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Utah

Fuels Management Puzzle: Factors in Hazardous Fuels Reduction

BLM's Salt Lake City Field Office has made significant progress in implementing hazardous fuel reduction projects over the past five years.

Fuels Manager Brook Chadwick said, "The pieces are coming together. We've had the outline of our fuels projects in place for so long, it's a very exciting time to witness their form taking place."

Consistent with the 10-year Comprehensive Strategy set forth in August of 2001, the Salt Lake Field Office has developed fuels projects to reduce the risk of wildland fire to communities and the environment. This has been due to a growing wildland urban interface that is placing more citizens and property at risk of wildland fire and increasing ecosystem health problems across the landscape.

Many of the past century's traditional approaches to land management, development of unnaturally dense, diseased or dying forests, and suppression practices for wildland fire have contributed to more severe fires over the years. As a result, widespread threats to communities and ecosystems have been created.

Strategy mapping for reducing hazardous fuels in Sage Creek in Utah's Box Elder County focused on decadent and dying sagebrush. Experts in wildlife, fuels, and range agreed that the sagebrush community needed to turn over, to be regenerated by fire or mechanical means in order to stay young and healthy. The sagebrush stands have received too much protection, subsequently the habitat has declined and become less productive. To respond, a treatment of brush crunching and prescribed fire was mapped for the Sage Creek area.



A county commissioner briefs meeting participants from government and private interests prior to a field trip to the project area.



Prescribed fire at the Sage Creek treatment area.

Social and cultural forces are strong factors in achieving reduction of hazardous fuels. A crucial piece to successful fuels management is in communication and learning. The Salt Lake office has found that it is not just a matter of getting the right information to people. Those people need to engage with, support and learn it for successful implementation.

A primary concern about the Sage Creek project for ranchers was its effect on cattle because new sagebrush growth lowers the water table and forage quality.



Bird's eye view of brush crunching at Sage Creek.

Conservationists were concerned that sagebrush habitats and wildlife are increasingly jeopardized. While developing the Sage Creek project the Salt Lake Field Office hosted numerous open houses to encourage conversation. Interesting discussions were initiated allowing participants to interact, contributing to establishing and maintaining common ground.

The Salt Lake Field Office views conversation as a fundamental medium for decision making through creating, developing and sharing knowledge. Through meetings and open houses they refer to a common ground of shared experiences and past history.

Fuels management is not just a matter of fuel types and appropriate treatments to apply. Successful fuels management strategies, such as the Sage Creek project, are made successful by using research and social factors as key parts of the process.

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South Dakota

Prescribed Burning Program Takes Off

It was an exciting week in September for the Fort Meade Fuels Module and the South Dakota Field Office, as the prescribed burning program successfully completed its 2005 broadcast burning in the Fort Meade Recreation Area.

Since the Fort Meade Fuels Module program began in 2002 steady progress has been made in getting the burning program up and running. The Fort Meade Recreation area lies about one mile southeast of Sturgis, South Dakota. It consists of 6,693 acres of the former Fort Meade Military Reservation and surrounds the Fort Meade Veterans Affairs Medical Center. The recreation area is popular because of its hiking, backpacking and horse riding trails, especially the Centennial Trail which is a favorite among mountain bikers.

The Fort Meade prescribed burn was divided into two units. Unit One was 114 acres of grassland adjacent to the Black Hills National Cemetery, Black Hills National Forest and Interstate 90 corridor. Unit Two consisted of 130 acres of ponderosa pine and bur oak.

The burn plan included four main objectives. First was to reduce hazardous fuel accumulations in the wildland urban interface. With the community of Sturgis and the Fort Meade Veterans Administration Hospital both being right next door, this was an important objective to accomplish to reduce the threat of catastrophic wildfires.

Second was to maintain open park like stands of ponderosa pine. This is important because an open pine stand is healthy while a dense pine stand where fire is excluded promotes disease and is susceptible to insect attack.



Historic rock art within the recreation area.

Third was to maintain and enhance native plant species. Since fire had been excluded it was important to remove most of the old grass and duff layers to help promote native species of plants and grass.

Fourth was to temporarily remove grass and duff layers to improve field conditions for cultural surveys. The Fort Meade Fuels Module has been working with Barry Williams, the zone archeologist in completing these surveys.

The module group is already looking ahead to broadcast burning next year. They are hoping to double the acres they burned this year. As with this year they will look to the assistance of other local fire agencies to help accomplish their burning. They received assistance from the Fort Meade Veterans Administration Fire Department, Sturgis Fire Department, Rapid City Fire Department, Spearfish Canyon Fire Department and the South Dakota State Division of Wildland Fire Suppression.



Maintaining the open park-like stands by getting rid of the smaller one to three inch diameter trees.



Members of the Fort Meade Fuels Module completing the test burn.



Removing the old grass and duff layers.

Colorado

4-Elk/Heckendorf Success Story

In 2005, Colorado's Royal Gorge Field Office received funding from the insect and disease funding pool. Funds were utilized to complete the National Environmental Policy Act planning document, capture and remove beetle infested trees, remove tree severely infected with mistletoe, reduce fuels within two subdivisions and complete light density thinning of overstocked healthy trees. BLM worked closely with the



Before (above) and after (below) treatment photos.



Colorado Division of Wildlife, which leases a portion of BLM lands included in the Heckendorf State Wildlife area. A total of 50 acres of BLM lands were treated over the past two years.

The area was first pre-commercially thinned of trees less than five inches in diameter which were heavily infected with mistletoe. This work was completed with the Buena Vista inmate work crew using chainsaws. Trees were piled, along with past salvage slash left on site in the early 1980's, and natural fuel accumulation for burning under ideal conditions. The area was commercially thinned of trees greater than five inches in diameter which were utilized as saw logs, poles, and fuel wood. Tops



Buck and rail fence build from thinned poles by an inmate crew.

and slash from the commercial activity were piled for future burning. A new buck and rail fence was built with the inmate crew around the parking area, replacing a wire fence nailed to trees. The new fence expanded the parking area making it more accessible for horse trailers.



Wildland urban interface.

California

Recreation Area Visitors Learn Fire Prevention

The Imperial Dunes Recreation Area of BLM's El Centro Field Office provides a setting for some of the best off highway vehicle use opportunity available in Southern California. The mild winter temperatures at the dunes provide an attractive destination for residents throughout the South Coast Fire Management Zone which includes the El Centro and Palm Springs-South Coast Field Offices. The area is home to millions of Southern Californians from Los Angeles County south to the border of Mexico.

During Operation Imperial Dunes, fire staff and mitigation education specialists quickly recognized that winter desert users are not only residents of California's infamous wildland urban interface, but are also summer time recreational campers in private and public campgrounds in California and other western states.

While operating as emergency responders at the dunes, dealing with nuisance vegetation and other fires, specialists noted the high density of motor homes and trailers that annually cause large wildfires along highways. As emergency medical responders, specialists noted the unusual amount of fire play and resultant burn injuries among dune visitors and recognized that this wasn't the usual wildland fire prevention challenge.

Some brainstorming sessions were held



Smokey was a popular figure at the Dunes on President's Day!



Visitors try their hand using a fire extinguisher.

and a decision made to team with the San Diego-Imperial Counties Burn Institute, a burn care and burn prevention education institution in cooperation with the University of California San Diego. The concept was refined, including the participation of the Regional Chief of Fire and Aviation of BLM's California Desert District and the South Cost Zone Division Chief who blessed and encouraged the project.

Combined wildland fire and burn prevention packets were put together at the burn institute and plans developed to incorporate on site fire extinguisher training to draw visitors, and then hold discussion on wildfire and burn prevention. Presidents Day weekend was chosen in the South Imperial Dunes to attract family oriented recreational users.

Apparently word soon got around that the "big guy" would attend! Yes, Smokey Bear himself would be riding shotgun with a specialist to approach individual camps to beg entry in order to spread fire prevention messages.

Nearly all camps are laid out in a wagon train configuration. The well marked high visibility lime yellow Prevention Patrol and the equally well marked burn institute van, both festooned with fire safety messages would stage outside of the camps until cleared to come in. Once invited in the show was on. The burn institute sat up a fire extinguisher burn pan connected up to liquid propane. The BLM Patrol unit filled the pan with water and established a protection line in anticipation of an unplanned event. Each adult member of the camps was invited to extinguish the fire prop with special emphasis on shy or embarrassed participants, much to the laughter of their camp mates. Discussion and Smokey's photograph sessions topped off the event at each camp.

A real hit with the crowd was Smokey Bear and his driver from El Centro Field Office in one of BLM's Rescue Dune buggies. The crowd reaction was surprise and applause.

Over the extended weekend just over 1,000 participants at 50 separate camps had the fire and burn prevention message

brought to them. The Cleveland National Forest assisted BLM with funding and the Student Conservation Association provided for bringing Smokey Bear to life.

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Massacre Rim Petroglyph Fuel Reduction

The Massacre Rim Petroglyphs are located approximately 45 miles east of Cedarville, California, within Washoe County, Nevada. This area also lies within the Massacre Wilderness Study Area. Elevation of the project area is approximately 6,100 feet at the base of a basalt rim approximately 40 feet high. The terrain is rocky immediately adjacent to the rim, but slopes gently downhill towards the meadow located below. Vegetation in the area is dense and includes bitterbrush, big sagebrush, snowberry, currant, and great basin rye. Western juniper is present on site with all stages of growth represented.

The Massacre Rim Petroglyphs are a National Register of Historic Places eligible site. Due to past land management practices and fire suppression there has been an interruption of historic fire return intervals. As a result a build up of fuels, including Western juniper, have accumulated throughout the Surprise Resource Area. In the event of a natural or human caused fire, the petroglyphs may be damaged by smoke or intensive heat. Recent studies at the have shown that petroglyphs exposed to intensive heat exfoliate or "spall," leading to defacement of the elements. In addition, they may be damaged by the accumulation of soot and smoke.

Studies also indicate that when petroglyphs are exposed to intense heat they may exhibit a number of microscopic changes such as fine cracking in the surface of the rock, and a change in the chemical composition of the rock depending on the geologic source of the rock. Damage can also occur from smoke and ash containing plant resins and waxes. The



Photos of Massacre Rim Petroglyphs



Before and after photos of the petroglyph treatment site.



ash containing the resins and waxes adheres to the surface of the rock and when exposed to rainwater, creates a caustic chemical commonly known as lye.

This project is unique as it protects a resource not often protected. The Massacre Petroglyphs are in a remote area an hour and a half travel from Cedarville. The project requires a unique weather window to burn with crews having to wait for a hard freeze with snow to cross the drainage and stay on top of the mud to access the site.

The project reduces the continuity of fuels, and fuel loads adjacent to the petroglyphs by clearing a 30 foot wide fuel break. Larger juniper was limbed up to six feet in height and vegetation selectively thinned 45 feet out from the edge of the fuel break for the purpose of reducing fuel continuity. Cleared vegetation was piled and burned in approved areas during non-fire season in late fall, early spring, or winter. Work was completed by hand using chain saws and hand tools to cut juniper. The vegetation reduction is maintained every few years to ensure that excessive fuels do not threaten the petroglyphs.

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Proactive Stance Helps BLM Neighbors Protect Homes

California's Palm Springs South Coast and El Centro Field Office in the South Coast Fire Management Zone experimented during the 2005 fire season with what appears to be a successful attempt to build goodwill and reduce structural loss due to wildfires.

The South Coast Fire Management Zone of the California Desert District includes more than 100 largely scattered areas of BLM land within Los Angeles, Orange, San Bernardino, Riverside, San Diego and Imperial Counties. This Southern California area is widely known for dramatic fire behavior. What is often overlooked is that historically these fires have burned ranches, homes and communities over generations and serves as a model for things to come across the ever growing western United States.

In the late 1990's the Harmony Grove Fire fanned by Santa Ana winds followed historical fire pathways across former ranchlands. These historically rural ranch lands had become urbanized and landscaped with fuels previously unknown to the area. Fire prevention efforts varied by jurisdiction and were largely ignored by the public. The structural loss was severe with this fire burning to a few miles of the ocean. The FireSafe Council of Greater San Diego County grew from the ashes of this event. An emphasis on defensible space was aggressively pursued and the public was becoming more educated about wildfires.

An agreement was struck between the county fire chiefs association, California Department of Fish and Game and the U.S. Fish and Wildlife Service to allow vegetation management up to 100 feet from structures. This was generally consistent with the findings of Dr. Jack Cohen's USDA Forest Service research of structure ignitability.

In 2002 a couple notified BLM Fire Management that their home was threatened by vegetation on adjacent BLM lands. Prior to this effort a site inspection was made and homeowners told that BLM would do nothing to the habitat lands under their administration. However, in 2005, the fire mitigation



Home in Southern California's wildland urban interface.

specialist with the full support of the fire management scientist sought to change that scenario with a low impact approach to building goodwill and improving fire safety.

A search resulted in finding the Folsom and Redding Field Offices had pioneered efforts in allowing adjacent homeowners to do limited vegetation management on public lands. In meeting to discuss the proposal the South Coast Management Team convened to develop a similar program. A programmatic approach was decided on and the appropriate environmental assessment was done, including all disciplines. The final product would be, as it turned out, a letter of authorization for fire hazard vegetation removal.

The first Letters of Authorization were issued this fire season consistent with soon to be enforced state regulation increasing defensible space from 30 feet to 100 feet. The process involves homeowners requesting a letter, a visit by a mitigation specialist to inspect the site, educate the homeowner about fire prevention, and explain the constraints of the letter. Then review by a biologist, possibly a site visit, and a likely review by the archaeologist. The process notes that a violation of the stipulations in the letter will result in no letter offered at the next request and possible trespass proceedings.

Most responses are very favorable, however in a few cases; homeowners who built next to existing BLM Lands feel BLM should do the vegetation management. Given the many isolated parcels of land and smaller budgets, the resolution is using fire prevention education tools to help homeowners learn to act on their own to reduce risk.

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Alaska

Fire Assistance Programs

Funding any project can be quite a challenge for any organization; yet, there exists successful grant programs that have provided additional monies for many rural or volunteer fire departments in Alaska.

The first opportunity is the Department of the Interior Rural Fire Assistance program that provides funding to enhance the fire protection capabilities of rural and volunteer fire departments through training, equipment purchases, and fire prevention work on a cost-share basis.

A maximum award per project of \$20,000 is available with a required 10 percent match by the recipient. This cost-share match can be money, or from in-kind (non-cash) services

such as covering facility costs for fire training, paying for travel and per diem for personnel to attend courses, or funding administrative costs for purchasing equipment for the program.

The second program is the Volunteer Fire Assistance program that is funded through the state with money from the U.S. Forest Service. This program requires a 50 percent cost-share match from the recipient.

In Alaska, a multi-agency panel administers the selection process including the review of applications and making award selections for both programs. The participating agencies are the Bureau of Land Management Alaska Fire Service, the U.S. Fish and Wildlife Service, the National Park Service, the Bureau of Indian Affairs, and the State of Alaska Division of Forestry.

The process begins early each year when the state Department of Forestry sends letters to communities statewide that are recognized by the Alaska State Fire Marshal's Office as having volunteer or actual fire departments. The letter explains the differences between the two grant programs, the application processes, and how to request funding.

Then in March, the committee meets to review the requests and determines how best to distribute the available funds. This process allows the agencies to work with communities and eliminates any inadvertent double funding between the two programs.

Since the Rural Fire Assistance program began, the BLM Alaska Fire Service has assisted rural or volunteer fire departments in many areas of Alaska through the process. These grants have included funding for a variety of wildland fire needs.

In 2002, a total of \$30,237 was awarded among the Dillingham, Gakona and Tok fire departments for handheld radios, a mobile radio station, personal protective equipment, and firefighting equipment and training. In 2003, a total of \$30,000 was awarded to the Deltana, Galena and Nome fire departments for port-a-tanks, hoses, fittings, and nozzles. During 2004, \$30,000 was awarded to the Anderson, Marshall and Pilot Station fire departments for firefighting training and communications equipment, and last year, the Barbara Heights Fire Department in Seldovia received a \$10,000 grant.

The grants have provided a much needed source of funding for wildland fire training programs and equipment for local rural cooperating departments.

For more information visit the Rural Fire Assistance web site at <http://www.nifc.gov/rfa/>.