



U.S. Fish & Wildlife Service

Inside Fire Management

News from 2008





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Cover photo: U.S. Fish and Wildlife Service wildland fire Blue Goose Crew conducts an initial attack on the Deacon Fire on the Klamath National Forest in California in June.

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.



Smoke blows along Evans Road, namesake for the largest refuge fire of the year, which burned for nearly six months.

For Peat's Sake

The Evans Road Fire, ignited by lightning on June 1 near Pocosin Lakes National Wildlife Refuge in North Carolina, grew quickly onto the refuge eventually burning more than 41,500 acres. The fire was fully contained after several months.

Despite the hot and dry weather conditions lingering over the Evans Road Fire, firefighters made good progress controlling the incident. Pumps, sprinklers, and miles of hose were used to flood areas which continued to smolder deep into the soil throughout the incident.

Typical of swampy areas, peat soils consisting of organic matter burned and held intense heat. Soaking the peat with water was the only way to fully extinguish the underground fire. About 21.6 million gallons of water were pumped into the fire area during one 24-hour period.

Large amounts of standing water was used to help cool the peat burning deep underground on the Evans Road Fire. This is the only way to effectively suppress fires burning in peat soils typical of swampy areas..



A major concern was standing hazard trees with root systems burned and weakened by the fire. Such unstable trees can fall unexpectedly near people or onto a hot area causing the fire to flare-up.

The refuge is managed largely to restore, enhance and protect wetland habitats for waterfowl and other animal and plant species.

Longest Burning Fire in VA

Nearly four months after it started on June 9, the South One Fire on Great Dismal Swamp National Wildlife Refuge was declared fully extinguished. The fire was started by logging equipment being used to harvest Atlantic White Cedar.

The fire grew to 4,884 acres before being contained. Control lines around the fire were fully secured in early September and the fire was declared out on October 7.

After burning for 121 days, the South One Fire became the longest duration fire on record to ever burn in the state of Virginia. The cost to suppress the fire is still being calculated and is expected to exceed \$11 million.

“Being able to so smoothly work across state and regional lines with the National Wildlife Refuges in North Carolina to share personnel and resources was critical for us,” said Tim Craig, Fire Management Officer for the refuge. Hundreds of firefighters from federal, state and local agencies worked together

A U.S. Fish and Wildlife Service engine and firefighters monitor the smoke column to the north from the South One Fire burning on the Great Dismal Swamp National Wildlife Refuge.



to put the fire out. Over 240 people were assigned to work the incident at one point in early July. Fighting the fire involved operating equipment such as fire engines, bull dozers, water pumps and mowers.

The fire burned through slash on the ground created during logging operations to salvage cedar trees blown down during a 2003 hurricane. The flames crept deep into the peat soils where fire continued to smolder and spread, eventually spreading back up to vegetation on the surface.

The depth of the fire created lots of work for firefighters. Crews spent weeks flooding hot areas with an extensive water delivery system including multiple pumps and hoses to thoroughly soak hot spots to prevent the fire from growing.

Smoke lingered over the fire and into surrounding communities for many weeks as the vegetation continued to smolder. In late September, a coastal storm moved over the area dropping four to five inches of rain on the fire, helping to

drown any remaining heat. The Great Dismal Swamp National Wildlife Refuge, located in southeastern Virginia and northeastern North Carolina, has a burned area recovery plan in place and will replant the rare Atlantic White Cedar stands that were affected.

The refuge provides unique forested wetlands for migratory waterfowl including ducks, geese, and tundra swans. Many mammals also live on the refuge such as white-tailed deer.

Hurricane Response

Six days after Hurricane Ike made landfall on Galveston Island, Texas, several U.S. Fish and Wildlife Service employees serving on the Southern Area Type 2 Incident Management Team were called to assist the Federal Emergency Management Agency (FEMA) as part of an Infrastructure Assessment Task Force, to assess the impact of the

Galveston city officials listen to Incident Commander Tony Wilder explain the rapid assessment his team conducted.



hurricane on residents of the city of Galveston.

The assignment to support FEMA was different from those the team usually undertakes managing large fires, such as in Virginia and North Carolina earlier in the year. Team Incident Commander Tony Wilder, Fire Management Officer at Mississippi Sandhill Crane National Wildlife Refuge, and team members tackled a range of atypical problems as they arrived to the hurricane-devastated area. Communication and planning were critical elements as the team established their Incident Command Post with no services or conveniences at their disposal.

The team worked with utility professionals to conduct the infrastructure assessment including security, water, energy, accessibility and telecommunications for Galveston. They acquired information by any means possible about the condition of these services and produced a 72-hour report to outline their findings. Wilder personally identified with the residents of the area because he

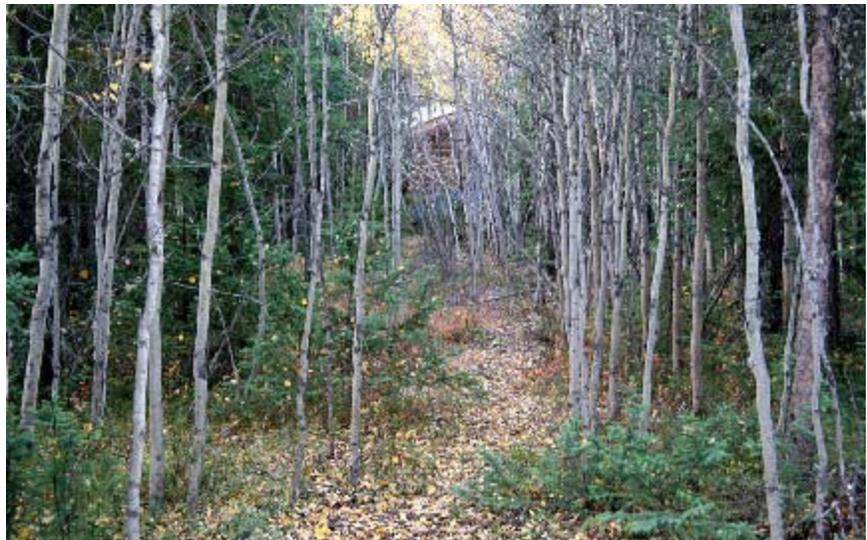
lost his home to Hurricane Katrina in 2005. “What this assessment doesn’t show” he said, “is the human element.” Many Service employees and facilities were affected by hurricanes in 2009.

The team also worked with local elected officials and media outlets to keep citizens of the area informed. In addition to Wilder, six other Service employees from the Southwest, Southeast, Northeast and Mountain-Prairie Regions worked on the team. Their assignment lasted for 13 days.

It Takes a Village

The village of Evansville, located in the foothills of the Brooks Range within the Kanuti National Wildlife Refuge in north central Alaska, successfully completed a two-year project to reduce the unnatural accumulation of vegetation surrounding the community. If left in place, the vegetation would have provided a direct path for fire to travel from natural areas into the community.

Dense vegetation surrounds private property in the village of Evansville prior to application of Firewise principles to reduce the threat of fire moving from the natural area around the home to the home itself.



The same property shows vegetation thinned with Firewise techniques to increase the odds of the home surviving during a wildfire event.



As part of the project, firefighters from the refuge thinned dense stands of black spruce in and around the village. The removal of the trees will help prevent fire from spreading into the community by creating a break in the flammable vegetation and by making the area more accessible to fire engines. The slash which resulted from the thinning effort was put into piles and burned with the help of the local volunteer fire department, as weather conditions allowed.

In addition to the broad scale thinning, Firewise assessments were completed throughout the village. Firewise is a program sponsored by multiple federal, state, local, and tribal firefighting agencies that provides guidelines to make a home more survivable in the event of a fire. All public buildings and 90 percent of all residences had the recommended Firewise thinning work completed as a result.

A large, shaded fuel break designed to slow a moving fire was also created at the north end of the village, where stands of black spruce previously continued unabated directly to the north onto the refuge lands. Much of black spruce was removed from this area due to its propensity to carry fire. Healthy birch trees, which are more fire-resistant, were left standing.

Firefighters also cleared an overgrown fire break, created years ago east of the village, providing an additional barrier to stop an advancing fire.

In all, nearly 60 acres were treated as part of this effort to reduce hazardous conditions. The project, funded by the U.S. Fish and Wildlife Service, was completed in June.

A side benefit of the project was the development of open dialog between the village and the Service,

which will continue to support the mutually beneficial goal of protecting communities near natural areas.

Taking a Bite Out of Risk

With a diet of shrubs, branches, and grass, goats have become a creative tool at the Sacramento River and Stone Lakes National Wildlife Refuges to reduce overgrown vegetation in wildland urban interface areas. In their recent assignment to the refuges, the goats cleared several hundred acres that would have had to have been thinned manually by handcrews. The refuges, located in northern California, first introduced goats last year to areas at risk of wildfire.

Along with manual thinning and prescribed fire, goat grazing is part of a combination of methods refuge managers rely on to manage hazardous fuels and maintain habitat. Both refuges provide critical winter habitat for migratory birds along the Pacific Flyway. This year, the goats will rotate to other parts of the refuges during the summer to provide a

natural way to eliminate unnatural accumulations of vegetation. Handcrews follow-up after the goats using chainsaws and chippers to cut and eliminate the high branches growing outside the reach of the animals.

The use of goats also reduces concerns with smoke along California's busy highways associated with the alternate tool of prescribed burning. Refuge managers have developed a monitoring program to determine the long-term effectiveness of using goat grazing versus other management techniques.

Trainers Lend a Hand

When the record-breaking fire season in California quickly escalated last June, National Guard and firefighters from overseas were called in to help. They were first trained by the U.S. Fish and Wildlife Service, with help from the U.S. Forest Service, Bureau of Land Management, and National Park Service.

Loren DeRosear, Regional Fire Management Coordinator in the Southwest, served as lead instructor for the first round of military training. His team including Steve Schumacher from the Midwest Region and firefighters from other agencies conducted classroom training for more than 500 members of the California National Guard. The training was a condensed version of basic wildland firefighting focusing on fire behavior and weather.

With training complete, crews received fire gear, were assigned advisors from federal agencies,

Hundreds of goats nibble to reduce accumulations of hazardous fuels in areas of the Sacramento River and Stone Lakes National Wildlife Refuges.



and mobilized to incidents. Once on site, the crews were field-qualified before working on the fireline. Service Training Specialist Dale Bitner also played a key role in the logistics for the military training.

At the same time, 44 firefighters from Australia and New Zealand arrived at the National Interagency Fire Center to be trained and oriented on U.S. wildland fire operations, including the use of fire shelters. Fire Outreach Coordinator Kelly Cardoza from the Pacific Region served on the training cadre with firefighters from the Bureau of Land Management and the National Park Service.

The Australian and New Zealand contingent worked in the United States for about a month before returning home in mid-August.

The California National Guard bolstered firefighting efforts throughout September. Service firefighters continued to help train military resources all summer.

Fire Engine that Floats

Last summer, national wildlife refuges in the Columbia River Basin in Washington and Oregon used a new tool to fight fires. The Mid-Columbia Basin National Wildlife Refuge Complex recently converted a government jet boat to a fire boat complete with a high volume pump, a turret, hundreds of feet of hose, hand tools, food and drinking water, as well as other items necessary to support fire suppression activities.

The boat can be used for a variety of tasks. The water pump and large turret allow crews to spray water directly from a river or lake to knock down flames burning within 100 feet of the water's edge. The boat can also be used as a platform to pump water to a line of hose going from the river to a fire some distance away. Firefighters can also transport personnel and equipment with the boat or use it to scout and monitor the fire.

A firefighter from the Mid-Columbia National Wildlife Refuge Complex uses the pump and nozzle on the fire boat to douse flames.



The fire boat was used extensively on two of the five large fires the refuge complex had this season. During both the 262 and 730 Fires, which ignited in late July, firefighters tested the effectiveness and efficiency of the fire boat. The boat was primarily used to knock down flames during both incidents. It proved to be a very useful tool helping firefighters gain the upper hand on both blazes by allowing crews to get water into hard to reach, thick vegetation that typically grows along the edge of water.

The Mid-Columbia Basin National Wildlife Refuge Complex is home to extensive waterfowl and migratory bird populations. The boat allows refuge managers a unique opportunity to access and protect critical habitat.

This is the first boat to be constructed and deployed as a tactical fire suppression resource in the Pacific Region,

which encompasses refuges in Washington, Oregon, Idaho, Hawaii, and Guam. Cooperators from other federal, state, county and local fire agencies have requested the fire boat to support fire suppression efforts on their incidents.

Training Future Leaders

Firefighters from the U.S. Fish and Wildlife Service have been actively working along side firefighters from other federal, state, and local fire agencies as members of the Mid Plains interagency wildland fire crew. The 20-person crew comprises firefighters from the Service, U.S. Forest Service, Bureau of Indian Affairs, National Park Service, and Kansas Forest Service, as well as the municipal fire departments from the greater Denver area.

Each time the crew gets called to a fire, firefighters from these

The Mid Plains interagency hand crew fights fire with fire on the northwest side of the Basin Complex Fire in California. The crew helped to keep the fire from reaching a narrow canyon where many homes are located.



agencies unite to form a firefighting hand crew.

“Typically at least 50 percent of the crew is made up of U.S. Fish and Wildlife Service firefighters,” said Bill Waln, Fire Management Officer at Quivira National Wildlife Refuge. “Our agency sees the crew as a perfect opportunity to help develop the future leaders of our fire program.”

Part of the intent of the Mid Plains crew is to provide firefighters from the various fire agencies an opportunity to gain critical on-the-ground experience that will benefit them throughout their career in fire. In a crew setting such as this, firefighters also get a chance to develop and fine tune leadership skills during a fire situation.

Critical to ensuring a crew’s safety, which is always the top priority in wildland fire fighting, is strong leadership and teamwork. To strengthen these attributes, a qualified crew boss from one of the agencies takes charge of the group for the duration of their fire assignment, which typically last for 14 days.

Since the crew is made up of different people from different agencies each time they are sent to an incident, fire managers from the area provide a week-long training opportunity each year prior to fire season for all potential firefighters that may participate on the crew during the season. As part of the week, the firefighters go through formally sanctioned firefighter training as well as practical and field training. The objective is for potential crew members to have a sense of cohesion early in the year that will carry into any fire assignments.

The Mid Plains crew completed two assignments this year to fight fire in California each lasting for two weeks and one assignment to Wyoming.

Recycling Old Cottonwood

In January, fire managers at Camas National Wildlife Refuge in eastern Idaho completed a project to reduce hazardous fuels adjacent to private residences and the refuge headquarters buildings. The project involved the removal of dead cottonwood trees and debris which would have given fire a direct path to the nearby structures. Large wind driven fires are typical for the area which lies in the upper Snake River plain.

A thriving population of songbirds lives in the cottonwood trees on the refuge. By eliminating the dead vegetation in the cottonwood grove, refuge managers were also able to enhance songbird habitat and protect it from being lost to fire.

The project started in the fall of 2007, when the refuge rented an excavator to pile the dead vegetation. The trees died primarily from continued drought and old age. The Snake River Interagency Hotshot Crew assisted by bucking the trees. This helped the excavator to build more compact piles in order to get the fire to burn more completely when the piles were lit. Nearly 30 large piles were constructed.

The hotshot crew also used the larger logs to make benches, placing them on the nearby trail for visitors to the refuge to use as a resting spot during walks.

The Snake River Interagency Hotshot Crew crafts benches out of cottonwood logs on Camas National Wildlife Refuge.



Early in 2008, while there was snow on the ground, firefighters from the refuge ignited the piles. Over 45 tons of dead vegetation was eliminated as a result.

winds, with extreme and erratic flames. More than 65 people and 20 homes were evacuated in the direct path of the fire. Service crews were joined by 15 other fire departments and the Texas Forest Service.

The Service crews stayed to assist until the fire was contained early the next morning. The fire burned for five days and was controlled May 5. Two unoccupied structures and one barn were lost. There were no injuries.

Prescribed Burn Pays Off

Lightning was the probable cause of a wildfire that started on May 25 in the Upper Mississippi River National Wildlife and Fish Refuge in Savanna, Illinois, burning 66 acres of public land managed by the U.S. Fish and Wildlife Service and nine acres of adjacent private land.

The fire began on the refuge's 9,857-acre Lost Mound Unit, which sits adjacent to an area that refuge firefighters had recently treated with a prescribed burn. The treated parcel prevented the wildfire from spreading to 4,000 acres of grasslands to the south. However, the wildfire spread north into an area that had not been treated and onto bordering private land, threatening four empty warehouses and some rail cars stored near the railroad tracks. The fire was extinguished by the Hanover Fire Protection District, and did not damage either the warehouses or rail cars.

Prior to becoming a part of the National Wildlife Refuge System in 2003, the site was operated by the U.S. Department of Defense and had been a weapons depot and an

The refuge provides critical habitat for a variety of migratory birds and songbirds. Several state record songbird observations have been made in cottonwood stands on the refuge. Tundra and trumpeter swans also visit the lakes, ponds, and marshlands which make up about half of the refuge.

Moving Fast in Texas

On April 30, U.S. Fish and Wildlife Service fire crews from Texas, Arizona, Nevada and Georgia were first to respond to a 1,900-acre fire on two private ranches in Brooks County, Texas. The crews, in route to assist a local fire department on another fire, spotted the new fire and quickly changed plans.

Upon arrival, they found the fire being driven by 30-mile-per-hour

artillery proving and testing facility from 1918–1919. Because of the potential for unexploded ordnance, the refuge is restricted from disturbing the ground with disking or mowing firebreaks.

In some areas, only grass serves as a buffer between refuge land and private property. To lessen the risk of future wildfires spreading onto private land, refuge firefighters will continue to conduct prescribed burning along boundary areas to reduce flammable vegetation.

New Black Liner Stops Fire

Late last year, the U.S. Fish and Wildlife Service Huron Wetland Management District in South Dakota tested and approved the use of a new Black Liner Machine designed to help fire management staff create more effective fire break lines, or black lines, particularly in Wildland Urban Interface (WUI) areas where natural fire breaks such as roads

or waterways are not available. On February 24, Service fire personnel got to see just how effective the new equipment will be in helping to control wildfires.

On that day, a homeowner living near the Maga-Tahohpi Waterfowl Production Area was burning paper in a burn barrel when a spark escaped into the grass on his private property starting a fire that quickly grew and moved onto the federal land. The homeowner called the local volunteer fire department for assistance.

“We had burned a 2-mile-long black line in that area last October,” said Mountain-Prairie Region Prescribed Fire Specialist Charles Frohme, who noted that the grass in the area grows 2 to 3 feet tall.

“The idea is pre-suppression. You get the line in place in advance and then when you do your prescribed fire, your holding operations are eased up. You do not have to wait for the line to be burned and you do not have to eat smoke all day.”

Black line created by new machine provides a barrier against future fire.



Frohme said the black line that was burned in October 2007 clearly stopped the fire in February. “You can see where the fire burned right up to it,” he said. He noted that the on-site fire department was able to contain the 2-acre fire within an hour using hand tools, with a fire engine used to mop-up area.

“It’s a good tool to have and we’re going to keep testing it and tweaking it, and we’re definitely going to be using it again,” he said.

Using Fire in Arizona

Firefighters safely completed a 12,000-acre prescribed burn on the 118,000-acre Buenos Aires National Wildlife Refuge in Sasabe, Arizona. The burn was conducted in stages between June 11 and June 18.

The refuge uses periodic planned burns to cost-effectively regenerate natural areas and help wildlife

flourish. In recent years, Mesquite trees on the refuge began to dominate native vegetation, choking out the open semi-desert grassland. Fire is an essential tool used throughout the U.S. Fish and Wildlife Service to reduce accumulated brush and other overgrown vegetation. Unchecked, the accumulation quickly becomes hazardous fuel for dangerous wildfires that threaten communities and natural areas.

In addition to land within the refuge boundaries, adjacent private land was also treated during the prescribed burn. Firefighters from the National Park Service, the Bureau of Land Management and the U.S. Forest Service assisted with the project. This is the first burn to be implemented under a new interagency fire management plan for the local area.

The refuge provides grassland and wetland habitat for threatened and endangered plants, animals

A firefighter lays fire on the ground along control lines during prescribed fire activity at Buenos Aires National Wildlife Refuge.



The Blue Goose Crew poses while assigned to the Gould Fire on the Klamath National Forest in California.



and birds including the Masked Bobwhite Quail. It is also home to wildlife such as mule deer, white-tailed deer, pronghorn, javelina and mountain lions.

Blue Goose Flies Again

Fire season 2008 marked the second season for the Blue Goose wildland firefighting crew based in Washington at the Mid-Columbia River National Wildlife Refuge Complex. The 20-person crew, created in 2007 by a partnership between the U.S. Fish and Wildlife Service and the Columbia Basin Job Corps, gives agency firefighters and Job Corps students a chance to gain experience and enhance skills in the field of wildland fire.

“The Blue Goose Crew provides a unique opportunity for our young firefighters to gain high quality fire experience in a very professional setting,” said Steve Jakala, Regional Fire Coordinator for the U.S. Fish and Wildlife Service Midwest Region and a member of the Service’s National Fire Leadership Team that funds the

crew. “This is definitely an effort that the Service cannot afford not to fund.”

Over the course of the summer, the crew spent time fighting fires in California, Washington, and Oregon for a total of 54 days assigned to incidents. This year a permanent assistant superintendent position was added to the ranks of the crew and two people who worked on the crew last year filled in other critical supervisory positions.

“Adding depth to our leadership allows us to be more flexible in the types of assignments we take and ensures we produce a quality product for our customers. It also gives us more opportunity to provide one-on-one mentoring to crewmembers.” said Blue Goose Superintendent Jason Riggins.

Detailers from the Service’s Pacific, Southwest, Midwest and Mountain-Prairie Regions, along with the National Park Service, U.S. Forest Service and Job Corps students worked together to build a cohesive yet diverse crew in terms of experience, culture, and developmental needs.

Although the 2008 fire season was not as active for the crew as the prior year, crew supervisors took advantage of time not assigned to fires to provide crewmembers with additional classroom and field training. Specific training was given in topics such as studying the elements of high reliability organizations, tactical decision games, wildland fire ignition operations, and basic air operations.

Fire Break Slows Spread

When four separate fires ignited from May 23 and 28, firefighters from the Puerto Rican island of Vieques were able to test the effectiveness of their pre-existing fuel break, a line cleared of vegetation designed to stop or slow fire spread.

All four fires started on the boundary of the Vieques National Wildlife Refuge. The largest of the fires, the Tres Casas Fire, started in dry grass and grew quickly. U.S. Fish and Wildlife Service firefighters, along with the local fire department (known as “Bomberos”), arrived on the scene and began extinguishing the flames.

As the fire moved toward the fuel break, firefighters used it successfully to help contain the incident and to prevent the fire from moving into the heavy brush and grass within the refuge boundary. Without the fuel break in place, a much more complex and dangerous fire situation would have occurred.

The interior of the refuge is covered with unexploded ordnance and very thick brush that would have limited the options for fire suppression. Also, many homes are adjacent to the refuge and could have been threatened or destroyed if the fire had not been caught. Instead, only three primitive structures were damaged or lost to the fire.

The fuel break was originally created prior to the establishment of the refuge when the area served as a bombing range for the U.S. Navy. The Service now maintains the fuel break annually to help keep fire from moving either onto or off of refuge managed lands.

Signing Up for Adventure

In the world of biology, the partnership between the U.S. Fish and Wildlife Service’s Fire Management Program and AmeriCorps’ National Civilian Community Corps would be considered a symbiotic, or mutually beneficial, relationship. In 2006, Steven Hubner, the fire program’s fuels coordinator for the Northeast Region, learned of 15 young adults available as first-time wildland firefighters through AmeriCorps’ public service program. He took the volunteers on crew assignments on four fires in Nevada and Utah.

AmeriCorps volunteers work on a fire as part of a handcrew.



Hubner, in partnership with funding from AmeriCorps and instructional support from Shenandoah National Park, subsequently provided classroom and field training to nearly 100 AmeriCorps firefighters. This effort has produced a ready supply of firefighters to fill staff shortages when multiple wildfires are burning in different parts of the country.

The AmeriCorps crews also assist with prescribed burning programs on refuge lands in the Northeast, including the fire partnership in Virginia. All but three of the 42 qualified firefighters in 2007 were deployed to some type of fire assignment. The 2008 AmeriCorps crews became available for assignments in July.

In turn, the Service provides AmeriCorps volunteers with valuable experience in responding to fires, as well as hurricanes, tornados, floods and ice storms. Several past volunteers are considering careers in fire management.

AmeriCorps, started by former President Bill Clinton in 1993, is an 11-month volunteer program for people between the ages of 19 and 24. It is modeled after the Civilian Conservation Corps (CCC) programs in the 1930s and 1940s. Upon completion of the program, members receive a \$5,000 stipend for college expenses.

Lake Named for Firefighter

On June 9, Medicine Lake National Wildlife Refuge in eastern Montana hosted the dedication of Swanson Lake in memory of long time U.S. Fish and Wildlife Service firefighter Shannon Swanson.

Shannon spent several years working on the refuge during which time the lake, which would later be named after him, became one of his favorite spots. An avid fisherman and hunter, Shannon spent many hours along the shores of the water.

*Beth Madden,
Shannon
Swanson's wife,
kneels by the
rock and plaque
which officially
name Swanson
Lake. Beth is
a biologist on
the Medicine
Lake National
Wildlife Refuge.*



Shannon began his career as a firefighter on the Devil's Lake National Wildlife Refuge in North Dakota. He helped to develop many aspects of the Fire Management Program for the Service throughout its Mountain-Prairie Region which encompasses portions of the Great Plains, the Rocky Mountains, and the Continental Divide.

He became the first person to hold the prescribed fire specialist position on the Medicine Lake National Wildlife Refuge, building a professional and effective program of burning. He was also instrumental in the creation of the North Dakota Dispatch Center. The center was the first state level dispatch center sponsored by the U.S. Fish and Wildlife Service in the nation.

Many former Service colleagues and friends joined Shannon's family, wife Beth, and the Medicine Lake National Wildlife Refuge staff at the dedication ceremony. They honored his memory and recognized his love of life and nature by dedicating a plaque to officially name Swanson Lake.

The presentation of the plaque was made by Brian McManus, Chief, Fire Management Branch for the Service who supervised Shannon for 3 years in North Dakota. The plaque is a gift to the refuge from the national branch located in Boise, Idaho.

Ducks Unlimited hosted a barbecue following the ceremony.

Winning Over Homeowners

When the staff of the Minnesota Valley National Wildlife Refuge

conducted an overdue prescribed burn on the Soberg Waterfowl Production Area this past year they restored not only the wildlife-rich prairie and wetlands, but also the community's acceptance of prescribed burns in the area.

The Soberg Water Fowl Production Area is 65 acres of rolling prairie and wetlands, native grasses and wildlife surrounded by residential subdivisions. Prescribed burns are necessary to reduce overgrown vegetation that could fuel a wildfire around homes and the natural area.

The last prescribed burn on Soberg was in 2000, after which nearby residents raised objections about the impact of drifting smoke, essentially ending prescribed burns there for several years.

In response, the refuge created a new burn plan that divided the area into four units requiring four different wind directions, which complied with the Minnesota Department of Natural Resources smoke management plan. In 2007, Refuge Fire Management Officer Lee Nelson began a public education effort to re-establish support for prescribed burns.

Nelson first met with the Lakeville Fire Department chief and invited his department to observe a burn in the first unit and use the activity as a training opportunity. The event was so successful that the fire department participated again in April when refuge and fire department firefighters burned 30 acres in Soberg's Unit 2.

That operation was captured on videotape by fire department staff and was aired for a month on Lakeville's cable access television, further educating the community

*Cattails burn
as part of a
research study
in upstate
New York.*



about prescribed fire. In addition, firefighters distributed information about the burns to area homes prior to each event to help raise community awareness about the planned activities.

Nelson said the prescribed burns created an opportunity for the two fire staffs to collaborate, and also helped increase public understanding of prescribed fire and wildland fire behavior:

“The lessons learned were that we need to cooperate with everyone,” he said. “The prep work doesn’t start when you lay the black line,” said Nelson. “It starts months before with the burn plan, the cooperators and public education.”

Setting Cattails Ablaze

In October 2007, U.S. Fish and Wildlife Midwest and Northeast Regions conducted a prescribed fire in a 30-acre area of cattails on Knowlesville Marsh in the Iroquois National Wildlife Refuge in upstate New York. The burn was part of a

study to determine the effects of prescribed fire on cattail growth and whether burning during the plant’s growing or dormant season makes a difference.

Firefighters from Iroquois, Sunkhaze Meadows, Moosehorn and Long Island National Wildlife Refuges participated in the study, which was conducted as a partnership between the Service’s two regional offices and the U.S. Geological Survey.

Controlling cattails is important to the health of the marsh ecosystem. If they are not kept in check, cattails spread to create a stand of dense vegetation that does not serve wildlife needs. In addition, prescribed burns expose the marsh mud flats, helping native vegetation seeds germinate and benefiting wetland-dependent wildlife.

Five hours after the start of the burn, the fire was fully ignited. By noon the next day it was officially declared out. Nearly all the cattails and other types of vegetation were consumed by the fire, but it appeared that the cattail root

systems were only partially burned due to moist conditions.

More samples were collected in 2008 and compared to help refuges learn the best way to use fire to control cattails.

Fire Teaches Lessons

Firefighters at the Red Rock Lakes National Wildlife Refuge in Montana contained an escaped prescribed fire on Monday, September 22. The burn was initially lit on September 9, but escaped containment lines when a cold front passed over the area three days later, bringing strong gusty winds with it.

The fire moved across the lines burning primarily in the brome grasses. It burned deep into the soil in a thick layer of dead grasses that had accumulated over several decades without fire in that area. This situation required extra work for firefighters, as hot embers and ash burning deep underground needed to be fully extinguished to ensure the fire was out.

The burn was lit in a high mountain valley to improve wetlands used by geese and ducks. In other parts of the valley which have recently burned, many more birds, moose, elk, deer, and antelope have arrived to browse the fresh vegetation. Fire typically stimulates plant growth by recycling nutrients back into the soil, providing a natural fertilizer.

The refuge staff is planning to burn more areas over the next several years. Future burns will rely on natural barriers such as streams and also roads as containment lines to prevent escapes.

The refuge, located in southwest Montana, offers a unique setting surrounded by steep mountains reaching 10,500 feet. The remote area provides secluded habitat to a variety of species, including trumpeter swans and white-faced ibis, as well as providing pristine streams for native fish.

Thinking Ahead Works

When lightning ignited the Kathy's Pond Fire on July 1, firefighters from Mid-Columbia River National Wildlife Refuge, along with other cooperating agencies, got a chance to test the effectiveness of a fuel break that was created in 2004 by clearing vegetation that could fuel a wildfire. Gusty, erratic winds from a thunderstorm pushed the fire toward homes that the fuel break was designed to protect. Hot, dry weather made the fire situation even more dangerous.

Fortunately for the local residents, firefighters were able to use the fuel break to stop the flames from overtaking their homes, and held the fire at 527 acres. Reducing

Prescribed burn spreads outside of planned area on remote refuge, causing no damage, but teaching firefighters better containment techniques.



flammable vegetation in advance can slow or stop fire from moving in a given direction, and reduce the fire intensity. This safety measure exposes firefighters to less heat and fewer flames, and allows for more direct attack.

Fire managers on the refuge had identified this as an area of concern due to the amount of flammable vegetation close to private property and homes. Starting in 2004, fire crews began a cycle of clearance and annual maintenance for the area. A dense stand of Russian olive, dead cottonwood, and black locust trees were cut and piled. Other dead vegetation was also removed and added to the piles. When weather conditions allowed, the piles were burned. The refuge also plows a disk line along the border each year to provide additional protection to adjacent homes and property.

The entire hazardous fuels reduction project encompassed about eight acres and was cost-effective at around \$9,000. In this case, being proactive likely prevented damage to homes, reduced risk to firefighters and reduced firefighting costs by providing firefighters a safe place from which to attack the spreading flames.

Fire in the City

On August 25 when the human-caused Oregon Trail Fire blew through a densely populated southeast Boise community, area residents found themselves asking neighbors from the wildland fire community for direction. U.S. Fish and Wildlife employees, living in Homestead Rim subdivision

directly threatened by the fire, jumped in to help neighborhood residents and to assist with the fire suppression efforts as it flanked toward their homes.

Brian McManus, Chief of the Service's Fire Management Branch had just settled in for the evening with his family when the president of the Homestead Rim homeowners association knocked on his door alerting him of the fire. McManus went to size up the situation, returned home to put on his nomex, and then went to the edge of the subdivision that the fire would reach first.

"I explained to my neighbors what they could do to prepare themselves for the fire to reach us," said McManus. "I gave them some simple, quick items to do so they did not feel so helpless."

Service employees Chad and Sarah Fisher also live in Homestead Rim. Sarah, Fire Branch Administrative Officer, was on her way home from a fire assignment in northern California when the fire started. Road closures kept her from getting to her home until the situation had calmed down. Chad, Fire Branch Training Specialist, was at home with their son.

"I got a message on my cell phone from Chad saying 'Can't talk now. Fighting fire at the house. Beckett is with Michael. We're good at the house. Gotta go.' which summed up the situation for me," said Sarah. "But, I really just wanted to get home."

Chad, whose career includes stints on engines, in helitack, and as a smokejumper, noted that the experience will change his perspective the next time he

Chief, Fire Management Branch Brian McManus talks about fire management to a community group at the Garden City Library.



is involved in a wildland urban interface situation during a fire assignment. “I will have a lot more empathy and compassion for people whose homes are in the path of a fire,” he said. “Emotions run high and people have to make last minute critical decisions about what is most important to them.”

Chad and Brian’s suppression work and presence on the fireline aided in the eventual containment of the flanking fire which came very close to the edge of their subdivision. Residents of Homestead Rim watched homes above them smolder well into the night.

“One of our biggest tasks was to help calm our neighbors in an intense, highly emotional situation,” said McManus.

Another Service employee, Kelly Cardoza, was asked to evacuate her home in another neighborhood that was in the path of the fire. Cardoza, who works in a shared fire outreach position for both for the Fire Management Branch and the Pacific Region Fire Management group, lives with her family in

the Columbia Village subdivision where 10 homes were eventually destroyed and 9 others badly damaged by the 93-acre fire.

Later, Cardoza worked with a local fire prevention cooperative to deliver a fire safety and prevention skit to an elementary school in the same subdivision. By dressing up as clowns, and using puppets, music, and age-appropriate humor, cooperators from surrounding city fire departments and federal wildland fire agencies present important fire safety messages to children at many area schools .

“Fire is definitely an emotional topic for our neighborhood right now,” said Cardoza, who plays the role of fire clown Coco. “I had a few students come up to tell me about losing their homes or to describe their personal experience with the fire. Our being there was timely and seemed to give them an opportunity to talk about it in a safe situation.”

Chad Fisher participated in a panel discussion with Boise’s Mayor, Boise’s City Fire Department Chief and others at the Idaho

Wildland Fire Conference in Boise to study the Oregon Trail Fire. The panel gave a description of what happened during the fire and Fisher recounted his emotions being a father and husband instead of a firefighter that night. The panel proved to be a highlight of the conference.

With Boise's heightened community awareness and curiosity about how wildland fire burns and what wildland fire professionals do, McManus and his staff have continued to answer requests and conducted community presentations about fire management. One of these was held at the Homestead Rim subdivision a week after the fire. McManus, Cardoza, and other firefighters from the city of Boise and the Bureau of Land Management spoke at the meeting, which was planned for 45 minutes but extended by participants to 2 hours.

Another public presentation given by McManus and Cardoza was held in the nearby suburb of Garden City, which recently experienced

a 30-acre wildfire close to an interstate highway.

The Training Guy

U.S. Fish and Wildlife Service firefighter Chris Wilcox has become a strong force in interagency wildland fire training. Wilcox serves as the Service's representative and co-chair of the Wildland Fire Leadership Committee, a national group chartered under the National Wildfire Coordinating Group to develop and manage the leadership curriculum for the interagency wildland fire community.

The use of experiential learning tools are an important part of the curriculum. To learn from the successes and failures of the past, in particular events which were of national significance to fire policy, and often included firefighter fatalities, the group sponsors "staff rides," modeled after a military training technique utilized to review past battles.

Wilcox, Fire Management Officer at the Bosque del Apache National Wildlife Refuge in New Mexico, has

Chris Wilcox, U. S. Fish and Wildlife Service Fire Management Officer at Bosque del Apache National Wildlife Refuge, addresses staff ride participants at the site of the Dude Fire fatalities .



been involved in the development of multiple staff rides. He and his counterparts from other agencies choose well documented incidents which allow other firefighters to walk in the foot steps of decision makers and gain an in depth understanding of what led to the ultimate outcome.

During a staff ride, participants conduct a preliminary study of an incident, visit the actual site to gain a perspective of the situation that occurred, and then integrate the lessons learned into current operations. When possible, fire managers who worked on the actual incident are present to share the information they had and thinking process at the time that led to specific decisions. Staff rides have been developed and conducted for such well known fires as Mann Gulch (Montana, 1949), South Canyon (Colorado, 1994), and Cerro Grande (New Mexico, 2000). The final integration phase encourages participants to reflect upon those lessons which can be applied to ensure mistakes on these incidents are not made again.

Recently, Wilcox, along with five other Service fire personnel from the Southwest Region, and a U.S. Forest Service firefighter and a firefighter from Sedona Fire Department, led two groups through a staff ride of the Dude Fire (Arizona, 1990), which killed six firefighters. Participants included Bureau of Indian Affairs employees from the Western Region and the U.S. Forest Service Risk Management Council.

“Chris and his group did an excellent job facilitating the staff ride,” said Forest Service Risk Management Specialist Larry Sutton. “Even though I had read

the reports of the fire and been to the site before, retracing the steps of the crew and studying the details gave me a deeper understanding of what actually happened that day.”

For more information on the U.S. Fish and Wildlife Service Fire Management Program, please see our website at www.fws.gov/fire.