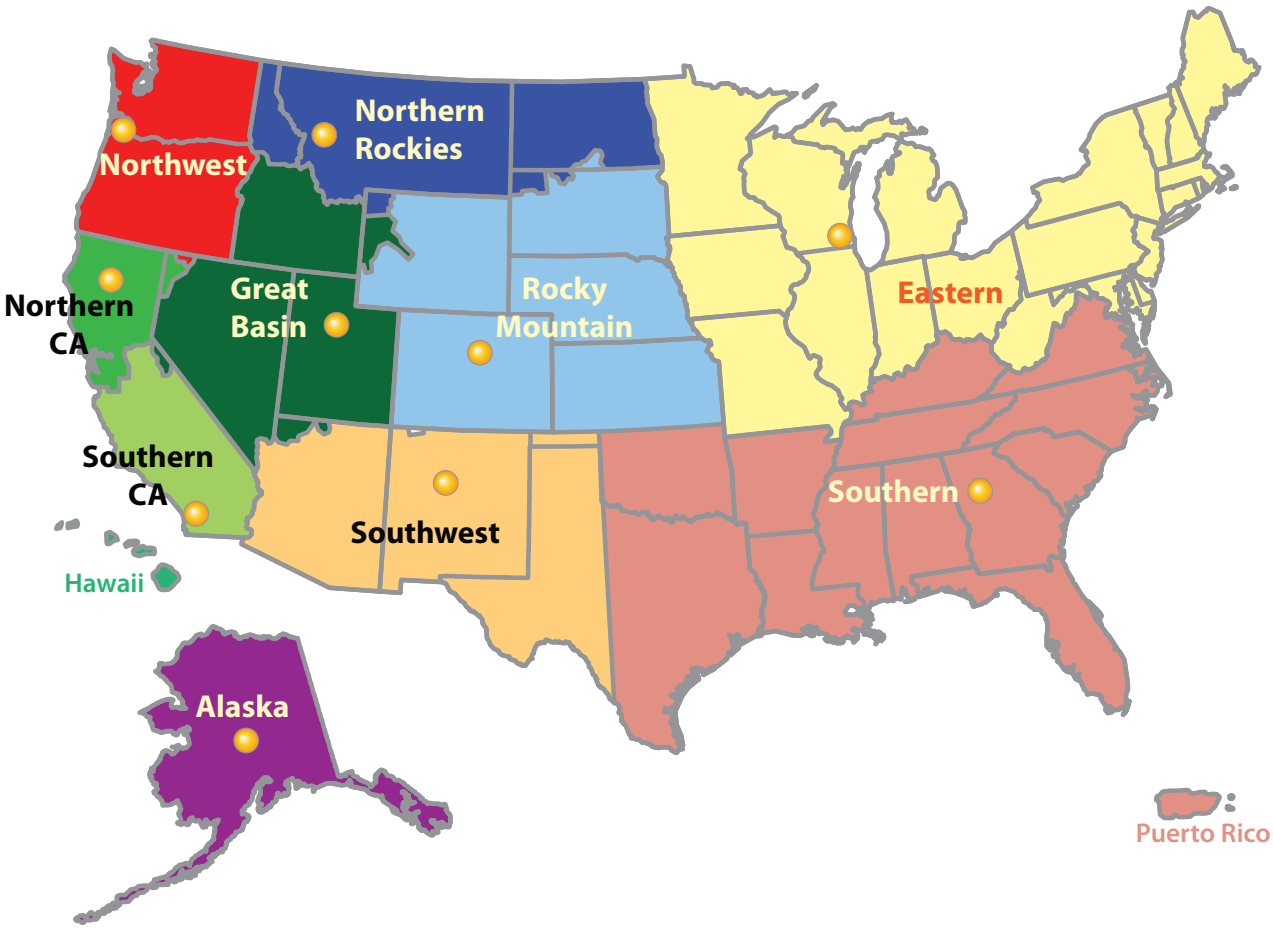
Since 2012, the U.S. Fish and Wildlife Service has provided a range of scientific and technical expertise to support wildlife conservation on U.S. Air Force installations, fulfilling the requirements of both the Sikes and Endangered Species Acts. These partners expanded their existing agreement in 2017 to include wildland fire management, initiating a long-term plan for U.S. Fish and Wildlife Service hosted fire personnel to lead and participate on U.S. Air Force wildland support modules. This collaboration expands the U.S. Fish and Wildlife Service's conservation footprint, provides valuable experience for its staff, and leverages partner support for conservation and natural resources management on agency-managed lands.

An important role for the U.S. Fish and Wildlife Service is to facilitate the hiring and hosting of fire professionals to staff wildland support modules at key U.S. Air Force installations. The primary purpose of a wildland support module is to provide fully qualified and equipped wildland fire personnel to conduct conservation and natural resources management activities. These activities reduce burnable vegetation and mitigate wildfire threats to communities, infrastructure, and ecosystems. A wildland support module secondarily supports wildfire suppression activities on U.S. Air Force and interagency lands.

In July 2018, the wildland support module from Avon Park Air Force Range helped the U.S. Fish and Wildlife Service implement a prescribed fire on, and adjacent to, the J.N. Ding Darling National Wildlife Refuge in Florida. The project was a partnership between the U.S. Fish and Wildlife Service, Florida Forest Service, City of Sanibel, and private landowners to create defensible space around homes on Sanibel Island by removing 400 acres of flammable vegetation. In addition to protecting the wildland urban interface, this treatment enhanced wildlife habitat by removing dead vegetation, promoting fresh growth, and helping to control exotic/invasive species, which cause fires to burn with increased severity.

A controlled burn conducted by the Fish and Wildlife Service on the J.N. Ding Darling National Wildlife Refuge in the center of Sanibel Island, Florida. The total burn was 400 acres. Photo taken by Brian Pippin, Fish and Wildlife Service firing boss, from the front seat of the aerial ignition helicopter.

Appendix A: Geographic Area Coordination Centers



Appendix B: Wildfire Statistics

Number of Fires, Acres Burned, and 10-Year Averages on Department of the Interior Lands, Fiscal Years 2009–2018

	BIA	BLM	FWS	NPS	Totals
10-Year Average	4,010 fires	2,523 fires	307 fires	401 fires	7,241 fires
	347,906 ac	1,856,490 ac	176,544 ac	137,008 ac	2,517,948 ac
2018	**3,472**	**2,872**	**162**	**389**	**6,895**
	216,118	**1,905,343**	**71,137**	**121,092**	**2,313,690**
2017	3,843	2,927	252	314	7,336
	306,542	2,711,267	206,393	110,349	3,334,551
2016	4,056	2,105	174	463	6,798
	325,162	1,183,821	15,374	177,901	1,702,258
2015	3,886	2,093	194	398	6,571
	591,644	4,770,133	33,897	74,780	5,470,454
2014	3,377	1,944	348	389	6,058
	327,352	871,642	17,404	24,949	1,241,347
2013	3,239	2,628	332	455	6,654
	173,491	1,012,600	138,284	265,755	1,590,130
2012	5,753	3,031	394	369	9,547
	866,444	3,331,273	101,752	140,807	4,440,276
2011	4,274	2,768	442	418	7,902
	364,767	959,410	171,368	98,147	1,593,692
2010	3,825	2,312	323	390	6,850
	106,978	830,377	187,991	174,255	1,299,601
2009	4,375	2,545	448	426	7,794
	200,562	989,029	821,838	182,047	2,193,476

Number of Fires, Acres Burned, and 10-Year Averages on All Public and Privately Managed Lands in the United States, Fiscal Years 2009–2018

	DOI	USFS	Other*	Totals
10-Year Average	7,241 fires	6,709 fires	52,980 fires	66,930 fires
	2,517,948 ac	1,602,078 ac	2,852,575 ac	6,972,600 ac
2018	**6,895**	**5,629**	**45,559**	**58,083**
	2,313,690	**2,307,439**	**4,146,363**	**8,767,492**
2017	7,336	6,617	57,546	71,499
	3,334,551	2,866,031	3,825,504	10,026,086
2016	6,798	5,676	55,269	67,743
	1,702,258	1,247,906	2,559,831	5,509,995
2015	6,571	7,056	54,524	68,151
	5,470,454	1,916,302	2,738,393	10,125,149
2014	6,058	6,755	50,799	63,612
	1,241,347	871,876	1,482,390	3,595,613
2013	6,654	7,105	33,820	47,579
	1,590,130	1,365,644	1,363,772	4,319,546
2012	9,547	7,098	51,129	67,774
	4,440,276	2,680,233	2,205,729	9,326,238
2011	7,902	6,667	59,527	74,096
	1,593,692	1,729,937	5,387,738	8,711,367
2010	6,850	6,797	58,324	71,971
	1,299,601	319,730	1,803,393	3,422,724
2009	7,794	7,691	63,307	78,792
	2,193,476	715,677	3,012,633	5,921,786

**** Other** - Includes all federal, tribal, state, and private lands not managed by the Departments of the Interior or Agriculture.*

Appendix C: Financial Information

Department of the Interior Fiscal Years 2009–2018 Wildland Fire Management Appropriations (in Thousands)

	Preparedness[1]	Suppression[1]	Suppression Supplemental	Suppression Reductions	Fuels Management[1]	ARRA	BAR	BAR Supplemental	JFSP[1]	Facilities	RFA	Flame	Total Funding
10-Year Average	299,418	330,324	13,710	*(58,368)*	175,630	1,500	19,316	690	5,663	7,588	1,400	67,678	864,549
2018	**332,784**	**389,406**	**50,000**	**—**	**184,000**	**—**	**20,470**	**—**	**3,000**	**18,427**	**—**	**—**	**998,087**
2017	332,785	395,000	—	—	180,000	—	20,470	—	5,990	8,427	—	15,000[3]	957,672
2016	323,685	291,673	—	—	170,000	—	18,970	—	5,990	6,427	—	177,000	993,745
2015	318,970	291,657	—	—	164,000	—	18,035	—	5,990	6,127	—	92,000	896,779
2014	281,929	285,878	21,600	—	145,024	—	16,035	6,900	5,990	6,127	—	92,000	861,483
2013[4]	264,833	261,206	15,500	—	137,685	—	12,341	—	5,676	5,805	—	87,048	790,094
2012[5]	276,522	270,481	—	*(271,577)*[6]	183,021	—	13,025	—	5,991	6,127	—	91,853	575,443
2011	290,452	398,951	—	*(187,102)*[7]	183,314	—	33,203	—	6,000	6,137	—	60,878	791,833
2010	290,452	383,797	—	*(125,000)*[8]	206,206	—	20,305	—	6,000	6,137	7,000	61,000	855,897
2009	281,767	335,191	50,000	—	203,053	15,000	20,305	—	6,000	6,137	7,000	—	924,453

[1] *Does not include funding transferred from U.S. Forest Service in support of activity.*

[2] *Does not include funding available under section 102 transfer authority.*

[3] *Enacted funding was $65 million; however, $50 million was transferred to the U.S. Forest Service in support of suppression operations.*

[4] *Does not reflect actual enacted funding, which was subject to a 2 percent across-the-board reduction and the sequestration of funds of approximately 5 percent.*

[5] *Does not reflect actual enacted funding, which was subject to an across-the-board reduction of 0.16 percent.*

[6] *Suppression funding was reduced by a rescission of unobligated balances ($82 million) and by the amount of unobligated emergency suppression funds directed to use ($189.6 million).*

[7] *Suppression funding was reduced by a rescission of unobligated balances ($187.1 million).*

[8] *Suppression funding was reduced by the amount of unobligated balances directed to use ($125 million).*

Department of the Interior Fiscal Years 2009–2018 Wildland Fire Management Obligations (in Thousands)

	Preparedness	Suppression	Supplemental/ ARRA	Fuels Management	BAR	JFSP	Facilities	RFA	Flame	Total Funding
10-Year Average	303,518	286,902	67,678	N/A	180,824	21,025	8,487	6,743	1,469	900,603
2018	**340,871**	**412,351**	**66,000**	**50,000**	**191,053**	**23,523**	**3,255**	**11,161**	**—**	**1,098,214**
2017	341,712	453,103	55,000	—	184,540	29,702	6,529	8,513	—	1,079,099
2016	330,361	271,729	100,000	—	176,633	17,534	10,228	2,821	—	909,306
2015	316,651	312,543	105,000	—	162,821	14,814	7,026	5,234	23	924,112
2014	280,104	276,194	50,000	—	150,228	20,564	9,719	6,981	—	793,790
2013	264,042	312,151	87,048	—	137,705	12,002	11,529	5,543	—	830,020
2012	286,350	99,535	176,720	189,577	185,949	35,792	9,586	5,680	228	989,417
2011	296,547	281,777	37,011	—	191,725	13,538	10,499	4,652	223	835,972
2010	292,031	231,214	—	—	212,134	14,898	10,108	9,703	9,557	779,645
2009	286,510	218,418	—	—	215,449	27,883	6,393	7,143	4,656	766,452

Appendix D: Performance Measures

STRATEGY 3: Manage wildland fire for landscape resiliency, strengthen the ability of communities to protect against fire, and provide for public and firefighter safety in wildfire response.						
	Performance Measure	2018	2017	2016	2015	2014
Primary Measures	Percent of DOI-managed landscape areas that are in a desired condition as a result of fire management objectives.	**36 %**	36	36	36	36
	Percent of DOI-managed treatments that reduce risk to communities that have a wildland fire mitigation plan.	**95 %**	93	91	89	69
	Percent of wildfires on DOI-managed landscapes where the initial strategy(ies) fully succeeded during the initial response phase.	**97 %**	96	97	97	97
Supplemental Measures	Number of high-priority acres treated in the WUI.	**822,833 ac.**	767,628	762,826	714,206	688,742
	Number of acres in fire regimes 1, 2, or 3 moved to a better condition class (WUI acres).	**283,111 ac.**	271,852	315,867	219,822	276,020
	Number of acres in fire regimes 1, 2, or 3 moved to a better condition class (non-WUI acres).	**142,606 ac.**	184,765	147,591	83,323	78,390
	Number of acres in fire regimes 1, 2, or 3 moved to a better condition class per million dollars of gross investment (WUI acres).	**2,047 ac.**	1,884	1,858	1,350	1,903
	Number of acres in fire regimes 1, 2, or 3 moved to a better condition class per million dollars of gross investment (non-WUI acres).	**1,031 ac.**	1,280	868	512	541
	Number of acres in fire regimes 1, 2, or 3 moved to a better condition class as a percent of total acres treated (WUI acres).	**22 %**	23	30	23	31
	Number of acres in fire regimes 1, 2, or 3 moved to a better condition class as a percent of total acres treated (non-WUI acres).	**11 %**	16	14	9	9
	Percent of all fires not contained in initial attack that exceeded a stratified cost index.	**11 %**	8	8 (est.)	15	10
	Percent change from the 10-year average in the number of acres burned by unplanned and unwanted wildland fires on Interior lands.	**38 %**	15	-62	77	-75
	Number of treated acres that are identified in Community Wildfire Protection Plans or other applicable collaboratively developed plans.	**747,427 ac.**	756,890	699,831	651,874	472,009
	Percent of treated acres that are identified in Community Wildfire Protection Plans or other applicable collaboratively developed plans.	**95 %**	99	92	91	69
	Number of acres in WUI treated per million dollars gross investment.	**5,678 ac.**	5,320	5,373	5,332	5,403
	Number of treated burned acres that achieve the desired condition.	**1,163,157 ac.**	1,148,500	1,570,578	2,135,965	1,762,666
	Percent of treated acres that have achieved the desired condition.	**92 %**	92	96	91	90
	Percent of DOI and USDA acres in good condition (defined as condition class 1).	**N/A**	N/A	N/A	N/A	N/A

The mention of company names, trade names, or commercial products does not constitute endorsement or recommendation for use by the Federal Government.

U.S. DEPARTMENT OF THE INTERIOR
1824
BUREAU OF INDIAN AFFAIRS

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NATIONAL PARK SERVICE

U.S. FISH & WILDLIFE SERVICE
DEPARTMENT OF THE INTERIOR