

U.S. Fish & Wildlife Service

Inside Fire Management

News from 2009





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Cover photo: A smoke column rises from the Little Black Fire which burned in the summer of 2009 on the Yukon Flats National Wildlife Refuge in northeast Alaska. Chase Marshall, USFWS

Introduction

This collection of articles showcases examples of U.S. Fish and Wildlife Service fire management activities during the past year. Additional and current stories are featured on www.fws.gov/fire.

Alaska Stays Busy in 2009

The summer of 2009 kept firefighters busy at the national wildlife refuges in Alaska. Refuges in the nation's largest state began to see unusually active fire behavior during late June as a hot and dry weather pattern settled into the region. By summer's end, 72 fires had burned over 759,000 acres across the refuges in Alaska amounting to 93 percent of the total wildfire acreage burned for the entire U.S. Fish and Wildlife Service for 2009. Many of the Service acres burned in Alaska were landscape-level fires managed to burn as they naturally would have to provide the best benefit to resources by enhancing and protecting habitat. Full

suppression actions such as direct fireline construction, use of aircraft, and use of other heavy equipment were taken on portions of the fires where communities were at risk of having fire burn structures, private property or other infrastructure. The flexibility for refuge managers and firefighters to choose the best approach for managing the fire was due in part to the revised federal fire policy guidance allowing a fire to be managed for multiple objectives as appropriate.

Several fires started as scattered lightning moved across the boreal forest of the 9 million acre Yukon Flats National Wildlife Refuge in June.

These active thunderstorms started 9 large fires during a prolonged period of hot and dry weather. The fires subsequently burned over 400,000 acres on Yukon Flats. The fires continued to burn

from June to October, which is typical for fires in Alaska due to the fuel characteristics and day length. An additional 115,000 acres burned on other national wildlife refuges in northwest Alaska due to lightning strikes.

Simultaneously at Kenai National Wildlife Refuge in south-central Alaska, 10 significant fires also ignited due to lightning. The most notable of these was the Shanta Creek Fire, which burned over 13,000 acres on the refuge. The Shanta Creek Fire started in beetle-killed spruce stands during late June near the community of Soldotna, Alaska.



The Big Creek Fire burns on Yukon Flats National Wildlife Refuge achieving multiple resource benefits. Chase Marshall, USFWS

The flaming front of the Shanta Creek Fire moves through beetle-killed timber on Kenai National Wildlife Refuge. USFWS

The Shanta Creek fire was initially managed for resource benefit to clean out some of the forest affected by spruce bark beetle. When the fire began to move toward private lands after the first week of July, a National Incident Management Organization (NIMO) Team comprised of fire managers from across the nation was ordered to assume command of the incident. Fire management efforts then involved over 400 firefighting personnel, air tankers, and helicopters to prevent the fire from spreading into Soldonta while still allowing the fire to benefit overall forest health in places where the fire posed no threat to private property. Fortunately cooler and wetter weather moved into the area in mid-July and further slowed the growth of the fire helping firefighters.

By the end of the summer, fire served as an important natural force to renew growth and overall health in the boreal forests of Alaska. The natural areas and wildlife unique to Alaska are adapted to periodic fire. The weather, with unusually long dry periods and active thunderstorms, allowed landscape-level fires in Alaska to burn longer over larger areas. While not a record fire year for Alaska, the 2009 acreage burned was well above average for the Service lands in Alaska.

RX Burn Near Nation's Capitol

Situated just miles away from the fourth largest metropolitan area in the United States, Patuxent Research Refuge in Maryland is a tricky place to conduct prescribed burning because of concerns with putting smoke into the air in heavily populated locations. However, in late March and early April, the U.S. Fish and Wildlife Service with the help of interagency partners was able to burn two areas of the refuge to study the effect of fire on an invasive plant, maintain grassland breeding bird habitat, and clear forest understory to restore open savannah.



Service employee Steve Hubner; the Burn Boss for a prescribed burn, walks the edge of the fire at Patuxent Research Refuge. Catherine J. Hibbard/USFWS

The refuge, nestled between Washington D.C. and Baltimore, is the only refuge in the National Wildlife Refuge System established to support wildlife research.

For both burns, the burn boss assigned a person to monitor the smoke column to ensure it did not blow into local communities or impair visibility on the Baltimore Washington Parkway, which lies within a quarter of a mile of both burns. Firefighters were prepared to extinguish the fire if necessary, but favorable weather conditions lifted and dispersed smoke, resulting in no smoke intrusion into neighboring communities or on the parkway. These conditions, along with advance notice to local and metropolitan media outlets, resulted in no complaints from the public.

Refuge managers had planned for 4 years to burn the two units, 30 acres of grassland and 15 acres of pine and oak forest. Due to limitations on needing the right weather conditions for proper smoke dispersal and the necessary conditions to achieve the resource goals of the burn, timing was critical. Even if weather

conditions are perfect, personnel and equipment needed to be available. An ample contingent of firefighters stayed vigilant during the effort to both conduct the burn and monitor weather conditions for smoke impacts. Firefighters from the National Park Service, the State of Maryland, and the AmeriCorps National Civilian Community Corps joined firefighters from the Service to complete the burns.

Key Deer Habitat Enhanced

Home to one of the rarest ecosystems in the world, the National Key Deer Refuge recently completed their first prescribed burning in five years. Although an essential tool to maintain the biological diversity of the fire-dependent and endangered pine rocklands unique to the Florida Keys, the Everglades and the Bahamas, use of fire had been complicated following the devastation and unnatural amounts of debris left scattered in the area by Hurricane Wilma in 2005. The hurricane debris and lack of fire in



A Key Deer peeks out of heavy underbrush on Big Pine Key. Firefighters lit prescribed fire this summer to reduce the overgrown brush to enhance Key Deer habitat at the National Key Deer Refuge in Florida. Chad Anderson, USFWS

A USFWS firefighter helps cool the flames from a prescribed burn performed on the National Key Deer Refuge in Florida. Chad Anderson, USFWS



involvement allowed the Service and other partners to foster new relationships, creating opportunities to share current information and explore new strategies for the fire management program. This will be instrumental in future prescribed burning and other hazardous fuels activities on the refuge.

Stimulus Funding Supports Projects

When the American Recovery and Reinvestment Act (ARRA) passed in 2009, the U.S. Fish and Wildlife Service's Midwest Region was the only region in the Service to receive ARRA funding specifically for biomass utilization, the use of plant material for fuel. In total, the region was awarded \$1 million for biomass-related projects to reduce unnatural vegetation build up which can make fires burn hotter and more aggressively than they naturally would have. This reduction in flammable biomass will aid in fire suppression efforts by reducing the intensity of fire behavior and help to protect communities in the event of a wildfire. Removing woody vegetation also provides landscape restoration for native plant communities.

Projects, which will vary in size, technique and purpose, will be completed on 7 national wildlife refuges (NWR) or wetland management districts (WMD) in Minnesota and Wisconsin.

the area had also left nearly 4,600 nearby residents vulnerable to high intensity wildfire. Characterized by slash pine trees, tropical palms, hardwood trees and a wide diversity of herbaceous rare plants, pine rocklands provide critical habitat for the tiny endangered Key Deer as well.

Fire managers and biologists from the refuge staff began a multi-year interagency and community based effort in 2006 to reduce fire risk on the island and to reintroduce fire as an ecologically appropriate tool to conserve the pine rockland habitat. Several public meetings and discussion groups comprised of community members as well as

representatives from local, state and federal agencies have been held since the project was initiated.

All of the planning ultimately led to two successful prescribed fires late last summer. Through their burning efforts, firefighters effectively reduced the risk of wildfire to private property, enhanced Key Deer habitat by maintaining openings and promoting new plant growth, and preserved conditions under which pines can regenerate and the rare herbaceous flora unique to this landscape will thrive.

One less obvious outcome of the endeavor has been the many positive comments from the public. Encouraging public

Stations that will be completing projects include Agassiz NWR, Leopold WMD, Litchfield WMD, Minnesota Valley NWR, Necedah NWR, Sherburne NWR, and St. Croix WMD.

At Necedah NWR, one portion of a four-part biomass reduction project involves hand cutting snags and other dense vegetation along fire breaks and trails, in order to reduce the potential for fire to spread along areas to be prescribed burned and boundaries between refuge and private lands. Over 50,400 tons of biomass is anticipated to be removed from the refuge across 850 acres.

With more than 2,600 occupied residences within one mile of Sherburne NWR, projects planned at this refuge focus on community protection. Using ARRA funds, the refuge plans to construct 13 new fire breaks and reduce hazardous brush and woody vegetation accumulations on more than 1,000 acres along the refuge boundary. Up to 50,000 tons of biomass will be harvested. This project will also help with restoration of oak savanna habitat on the refuge. Project completion is anticipated at the end of 2010.

On Waterfowl Production Areas (WPA) managed by the St. Croix WMD, 18,500 tons of biomass will be removed across 1,350 acres by logging. Follow-up treatments, including mechanical brush removal, hand cutting/piling, chemical treatment, machine piling, and prescribed burning, will be used to complete this project. Habitat for waterfowl and other migratory species will also be enhanced by removing woody biomass from the grasslands and seasonal wetland basins that connect adjoining WPAs and State Wildlife Areas, which provide large, contiguous areas of grassland and wetland habitat.

Much of the vegetation being removed as part of these ARRA projects will be hauled as woodchips to District Energy St. Paul Inc. in St. Paul, Minnesota to be used for biomass consumption. Local school districts in western Wisconsin have installed wood-fired boilers and are heating schools with woody biomass harvested from federal properties. As a result, these projects all benefit local communities and habitat on National Wildlife Refuge System lands, reduce wildfire risks on adjoining private properties, and provide local communities with new job opportunities.

Mid-Columbia Harvests Biomass

Fire Managers at the Mid-Columbia River National Wildlife Refuge Complex in Washington and Oregon have initiated a new mutually beneficial relationship with the Boise Cascade Corporation to remove and use biomass from the refuges which comprise the complex.

Beginning in June, contractors removed over 185 piles of hazardous and unnatural fuel accumulations from areas of the complex to be taken to a Boise Cascade mill for use in the facility to supplement the burning of natural gas in the drying process for their paper products. With the rise in natural gas costs, Boise Cascade determined that they could reduce their costs if they burned biomass instead of gas to kiln dry their products.

The biomass is made up of mostly Russian olive, which is an invasive species for the area, and dead cottonwood trees which create a fire hazard. The removal of both Russian olive and the cottonwood debris has both reduced the risk of fire to private property directly adjacent to the refuge and helped to enhance wildlife habitat for species looking for cover and forage.

Heavy equipment grinds biomass at the Mid-Columbia River National Wildlife Complex in Washington to be loaded in a truck and hauled to a mill for use in the kiln drying process to make paper. Chris Schulte, USFWS



“We are really excited about what this could mean for future projects,” said complex Fire Management Officer Chris Schulte. “Our refuge managers, biologists, and fire staff are busy identifying other opportunities to work with Boise Cascade to eliminate further biomass.”

The mill site that is utilizing the biomass is less than 50 miles from the sites that have been treated, keeping transportation costs down. Over 300 acres have been treated on the complex to date with additional projects being planned in the near future.

Service Holds Community Meetings

The U.S. Fish and Wildlife Service Pacific Southwest Region coordinated a one-day workshop in northern California bringing together a diverse and knowledgeable group of fire safe council partners to talk about new developments and the lessons learned in community wildfire protection planning.

Speakers came from as far away as Utah, Idaho and even Chile to support the California Fire Alliance workshop and to provide tools and

information to assist communities in developing their Community Wildfire Protection Plans (CWPP) which enable a community to plan how it will reduce the risk of catastrophic wildfire. A CWPP will identify strategic sites and methods for fuel reduction projects across the landscape and jurisdictional boundaries. Benefits of having a CWPP include National Fire Plan funding priority for projects identified in a CWPP.

Approximately 70 participants attended from various fire safe councils, fire districts, and state and federal agencies throughout the north part of the state. Presentations focused on new and innovative approaches in community fire planning.

The California Fire Alliance mission is to have successful interagency and public collaboration that protects and enhances the quality of life threatened by wildfire. The Alliance consists of two levels of organization. The Leadership Group is comprised of the directors, agency administrators or delegated fire managers from participating agencies and groups. The Staff Group includes primary staff from those participating agencies. The Staff Group carries out the

majority of coordination and communication efforts.

Program Restores Rare Habitat

Located along the United States and Mexican border, the Lower Rio Grande Valley (LRGV) National Wildlife Refuge Complex sees more wildfire starts than just about any other refuge in the nation. After these fires burn, fire ecologists, fire managers, and other refuge personnel make determinations about what, if any, actions need to be taken to address resource needs to restore the area to its natural setting.

Because of the frequent fire activity, the LRGV has developed a novel wildfire rehabilitation and restoration program to help areas affected by wildfire to return to their native vegetation. One specific habitat the refuge has worked hard to maintain post-fire is the rare Tamaulipan thornscrub forest, characterized by dense native brushland and forest. Thornscrub vegetation is native across southern Texas into Mexico and Central America, providing home for many unique and endangered species.



Native vegetation waits to be planted as part of restoration efforts in thornscrub forests along the United States and Mexican border. USFWS

After a fire, the thornscrub forests become exposed to several fire-adapted exotic grass species. These non-native species such as buffelgrass, a prolific fire-loving grass from Africa, become established in the area, choking out the vegetation which would naturally occur leaving the area more vulnerable to future fires. Most of the tree and shrub species associated with the thornscrub are not adapted to fire like the grasses. As a result these habitats are becoming increasingly rare. Habitat loss in this area has also occurred from the clearing of land for agricultural uses and urbanization. The little remaining habitat is becoming increasingly more important for rare plants and animals.

To address hazardous fuel and habitat concerns, the LRGV has used special Burned Area Rehabilitation funding to help reduce the risk of future wildfires by restoring native vegetation. Refuge personnel mechanically remove invasive grasses, treat exotic species with herbicides, and plant native vegetation. They conduct follow-up monitoring over the next few years to limit the spread of non-native grasses. Fire breaks are also created to protect the area from fire while the plants become established. Fire prevention efforts are done to make sure people understand the importance of keeping fire out of the area.

Once the thornscrub forest is restored, it begins to naturally hinder the growth of exotic grasses because the exotics are increasingly shaded and out-competed; thus fire is no longer as imminent a threat. The thornscrub forests eventually become sustainable and provide a much lower wildfire threat to communities in south Texas. The complex has helped restore over 1,000 acres of thornscrub forests over the last 5 years.

Cooperation is Key to Success

On April 13, 2009 a wildfire started on the Lee Metcalf National Wildlife Refuge in western Montana that threatened both structures and habitat, but interagency cooperation and a prompt response reduced losses from the fire.

Refuge staff noticed the smoke at 2:45 p.m. and within 20 minutes, fire engines from Stevensville, Three Mile, and Florence Volunteer Fire Departments and the state Department of Natural Resource and Conservation were on the scene.

The fire, burning in thick grasses and cattails, had quickly grown to 40 acres. Driven by steady winds, the fire threatened private property and homes on the refuge's eastern boundary. Crews took up a defensive position near the homes and stopped the fire from spreading south, but they were unable to attack the front of the fire because of the heat and intensity generated by the burning cattails and heavy grass cover. Later that afternoon, crews began backfiring operations on the north and west sides of the fire, securing the perimeter from further spread. The fire was controlled at 160 acres.

"We were able to save some large snags with active nests during our firing operations, but we lost one or two in the wetlands area from the wildfire itself," explained Louis Hartjes, Mountain West District Fire Management Officer stationed at the refuge. "The losses were minimal considering the resources that were at risk," he added.

Hartjes and Three Mile Volunteer Fire Department Chief Russ Guise used the opportunity to collaborate for future training between the department and refuge staff. The fire managers hope to incorporate an upcoming prescribed fire on the refuge as a way to provide live fire training for the local volunteer fire department's wildland firefighter training.

Service Supports Australia

In the spring of 2009, the U.S. Fish and Wildlife Service sent six employees to Victoria, Australia – four of whom were deployed to complete specialized 30-day assignments to assist with record breaking wildfire activity. John Saltenberger, FWS Pacific Region Fire Meteorologist; Doug Downs,



Service employee Doug Downs walks along the fireline during his fire assignment to Australia.
USFWS



An interagency Burned Area Rehabilitation Team including Service employees from the US fulfills an assignment to Australia in 2009. USFWS

Des Lacs National Wildlife Refuge (NWR), North Dakota; Ken Griggs, San Luis NWR, California; and Lisa Jameson, Arthur R. Marshall Loxahatchee NWR, Florida all travelled to Australia on fire assignments.

For his part, Saltenberger provided 24-hour staffing to the Regional Forecast Center located in Melbourne, Australia. Accurate weather information is critical to firefighter safety. Downs served as an Operations Section Chief for his tour, providing direct fireline supervision to firefighters and heavy equipment working on the fire. Both Griggs and Jameson worked as part of a team to analyze the impact of fires on natural resources and to assist with burned area rehabilitation.

FWS Fire Director Brian McManus from the National Interagency Fire Center in Idaho and Chris Wilcox, then from Bosque del Apache NWR, New Mexico, also spent a portion of the spring in Australia, but in less operational and more strategic roles. McManus represented U.S. national wildfire decisionmakers and met with international counterparts. He participated in a close-out briefing for American personnel and toured fire areas and facilities in Victoria. Wilcox served as one of two representatives from the Department of the Interior on a fire management study to look at the Australian systems and policies for managing wildland fire.

All Service employees returned stateside by the onset of the U.S. fire season. The relationship between the United States and Australia related to wildland fire will continue to evolve in upcoming years and the Service will remain a part of the efforts.

The National Multi Agency Coordination (NMAC) group recently finalized an official agreement between the two entities. NMAC has compiled a list of Americans available to travel to Australia with priority fire qualifications for 2010.

Protecting Communities in Alaska

As part of a series of multi-year hazard fuel reduction projects, the U.S. Fish and Wildlife Service continued to work with partners last spring and summer to protect remote Alaskan villages within refuge boundaries from wildland fire. Many of these villages are located alongside wildlands with dense vegetation, putting them at risk should a fire start in the area. Both prescribed burning and mechanical treatments such as thinning have been used in cooperation with local villages to



Piles made up of debris from thinning operations at Yukon Flats National Wildlife Refuge are burned in the snow. Sam Patten, USFWS

help maintain forest health and to reduce the risk to the communities. Near Yukon Flats National Wildlife Refuge, the Service along with Bureau of Land Management, Bureau of Indian Affairs, and the State of Alaska Division of Forestry focused fuel reduction efforts in the communities of Beaver, Venetie, and Stevens Village. The local governments were also involved in the projects.

In May, firefighters from Yukon Flats Refuge worked with emergency firefighters from the village of Beaver as they burned 76 slash piles, which were a result of thinning to create a protective fire break around the village. In July, a fire crew from Stevens Village began thinning and piling flood debris which had accumulated during spring flooding. The floods left large amounts of woody debris directly among the structures near the Yukon River, increasing the opportunity for fire to burn into the village. The slash piles will be burned when favorable weather is predicted for the area.

The village of Venetie, located on private lands directly between the Yukon Flats and Arctic National Wildlife Refuges, also embarked on a thinning project in the early summer around public facilities and residences to remove hazardous vegetation adjacent to the village. As of July, substantial progress had been made to reduce the fire risk within the village, which has been threatened by fire several times in recent years.

Local community involvement has been a key factor in the success of these fuel reduction projects for the Service. Engaging interagency partners and local emergency firefighters has helped to create public support for the much needed work to protect remote Alaska communities.

Service Partners with Army

In mid-September, firefighters and refuge staff at James Campbell National Wildlife Refuge in Hawaii on the northeastern shore of Oahu teamed up with the U.S. Army to burn endangered waterbird habitat under predetermined conditions designed to maximize resource objectives and improve habitat.

Over a 3-day period, trained firefighters from both the Service and the Army used driptorches to ignite four different areas by hand burning primarily invasive grasses and perennials, as well as native shrubs which have become overgrown altering the waterbird habitat. Prescribed fire has proven to be an effective tool to enhance and restore the habitat for waterbirds on the island. Reducing the overgrown vegetation through burning creates open water areas which are important to maintain healthy and productive bird populations.

The refuge has limited fire-trained personnel and the partnership with the Army has become a critical one for implementing their fire program in support of their overall mission to manage habitat for the endangered birds and other birds which rely on wetlands for breeding, food sources, and survival. Nine people from the Army, qualified as firefighters by the federal wildland fire agencies, brought engines, atvs, and firing equipment such as driptorches to use as they ignited unwanted vegetation. The burn served as a training exercise for the Army wildland fire group, stationed at nearby Schofield Barracks.

With the James Campbell National Wildlife Refuge being home to one of the largest concentrations of wetland birds in Hawaii, prescribed burning and the relationship with the Army will continue into the future to maintain vigorous bird habitat. The refuge is frequented by birdwatchers from all over the world seeking an opportunity to see one of Hawaii's rare birds.

International Assistance

During spring 2009, U.S. Fish and Wildlife Service Fire Ecologists Tim Hepola and Mark Kaib traveled to the Republic of Georgia to provide technical assistance to the nation to help them assess their needs to rehabilitate large burned areas and to provide them some training to prepare for fires in the future. Their need for wildland fire management expertise resulted in 2008 when a full-scale conflict broke out between the country, which is situated where eastern Europe and western Asia come together, and Russia. As one of their tactics, the Russian Army deliberately started wildfires in the Georgian Borjomi-Kharagauli National Park. Incendiary devices dropped from helicopters ignited various fires, the largest of which burned nearly 2,500 acres.

The Republic of Georgia, with essentially no previous experience in fighting wildfires and limited knowledge in the area of fire ecology, specifically requested assistance from the United States Department of the Interior International Technical Assistance Program (ITAP). Hepola, from the Service's Great Lakes Region and Kaib, from the Service's Southwest Region, joined two other Interior employees to spend part of their spring developing a recovery plan for the area and training Georgian forestry staff on fire suppression and ecology. The main objective of the ITAP program is to fulfill the need for conservation and ecological expertise that is often not readily available in foreign locations.

Unique to this assignment was the interest and participation by high level government officials from the participating countries. Due to the political sensitivity of the 2008 wildland fires and the amount of field equipment provided by the ITAP, this assignment received considerable notice by the U.S. Embassy. U.S. Ambassador to the Republic of Georgia, John Tefft, provided introductory comments at the initial briefing for the U.S. fire ecologists. This was the first



*A fire scar in the Republic of Georgia depicts the terrain and fuels for the area Service fire ecologists studied during their 2009 trip to the eastern European Country.
Tim Hepola, USFWS*

time in the 10 years that the ITAP program has been working in the Republic of Georgia that the U.S. Ambassador has participated in program ceremonies.

Tactically, the team used protocols and traditional burned area assessment methodologies common to U.S. wildland fire agencies. They fortunately found no high-severity burn damage, no long term destruction to the soils, vegetation, or significant effect to the water quality of the burned area. Green shoots from grasses and forbs were sprouting throughout the burned area with an excellent potential for complete recovery and no expected long term degradation or loss in resource and ecological diversity. This analysis, however, allowed for the participants to witness first hand the recuperative capabilities of fire adapted ecosystems.

The technical assistance provided the Georgian government has given them a start to the development of an ecologically sound foundation from which to develop and expand their wildland firefighting program. The participants now have an understanding of the basics of fire ecology and the importance that fire plays in their fire adapted ecosystems.

Prescribed Fire Slows Wildfire

On July 29, 2009, gusty winds pushed a wildfire started by a non-refuge escaped debris burn towards the Carolina Sandhills National Wildlife Refuge. Firefighters had burned refuge lands adjacent to the private property earlier in the spring. Prescribed fire is used as a tool to reduce the risk of wildfire to neighboring communities and to maintain healthy habitat for wildlife. When the wildfire burned onto refuge lands, due to the reduced fuels, the fire went out on its own.

When firefighters first arrived, the fire was threatening a nearby home. Soon after, however, the situation changed significantly. "With the wind and the fuels that are typical to the area, the fire had the potential to be much larger," said Mark Parker, Refuge Fire Management Officer. The fire was held at the refuge boundary to 6 acres on private lands and less than 0.10 acre on refuge lands.

In March, refuge firefighters prescribed burned the adjacent 175 acres of longleaf pine. The refuge burns approximately 12,000 acres annually as part of their fire management program. The South Carolina refuge offers one of the

southeast's premiere longleaf pine ecosystems and is home to more than 140 groups of the endangered red cockaded woodpecker.

Thinning Benefits Eagles

Beginning in July, the U.S. Fish and Wildlife Service gave one of the largest summer roosting areas for bald eagles occurring east of the Mississippi River some much needed attention in the form of thinning to boost habitat quality and to lessen the risk of losing the eagle roost to wildfire. The affected area is forested and lies within the James River National Wildlife Refuge in Virginia.

The Service acquired the land in 1991 after it had been managed for decades for commercial timber production. Since the area was last replanted, loblolly pine seedlings have densely regenerated, creating intense competition among the trees limiting growth and the overall health of the timber. This has resulted in compromised habitat for bald eagles. Historically, over 100 eagles have been observed roosting on the 4,200-acre refuge at one time. The concentration of vegetation also

Pulp wood piles, pole timber, and chip logs surround a Tiger Cat knuckle boom loader during thinning work at James River National Wildlife Refuge in Virginia. Gerald Vickers, USFWS



left the area vulnerable to wildfire. Unplanned fire in the timber would likely spread quickly and result in expensive suppression efforts with the potential for severe fire effects to the site.

Service employees with specialized training and experience in forestry undertook the task of planning a project to commercially thin 450 acres of the refuge and to introduce prescribed burning to maintain an open understory. The plan was designed to meet both fire management and biological objectives while minimizing ground disturbance and impacts to cultural resources in the area.

Following years of planning, the first step of the long-term project, which will ultimately restore and maintain ecological health of over 2,000 acres of forests at James River, began with thinning operations this summer with the wood being used for a variety of products such as pine saw logs, pine and hardwood pulp and chips, and pine pilings. The area will next be prescribed burned to remove all of the remaining debris. After the project is completed, a reduction in

fire risk and a healthy stand of trees suitable for nesting and roosting will result.

In addition to eagles, songbirds, raptors and many other feathered creatures make their home in the upland hardwood forests, along the river and creeks, and near the tidal waters which make up the refuge.

Burning at Nevada Refuge

In early May, firefighters in Nevada conducted the first prescribed fire held at Ash Meadows National Wildlife Refuge in nearly 15 years. The project involved burning 62 acres with the help of federal, state, and local partners. The burn was successful at meeting resource objectives to reduce hazardous levels of vegetation and overall risk of fire to the area, while stimulating new plant growth.

One of the largest benefits came from the establishment of a new partnership with the local volunteer fire department and nearby community. Use of the local volunteer fire department provides a critical link to the community about fire management on the refuge.

“Effective partnerships with

volunteer fire departments help to educate the public on the use of fire to enhance wildlife habitat and to reduce the risk of wildfire to our local communities,” said Glenn Gibson, U.S. Fish & Wildlife Service, Nevada Zone Fire Management Officer. “This project laid a good foundation for future burning on the refuge.”

For the burn, Amargosa Valley Volunteer Fire Department, along with the Nevada Department of Forestry, Lake Mead National Park, Bureau of Land Management’s Las Vegas District, Humboldt-Toiyabe National Forest, and the Nevada Interagency Helitack Crew, assisted Service firefighters to burn and secure the project area.

The refuge, located in southern Nevada, has over 23,000 acres of spring-fed wetlands and alkaline desert uplands which provide habitat for at least 24 plants and animals found nowhere else in the world. This concentration of indigenous life distinguishes the refuge as having a greater concentration of endemic life than any other local area in the United States and the second greatest in all of North America.

Prescription for Public Education

November is a busy month for fire personnel at the U.S. Fish and Wildlife Service's New Mexico Fire District. It means the sandhill cranes have begun to return to Bosque del Apache National Wildlife for the winter and refuge employees will soon host the annual Festival of the Cranes community event.

Each year thousands of people come to the festival to tour the refuge and take part in the many events that showcase the wildlife and habitat it offers. Bosque del Apache was founded for the protection of migrating and wintering birds such as the sandhill crane; however it is also refuge for other migratory birds and multiple resident species. During the festival many tours, workshops, and lectures are offered to the public to highlight these species and the unique habitat the refuge provides. One of the tours offered is focused on the fire program at the refuge.

During the fire program tour, participants are allowed the opportunity to spend time talking with the District Fire Management Officer about the way fire is used on the refuge for habitat management and to reduce the risk of fire spreading off of the 57,191-acre refuge onto neighboring private lands. The tour included watching firefighters conduct a habitat improvement burn.

This was the third year that the refuge offered the fire portion of the festival. Fire and refuge management believe it gives the public a comprehensive look at fire and its role in habitat improvement from the perspective of the practitioners. Visitors are given a rare chance to ask questions and get a real understanding of not only the benefit, but also the hazards associated with the use of fire.

Participants often comment on the professionalism of fire personnel and leave with not only a better



Members of the public listens as they watch and are briefed on prescribed fire operations at Bosque del Apache National Wildlife Refuge. Mary Blake, USFWS

understanding of fire management, but also a sense of confidence that fire personnel with our land management agencies are well trained, competent and professional.

Fire Supports Flood Relief

Firefighters from the Service's Mountain-Prairie and Midwest Regions provided much needed support to the agencies and communities affected by rising flood waters in North Dakota in the spring of 2009. Service fire personnel and law enforcement officers are trained in emergency response scenarios such as floods, hurricanes, and other national disasters. With specialized training in communications, safety, and organization, these employees are provided a portion of the response effort supporting the Federal Emergency Management Agency (FEMA) and other rescue agencies. Service employees interfaced with local sheriff departments to rescue people primarily using airboats in conjunction with the U.S. Coast Guard.

Service employees involved in the flood response relied on a standardized system for organization used by firefighters on the fireline to help ensure safety and efficiency during management of large incidents. Many fire personnel are qualified to fill specific roles within this Incident Command System such as Incident Commander or Planning Section Chief.

Firefighters from the Charles M. Russell National Wildlife Refuge in Montana formed a taskforce to address impact of the flooding at refuges and waterfowl production areas the Service has scattered across the state. They were called upon to do any number of tasks including taking preventative measures to reduce the likelihood of flood damage to Service facilities.

Flood response efforts lasted for several weeks and the Service

conducted clean up and restoration activities after the waters subsided.

Smoke Makes Rare Appearance

Visitors and nearby residents to Sand Island at Midway Atoll National Wildlife Refuge recently got to see something very unusual as firefighters from the U.S. Fish and Wildlife Service ignited a debris pile over 180 feet long, 70 feet wide and 50 feet deep, temporarily sending a plume of smoke into the air. The pile was comprised of ironwood tree slash left over from work done by the Service to reduce the non-native tree species which has been thriving on the island.

Approximately 900 acres of ironwood trees cover the island. Service biologists would like to reduce that number to about 300 acres to provide more natural habitat for the nearly 2 million ground nesting birds living at the refuge located northwest of the main Hawaiian Islands. Service employees, with the help of local contractors, have been actively cutting or pushing over ironwood trees in designated areas and piling them to be burned.

The Service has no fire personnel stationed at the refuge and relies

on contractor and volunteer crews to complete several of their projects. Much of the help comes from Thai Nationals who are the primary residents to the area. Fire specialists from the Service's Pacific Region, headquartered in Portland, Oregon, traveled to Midway to ensure proper planning and safety precautions were in place for the burn.

While there, they were able to provide chainsaw safety training to contractors, volunteers and refuge staff. The training focused on chainsaw safety, operations, and maintenance. Over the next few years, hundreds of acres of ironwood will be removed to provide ground nesting habitat. These contractors will be instrumental in the effort.

Limited amounts of prescribed burning has been done at the refuge in the past, but it will likely remain in the mix of options for the Service to achieve the continuing objective to provide better habitat for the large populations of ground nesting birds living at Midway.

Pre-planning Pays Off

Buenos Aires National Wildlife Refuge is comprised of 117,354 acres and is home to countless bird species, mammals, reptiles and amphibians. Firefighters at Buenos Aires National Wildlife Refuge recognize that fire has had a large role in shaping plant communities and influencing wildlife in deserts such as the Altar Valley near Tucson, Arizona. Refuge staff have been using fire in the Altar Valley as a restoration tool since the late 1980s. Prescribed burns are planned each year for various parts of the refuge based on management objectives related to wildlife habitat enhancement, restoration of the overall Sonoran semi-desert grasslands and to reduce the risk to communities located near the refuge.

Fire managers and biologists have used the understanding of fire's historical role on the landscape, as well as current conditions, to guide decisions about when, where, and how often to use prescribed fires.

A huge pile of ironwood debris is ignited at Midway Atoll National Wildlife Refuge to restore natural habitat. Somchet Wittayakhom, USFWS





Smoke lingers on the horizon after a wildfire burned in Brown Canyon at Buenos Aires National Wildlife Refuge. USFWS

Recently, the refuge began to plan prescribed burning in the nearby Baboquavari Mountains which surround the valley. Fire had been suppressed in the mountains for decades. Specifically, the Service looked at Brown Canyon for opportunities to use fire to reduce the risk of losing buildings and infrastructure to unplanned wildfire, to enhance habitat, and to protect unique natural resources to unplanned wildfire. A prescribed burn would be considerably less expensive to manage than a large wildfire, and fire managers would control fire behavior and its effects by selecting when and where to start the burn. Plans were to light the prescribed burn in early summer of 2009.

Planning for the project was completed, but the burn had to be postponed for a year because the weather conditions and personnel availability could not be met to support the plan to ignite. However, at approximately 1:00 PM on June 11, 2009, a wildfire started just north of Brown Canyon.

Firefighters used the information gathered for prescribed burning preparations to determine safe and efficient suppression tactics for managing the fire. Refuge fire managers were also able to manage this wildfire for multiple resource benefits utilizing the revised guidance to Interagency Fire Management Policy (2009) and through the incorporation of fire management objectives for resource benefits, such as restoration of native grasslands to reduce invasive woody plants through the use of fire, as outlined in the Refuge Comprehensive Conservation and Fire Management Plans.

This fire was controlled more quickly by use of pre-identified natural barriers and other information obtained during the pre-planning efforts. As a result, the fire was allowed to serve a more natural role. By most accounts, the long-term effects of the fire will be positive. Negative impacts such as changes in the appearance of the landscape and reduced wildlife use of burned areas will be short lived.

New Position Addresses Needs

Creativity and collaboration have made it easier for the U.S. Fish and Wildlife Service's Great Lakes – Big Rivers Region to achieve the prescribed fire elements of their habitat management objectives on private land within the eight states comprising the region.

The Partners for Fish and Wildlife Program, the Service's program formed to restore and enhance wildlife habitat on private property, has been challenged in the past to address the fire aspects of managing habitat with no fire budget to support the unlimited need to burn on private land for resource enhancement. Additionally, without regular wildfire operational experience, the program staff had little to no opportunity to achieve any fireline supervisory qualifications which left them without a dedicated burn boss or other fire supervisors.

After pondering their options, the Partners Program decided to

create a unique fire position and established the Regional Prescribed Fire Specialist (PFS) stationed at the Wisconsin Private Lands Office in Madison, Wisconsin. This is the only PFS position in the Service funded by the Partners for Fish and Wildlife Program. The job was advertised and filled in the spring of 2008. The position is supervised by the Central Zone Fire Management Officer. The benefits of the PFS are only beginning to be realized.

Since the Partners Program works solely on private lands, policies and associated funding options to conduct fire operations have historically been unaddressed or at best confusing. With the addition of the PFS, many of these shortfalls have been identified and addressed. Also, by hiring a qualified burn boss, the Partners Program has someone dedicated and qualified to write and review their burn plans, conduct the burns, and acquire and maintain equipment. The Partner's PFS advocates for the Partners fire program and maintains daily connection with the regional and national fire program to keep up with changing rules and regulations. This arrangement allows the Partner's PFS to be the liaison between the Fire Program and the Partners Program and has increased the overall efficiency.

In addition to putting fire on the ground, the PFS has acquired several pieces of equipment from other stations to bolster the program. This equipment, including a Type 6 engine, an off-road utility vehicle, communication equipment, and various fire tools, has been distributed to other Private Lands Programs in the Region.

The position is continuing to evolve as the program becomes better established and will potentially provide a template for other states or regions.

Service Represents Fire Agencies

Based out of Boise, Idaho at the National Interagency Fire Center (NIFC), Chief of the U.S. Fish and Wildlife Service Fire Management Branch, Brian McManus, and colleague Dan Smith, Fire Director for the National Association of State Foresters, spent a week in the spring in Victoria, Australia to represent the National Multi Agency Coordinating group (NMAC) and the National Wildfire Coordinating Group (NWCG). McManus and Smith travelled south crossing 17 time zones to attend the debriefing and close-out for the dozens of American fire resources who had been assigned to fill various specialized roles in the Australian fire fight and to study the fire management program in Australia to look for opportunities to enhance the coordination and idea sharing between the two nations. "We certainly have parallel issues in the realm of managing wildland fire," said McManus. "During our tour, we identified numerous possibilities to further our coordination. We all realize that continuing to work together will ultimately greatly benefit all of us into the future."

McManus and Smith were given a tour of fire facilities around the state. They got a firsthand glimpse of the coordination center which handles the movement of resources in Victoria including personnel and equipment. They visited fire research centers and equipment development sites to see some of the most technologically advanced tools of the trade. All aspects of the Australian fire program including training, mobilization, operations, community outreach, and prescribed burning were represented in the tour.

The NIFC pair also was able to visit nearly all of the U.S. personnel performing their assigned duties in the field to directly observe how U.S. forces were being effectively integrated into the Australia organization.

A sobering stop for McManus and Smith was at the town of Marysville where dozens of fatalities occurred this year during the Kilmore East Murrindindi Complex which joined the King Lake Complex to burn over 1 million acres in a day over taking the community. "Only one business was left standing in the downtown area," said McManus. "There was just burnt trees and twisted metal remaining in the bulk of the business district."

The tour stopped by the site of some of Australia's most historic fires before concluding in Melbourne for the official send off of the American fire personnel contingent.

Team Manages Fire in Canada

In August 2009, firefighters from the United States arrived in British Columbia, Canada to assist in fire suppression efforts during what became a busy fire season for Canadians.

Incident Commander Bill Molumby, whose usual job is as a fire management officer for the U.S. Fish and Wildlife Service southern California fire management zone, and California Incident Management Team 2 spent the first few days of their trip north getting oriented to the fire policies, typical fire behavior, and anticipated weather for Canada.

The team was made up of about 30 people with specialized skills to support fire suppression. The team shadowed Canadian teams to learn how they manage things differently and similarly to the way fires are managed in the United States.

After a complete orientation, Molumby's team assumed command of the Terrace Mountain Fire near West Kelowna, British Columbia. The fire threatened critical infrastructure as well as homes and private property. There was a great deal of national interest in the fire due partly to a historic fire that burned in the same area in 2003, consuming 200 homes.

The United States has worked extensively with international partners in fire management support including countries such as Australia, Canada and Russia in the past, but this was only the second time a team from the United States has been in full command of a fire burning on international lands.

Service Honors Partner

The U.S. Fish and Wildlife Service Mountain-Prairie Region Sandhills Fire Management District in Nebraska honored the local National Weather Service (NWS) office for outstanding service and performance in their efforts to develop and communicate accurate and timely weather forecasts. During a biannual meeting this fall, Service District Fire Management Officer Troy Davis presented a plaque and letter to the NWS Weather Forecast Office in North Platte, Nebraska to express the Service's appreciation.

The relationship between wildland firefighters and weather forecasters has long been recognized as an important one to assist fire managers both on the ground and in the office assess their situation. Accurate weather predictions are critical to help the wildland fire community ensure firefighter safety, determine timing for effective prescribed burning, and aid in sound fiscal decision-making when it comes to fire suppression.

In addition to general forecasts, the NWS issues fire weather watches and red flag warnings to highlight conditions conducive for large fire growth and extreme fire behavior. Forecasters are also frequently called upon to provide vital site-specific spot weather forecasts during fire events, providing managers with a forecast issued to fit the time, topography and weather for a specific fire. They are more detailed, timely, and specific than zone forecasts.

Officials from the Service and other land management agencies regularly

meet with the NWS in order to help forecasters better understand the complex challenges facing fire managers. It also allows for fire personnel to provide feedback and suggestions on the products and services the NWS provides to them.

The Region 6 Sandhills Fire Management District looks forward to the continued working relationship with the local weather service and the professional component it adds to the fire program.

Interagency Dispatch Center Opens

In March 2009, the U.S. Fish and Wildlife Service, Illinois Department of Natural Resources, National Park Service, and U.S. Forest Service (USFS) jointly celebrated the opening of the new Illinois Interagency Dispatch Center (IIDC) located at Crab Orchard National Wildlife Refuge in Marion, Illinois. The interagency fire partners held an open house to mark the occasion to provide the first opportunity for many who were instrumental in visualizing and planning the facility to see the final product, which was created to meet the emergency dispatch needs of multiple agencies.

Nearly 50 people were present to tour the building, view the renovations, and participate in a brief awards ceremony. Each of the four agencies which share space at IIDC were present, as well as representatives from Golconda Job Corps Center (GJCC), John A. Logan College (JALC), Williamson



A wildfire burns near Valentine, Nebraska during on a dry day in July. Weather plays a key role in all fire management activities and the Service works closely with partners such as the National Weather Service to obtain accurate forecasts. USFWS

County Emergency Management Agency and a congressional staffer.

During the ceremony, Crab Orchard NWR Manager Dan Frisk, spoke briefly about the success of this joint venture and thanked all parties for their part in completing the project. Frisk commented that this project is, "an example of where we have worked together to maximize our dollars and maximize resources for the common good."

Additionally, Shawnee National Forest Supervisor Allen Nicholas acknowledged his pleasure with recent developments and the relationship building that has been fostered by the hard work of all involved agencies. The IIDC not only provides efficient and effective response to local wildland fires, but also to nationwide wildfire events and other natural disasters, such as hurricanes and floods.

An awards ceremony was held during the open house to honor and recognize people and organizations that were crucial in the success of developing IIDC.

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