



Inside Fire Management

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Okefenokee's Big Turnaround Fire: Biggest, Most Expensive Ever for FWS

The Big Turnaround Complex at Okefenokee National Wildlife Refuge was the most expensive wildfire ever for the U.S. Fish and Wildlife Service and, at more than 330,000 acres, its largest ever outside of Alaska.

The \$30 million Big Turnaround was an extension of the Sweat Farm Road Fire, which started on April 16, 2007 on private land ten miles west of Waycross, Georgia, when a tree limb fell across a power line. Prolonged drought and record-low water levels in the Okefenokee swamp set the stage for this major wildfire, which burned for several months in a mix of shrub-scrub, cypress, wetland prairies, peat and long-leaf pine forest.

The suppression strategy for the Big Turnaround was to keep the fire in the swamp and out of the high-value pine uplands. Fire managers coordinated suppression efforts with the Georgia Forestry Commission and Greater Okefenokee Association of Landowners (GOAL) representing federal and state agencies, timber industry officials and private landowners.

Fire is a natural component of the Okefenokee ecosystem; since 1937, there have been more than 300 fires here and its plants and animals are well-adapted to survive their periodic occurrences. The Big Turnaround Complex is expected to have no negative impacts on wildlife populations. Moreover, its effects will benefit many species living in the swamp and in upland areas. □



Georgia's Sweat Farm Road Fire entered Okefenokee NWR on April 22, becoming the Big Turnaround Complex and eventually burning more than 330,000 acres on the refuge. Below: Biologists assess the health of endangered red-cockaded woodpecker nest trees after the Big Turnaround fire burned through the refuge. (Photos:USFWS)





Burnout Saves Florida Refuge from Advancing Wildfire

On May 29, fire crews at Florida Panther National Wildlife Refuge along with crews at Big Cypress National Preserve worked to contain the Big Cypress Complex wildfire.

The fire started on the Preserve, which is managed by the National Park Service. It burned in terrain that was difficult for firefighters to reach and threatened to move onto the Refuge. By the time it was 90% contained in mid-June it had grown to 63,599 acres.

Fire managers determined that the best way to stop the western advance of the fire onto the Refuge was a 2,200-acre burnout. It took two evenings of hand ignition to get the fire line secured. Aerial ignition completed the task on May 31. This action not only helped keep the fire off the Refuge, but allowed crews to focus suppression resources on the fire's northern boundary, which was advancing toward private land and Native American trust lands. □

Wildland Urban Interface: Development Moves in on Refuges

The subject of wildland urban interface (WUI) – subdivisions and other construction to wildlands – is squarely in the spotlight as development continues to push against the boundaries of national wildlife refuges.

While National Fire Plan initiatives strive to reduce wildfire risk by reducing accumulations of hazardous fuels on federal lands, WUI areas continue to spring up along the edges of these scenic areas requiring federal land managers to expend more and more resources each year to protect these structures from potential fire.



Smoke rises from a prescribed burn at Merritt Island NWR, a refuge located on NASA property. (USFWS)

About \$19.5 million of the Service's \$75 million fire budget in FY2007 is dedicated to hazardous fuels reduction in WUI areas near refuges. There are more than 700 such communities identified as high risk from wildfire.

Most hazardous fuels reduction work on refuges is accomplished using prescribed fire, a Service land management tool since the 1930's. These burns involve detailed, long-range planning and monitoring. When conditions aren't right, the burn is called off or delayed. Managing some lightning-ignited fire, known as wildland fire use, can provide an additional measure of safety by further reducing future wildfire risk. Removing vegetation using machines and herbicides also reduces hazardous fuels. All of this is necessary because natural fire cycles in many areas have been interrupted by fragmented landscapes and aggressive fire suppression in wild lands.

Hazardous fuels reduction in the WUI focuses on high-risk communities and adjacent natural resources that are inherently important to social or economic stability, such as watersheds or agricultural lands. Many times, communities identify a refuge itself as the most important "value" in the area, due to the benefits of open space and recreational dollars that refuge visitors infuse into local economies.

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Burning at NASA

At Florida's Merritt Island NWR, where the Service manages land owned by and surrounding NASA, ongoing hazardous fuels reduction protects this national asset. Refuge fire managers burn about 17,000 to 20,000 acres of hazardous fuels annually on these lands using a staff of about a dozen people.

"As you can imagine, we have to do an amazing amount of coordination with NASA when we do these burns because of all the space program equipment and fuel around there," said Glen Stratton, fire management officer at the refuge. "You want to be kind of careful when you're burning around solid rocket fuel storage areas."

A recent 590-acre burn, conducted over a weekend to minimize disruption for NASA personnel, was designed to rid the area of pine and oak scrub undergrowth. Veteran fire managers pulled off the project near the power substation and main transmission lines for the space center, and within a half-mile of the space shuttle assembly and storage area.



A FWS fire specialist uses a drip torch to ignite a prescribed burn at Rocky Mountain Arsenal NWR. (USFWS)

Surrounded by the City

The Rocky Mountain Arsenal NWR near downtown Denver is considered the most "urban" refuge in the country. Using prescribed fire to accomplish habitat management goals in an urban environment is a challenge. With the new subdivisions popping up

around the refuge, it will soon be completely surrounded by urban development.

The primary purpose of this refuge is to restore the native shortgrass ecosystem, and prescribed fire is one of the tools that will make restoration possible. Within the next 10 years, nearly 8,000 acres of former croplands will be re-seeded with grasses, wild flowers, and shrubs native to Colorado's high plains. This spring the Service also will reintroduce bison to the refuge, returning native grazers as a natural complement to fire in sustaining the prairie. □

(Parts of this story appeared in the May/June 2007 edition of RefugeUpdate www.fws.gov/refuges)

Southwest Region Employee Receives National Award

Chris Wilcox, the U.S. Fish and Wildlife Service fire management officer for the New Mexico Fire District at Bosque del Apache National Wildlife Refuge, is the recipient of the 2007 Paul Gleason Lead by Example Award.

Wilcox received the award March 12 in the motivation and vision category for his outstanding contributions in promotion of the "Learning Organization".

The national award recognizes outstanding, demonstrated leadership in the principals and values of wildland firefighting. The award was created in 2003 in honor of Paul Gleason, a federal fire leader, mentor and teacher. Gleason died of cancer in 2003.

Recipients are named each spring by the National Wildfire Coordinating Group (NWCG) based on a nomination process. The NWCG comprises fire managers from the U.S. Forest Service, National Park Service, Bureau of Land Management, Bureau of Indian Affairs, U.S. Fish and Wildlife Service, the National Association of State Foresters, Intertribal Timber Council and the U.S. Fire Administration. □



Research Fires at Patuxent NWR

Fire specialists this spring conducted a series of research-oriented prescribed burns in grasslands at Patuxent National Wildlife Research in Maryland. The refuge plays a unique role in the National Wildlife Refuge System by allowing scientists to study the effects of fire on a variety of habitats.

"Research indicates that controlled burning has many benefits over other habitat management practices," said refuge manager Brad Knudsen. "Fire helps control undesirable exotic plants, maintains grassland habitat for nesting birds and small mammals, promotes wild flowers and other native plants, reduces accumulated organic debris and releases nutrients back into the soil." □

Hazardous Fuels Reduction Benefits Community, Habitat

In fall 2006 fire specialists conducted prescribed burns for two successive days on 1,014 acres at Cedar Island National Wildlife Refuge in North Carolina. The burns reduced hazardous fuels around the community of Cedar Island with the side benefit of improving the health of marshes and woodlands.



A prescribed burn at Cedar Island NWR removes the hazardous fuels that could make future wildfires worse. (USFWS)

Fire crews from five national wildlife refuges traveled to Cedar Island, bringing their heavy equipment with them. A contract helicopter and pilot flew in to meet the crew for the burn. Natural resource personnel from Cherry Point Marine Corps Air Station assisted with the burns and local North Carolina Forest Service personnel were available as back-ups, as was the Cedar Island Volunteer Fire Department. The fire department's water tower served as a water tank refill location.

During the burns, a half-mile section of Highway 12 experienced some visibility impairment from smoke, but because smoke management plan was included in the prescribed fire plan for each unit, fire crews were ready to respond and quickly placed signs along the highway and used flashing lights on their vehicles to slow oncoming traffic. The smoke lasted about 90 minutes on each day. Additional burns are planned for September. □

Prairies Bounce Back From Fire, Study Shows

A report published by the federal Joint Fire Science Program shows that plants, animals, and soil health in specific prairie ecosystems generally return to pre-burn conditions within 10 years of a fire.



The bobolink is a signature species of healthy prairie ecosystems. (USFWS)

The study also found that fire suppression on prairies in the past 100 years resulted in the growth of tall, woody vegetation where such plants rarely existed. This phenomenon seems to encourage a greater number of nest predators as well as more nest parasitism by brown-headed cowbirds, which subsequently reduces some local bird populations.



Grassland birds are historically well-adapted to fire and most of the bird populations returned the second or third growing season after a fire, according to study surveys. This would seem to bode well for prescribed fires in grasslands as a way to control unnatural buildup of flammable vegetation.

The study, *Historic Fire Regimes and Change Since European Settlement on the Northern Mixed Prairie: Effects on Ecosystem Function and Fire Behavior*, can be read online at <http://jfsp.nifc.gov/news/doc/highlight08-05.pdf>

The Joint Fire Science Program is a federal partnership of wildland fire and research organizations, including the U.S. Forest Service as well as five bureaus within the Department of Interior: U.S. Fish and Wildlife Service, Bureau of Land Management, Bureau of Indian Affairs, National Park Service and U.S. Geological Survey. These agencies provide critical information to the specialists and managers who make wildland fuels management decisions. □

Keeping Good Company: The U.S. Fish and Wildlife Service and The Nature Conservancy

The U.S. Fish and Wildlife Service and The Nature Conservancy have worked together for decades on fire management projects across the country. While this partnership is important on a practical level, with fire experts working together toward a common goal, it also demonstrates the interwoven missions of both organizations. With that in mind here are a few examples of our ongoing partnerships:

DeSoto National Wildlife Refuge: The FWS and TNC have worked since 1999 to do the legwork it takes to help restore the unique prairie ecosystems found in this 640,000 acre Iowa refuge. DeSoto refuge has partnered with TNC to establish a fully equipped fire program, including fire caches throughout the seven county area, a fully

equipped wildland fire engine, and a fire boss with seasonal fire crew to burn on private lands.

Seney National Wildlife Refuge: A Joint Fire Science project is underway at this Michigan refuge to collect data on FWS and nearby TNC lands. The Joint Fire Science Program is a partnership of six federal wildland, fire and research organizations, established in 1998 to provide scientific information and support for fuel and fire management programs.

At the **National Interagency Prescribed Fire Training Center** in Florida, TNC plays a significant role by providing a prescribed fire instructor. □

Talking About the Weather Matters When It Comes to Fire

On May 8 2007, Horicon National Wildlife Refuge in Wisconsin completed a prescribed burn as Mike Fowle, a National Weather Service forecaster, watched all aspects while dressed in yellow Nomex.

Fowle, a former Incident Meteorologist for the NWS, made the visit to learn first-hand the importance of accurate weather forecasts in the arena of prescribed burning. His objective: find out how forecasters can better serve the fire community.

Since fire is heavily influenced by weather, the NWS routinely issues site-specific “spot forecasts” for prescribed burns as well as wildfires, either of which could pose a threat to life or property. Accurate short-term forecasts are critical in order to predict what fire will do. The prescribed burn gave Fowle as well as the refuge’s fire specialists an opportunity to talk about the weather in a meaningful way and learn from each other’s experience.

Horicon completed eight burns for a total of 1,090 acres this year. Six burns were completed at the nearby 1,054-acre Fox River National Wildlife Refuge, for a total of 184 acres. The burns were aided by staff and equipment from the Leopold Wetland Management District, Necedah National Wildlife Refuge and the Wisconsin Private Lands Office. □



Service Fire Pros Lend a Hand Down Under

Three U.S. Fish and Wildlife Service fire program employees were dispatched to Australia in mid-January, along with more than 100 volunteers from other agencies, to assist with wildfire suppression and emergency rehabilitation near Melbourne, the capital of the State of Victoria. Each Service employee served a 30-day assignment.

John Segar, the Service’s national fuels coordinator based in Boise, Idaho at the National Interagency Fire Center, served as the U.S. representative to the Victoria’s Department of Sustainability and Environment. Segar coordinated crew deployment and provided guidance to the American firefighters in Victoria.

Mary Kwart, a Service fuels specialist based in Anchorage, Alaska, served as a Situation Unit Leader. As a member of an Incident Management Team, Kwart was responsible for providing daily maps and fire behavior data to support planning and operations.

Robert Lambrecht, the Fire Management Officer for the Koyukuk/Nowita National Wildlife Refuge based in Galena, Alaska, held a critical field position in Australia as a Division Supervisor working directly on the fire line.

An extended drought in Victoria triggered the sharp increase in fire danger and wildfire activity there. Assistance from the United States was provided as part of an exchange agreement between Australia, New Zealand and Canada. Crews from Australia have fought wildfires in the United States for three of the past six years. Before beginning fire assignments, all crews are oriented to local safety concerns such as fire behavior, weather, and natural hazards. □

Fuel Reduction Becomes Wetland Protection

A Bureau of Reclamation wetland in Grant County, Washington near an impending housing development needed fencing in order to protect delicate wildlife habitat. The fence needed to be visually appealing to the neighbors who would be looking at it as well as low-impact to the creatures inhabiting the wetland. A barbed wire fence, which can be virtually invisible in a wetland setting, was not feasible because installing it would cause too much soil disturbance. Instead, reclamation employee Mitch Thompson worked with Washington Department of Natural Resources to come up with the perfect solution: an old-fashioned buck and rail fence.



A Washington state inmate crew fastens buck and rail fence with spikes. The fence, made from small trees that were to be burned, will keep the wetland safe from major disturbance. (USFWS)

Dan Brauner of the U.S. Fish and Wildlife Service’s Little Pend Oreille National Wildlife Refuge arranged for the harvest and donation of 1,200 fourteen-foot rails from small trees that normally would be thinned and burned as part of the refuge’s fuel reduction and habitat enhancement program. The mile of fence was prepared and built by a state inmate crew under the supervision of Brauner and others. □

Find out more about our Fire Management Program by visiting www.fws.gov/fire