BLM Snapshots

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Experiments with Tamarisk Mulch Look Positive

Gardeners have always known the benefits of mulch. Mulch reduces the need for watering because mulch retains moisture during dry and hot weather. It reduces the need of herbicides because it prevents the germination of many weed seeds. Mulch also improves the soil by adding organic matter through decomposition. But does mulch from tamarisk, which secretes toxic levels of salts, make for good mulch?

The BLM Yuma Field Office attempted to answer this question after generating large amounts of chipped tamarisk from hazardous fuel reduction projects. The answer could help open opportunities for stewardship contracting, which would reduce BLM's costs necessary for hazardous fuel reduction and hazardous fuel removal. In addition, mulch from hazardous fuel reduction projects could provide an unlimited supply of mulch for BLM restoration projects.

In 2004, Fred Wong, Wildlife Biologist, witnessed a campground host using tamarisk as mulch for a small, drip irrigation restoration project. Wong was surprised to see the cottonwoods and willows surviving. The salts from tamarisk leaves should have trickled down with the drip irrigation to negatively affect the cottonwood and willow plantings. Wong decided to determine whether this observation was just an anomaly or whether tamarisk could truly be used as mulch without harming plants.

Wong attempted to test this hypothesis at a cottonwood-willow drip irrigation restoration site project along the Colorado River. He randomly assigned and placed six different types of mulches to 122, newly-planted, cottonwood and willow poles. The six different mulch types included: tamarisk (shrub form), athyl tamarisk (tree form), arroweed, phragmites, salivinia (an aquatic weed), cottonwood & willow, and a control (no mulch). The height of each pole was measured in Feb 2006 to establish whether there would be changes in the second measurement to be taken after the growing season. The results of this experiment are still pending. However, a few observations can be noted. First, some cottonwood and willow plants have lived despite having tamarisk as mulch. This may indicate that tamarisk does not harm plantings, but a statistical analysis needs to be performed before making this conclusion. Second, the mulch helps capture irrigation water, and therefore prevents water runoff. Third, mulch that retains moisture has significantly reduced the number of times an irrigator is needed to irrigate the site.

Crews chip tamarisk to create mulch.

Tamarisk mulch covers growing cottonwood in experimental treatment area.

The final results from this study could possibly open the door for stewardship contracting awards, as well as public use of tamarisk chippings for mulch. In the arid southwest, where tamarisk is plentiful and water is scarce, the findings of this study could possibly open a new market for a product that has long been considered harmful to native vegetation.

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Fire Reintroduced into a Unique Hualapai Mountain Ponderosa Pine Stand

On October 18, 2006, the Kingman Field Office conducted a successful prescribed burn in a ponderosa pine ecosystem, igniting 70 acres in the Hualapai Mountains. The treatment area is approximately 11 miles southeast of Kingman and 2.5 miles south of the community of Pine Lake.

"These particular ponderosa pine stands are unique because of their isolated nature and community plant structure which limits the window of opportunity for prescribed fire," said Wade Reaves, fuels management specialist for the BLM in Kingman, Arizona.

The fire removed thick dense accumulations of pine needles and vegetation from under the forest canopy. Low intensity burns are intended to stimulate the expansion of a grassy understory and return fire into the forest ecosystem.

Firefighters monitor low intensity burn consuming the pine understory.

Enhancing the overall health of the forest improves the quality of vegetation for wildlife and supports the resistance of these stands to the invasion of non-native plant species. This burn, in conjunction with other fire and mechanical fuels reduction projects in this area, has reduced the threat of a catastrophic wildfire to the community of Pine Lake, Wild Cow campground, Hualapai Park, and valuable communication sites.

The ponderosa pine stands in the Hualapai Mountains are some of the most significant forested areas managed by BLM in Arizona. Harsh climate conditions relegate the pines to primarily north facing slopes in steep, rough, rocky terrain, surrounded by highly flammable interior chaparral.

Arizona's dry climate, a desert sky-island geography, and the adjacent volatile chaparral fuels limit the opportunities to conduct prescribed burns in the ponderosa pine. The window of opportunity is generally short-lived in the spring and fall. Fire personnel started ignition on a day with near perfect conditions and winds that carried smoke away from populated areas. This is the second of a series of prescribed burns planned for these ponderosa pine stands over the next several years.

Historic fire occurrence and severity information in the Hualapai Mountains is not currently available. An understanding of the degree to which fire has been a part this unique landscape is vital to the BLM and its cooperators as further treatments are completed. This winter, BLM and researchers from the University of Arizona will be studying the tree ring records to identify climate characteristics, fire history, and to ascertain past fire behavior over at least the last five centuries. The findings will be incorporated into planning for future burns that threaten ponderosa pine in the Hualapai Mountains.

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Nevada

Best Use of Available Resources: Bull Hogs and Hand Crews

Whether implementing an urban interface project or protecting a stand of ponderosa pine, the BLM Caliente Field Station in 2006 made best use of all available resources.

Fire Ecologist Kyle Teel said field station personnel attached a bull hog to the front end of a tractor to reduce pinyon and juniper on about 125 acres of public land. This fuels reduction treatment was also successful in creating a 500-foot wide buffer for the community of Acoma, about 15 miles northeast of Caliente.

"The bull hog shredded the pinyon-juniper, leaving the resulting biomass to degrade naturally," Teel said.

The project will help protect residents from the effects of catastrophic wildfire, according to Teel. Teel added that the BLM partnered with the Panaca Volunteer Fire Department to design and mow a 200-foot wide green strip this summer on about 38 acres of private and public lands adjacent to the Panaca community, about 15 miles north of Caliente. The results of this collaborative fuels reduction effort will also help to protect local residents from the effects of wildfire. Fire-resistant grasses will be seeded in the project area as well.

In a separate collaborative project involving hand crews from Nevada and Utah this year, local BLM firefighters remove pinion and juniper trees from ponderosa pine stands on about 200 acres in the Clover Mountains, about eight miles southwest of Caliente, Teel said.

"We want especially to acknowledge the Black Mountain, Lone Peak and Silver State hotshots (Type I hand crews). They were of great assistance," he said.

According to Teel, the roughly 1,000-acre treatment would help protect the health of the Clover Mountain's ponderosa pine communities. Crews also made use of mechanical treatments and will conduct a low-intensity prescribed burn to further reduce fuel loading.

This summer, crews began implementation of a 40-acre tree and brush-thinning project in and around the Elly Mountain Lookout and nearby communications sites atop Elly Peak, about 14 miles southeast of Caliente, to aid in community wildfire protection.

Prescribed Fire Proves Perfect Remedy

Fire is not *all* bad. Prescribed with forethought, fire can aid in small and large-scale landscape restoration and/or fuels reduction efforts.

The BLM Ely Field Office recently completed three such treatments in White Pine County and prescribed fire-use was integral to the success of each of them, according to Fuels Management Specialist Cody Coombs.

"For example, fire enabled us to reduce pinion and juniper composition on a larger number of acres of sage grouse habitat than we could have accomplished using mechanical treatments, and at a cost lower than could have been possible through mechanical means," Coombs said.

BLM Ely firefighter Marcos Escobedo of Panaca ensures that prescribed fire in the Marking Corral Watershed Health and Fuels Reduction Project is maintained in the area where it will be most beneficial for habitat restoration.

The field office's three White Pine County treatments included the Christmas Tree, Marking Corral, and North Spring Valley watershed health and fuels reduction treatments. Crews conducted prescribed fire operations on more than 6,000 of the 9,100-plus total acres treated.

All three treatments were designed to restore and maintain watershed health, reduce the risk from catastrophic wildland fire, and reduce risk of increasing soil erosion rates. They were also intended to help return wildland fire to its natural role in the ecosystem and provide for the diversity of native habitat that will benefit area wildlife such as elk, mule deer and sage grouse, by increasing the understory of forbs and grasses.

Firefighters use a drip torches to ignite vegetation on the first night of prescribed fire, as part of the Marking Corral Watershed Health and Fuels Reduction Project. The first few days of ignition took place during the evening when prescription parameters were met.

At 650 acres, the Christmas Tree treatment located about 10 miles north of Lund, was the smallest of the three treatments. Crews conducted prescribed fire operations on 90 acres. The remaining acres were treated with a Dixie harrow and broadcast seeding.

Fire was prescribed on 1,500 acres of the 1,750-acre Marking Corral treatment, approximately 15 miles west of Ely. Pinion and juniper trees were selectively thinned on 250 additional acres. The project was completed in September.

Prescribed fire was implemented on 4,500 of the 7,000-acre treatment in North Spring Valley, about 45 miles north of Ely. Additionally, this fall and winter, 1,200 acres will be mowed and drill-seeded. Seed will be provided by the Nevada Department of Wildlife, a partner in the treatment. An additional 1,300 acres will be treated with fire, beginning in March or April 2007. North Spring Valley should be completed by the following November.

Marking Corral will be monitored for five to ten years through the Joint Fire Science Program, which will compare prescribed-fire use with mechanical treatments to determine the most effective and economical methods of restoring Great Basin sagebrush communities.

The Joint Fire Sciences Program was established in 1998, and provides scientific information and support for wildland fuel and fire management programs. The program is a partnership of federal agencies that includes the BLM, Bureau of Indian Affairs, National Park Service, U.S. Fish and Wildlife Service, USDA Forest Service, and U.S. Geological Survey.

Other project participants include the Eastern Nevada Landscape Coalition, Rocky Mountain Research Station, USDA Agricultural Research Service, and Utah State University.

Montana

Smokey Bear Award Finally United with its Recipient!

If you have ever tried to get a group of people together for a meeting at a specific time, you likely have found out that this proves to be quite a difficult task. This is especially evident with busier schedules and other things to accomplish. This same scenario proved true when trying to schedule a time to present a Silver Smokey Bear Award to its winner, Cathy Scofield of the Forest Service Region 1 Fire and Aviation Staff in Missoula, MT.

Cathy and Smokey were finally united at the National Interagency Fire Mitigation, Education and Prevention meeting held recently in Phoenix, AZ. Cathy was awarded this prestigious award last April, but her nominators from the Northern Rockies Coordination Group (NRCG) Interagency Fire Prevention Committee were unable to find a common time to present the Bear to her in front of her peers. After several unsuccessful attempts to get the Bear to Cathy, the opportunity to present the award at Phoenix arose and committee members packaged Smokey for the trip to Phoenix. Unfortunately, the airline failed to place the package containing Smokey on the departing flight from Montana. The next flight out was canceled due to weather, so the package was bussed from Butte to Helena where it would catch the next flight. This flight would take Smokey to Salt Lake City, Cincinnati, and finally Phoenix. The well-traveled Smokey arrived safely and found a new home with Cathy.

Representing the NRCG Fire Prevention Committee, Terina Mullen (left) presents the multiple luggage tags from Smokey's trip to Phoenix to Cathy Scofield (right).

Cathy was nominated for her outstanding service in the field of fire prevention across the Northern Rockies multi-state region. Her dedication to fire prevention and education has also had a significant impact on other regions of the United States and overseas. Cathy's work in the field of fire prevention involves many aspects, from tackling national-level issues in the Washington Office of the USDA Forest Service to evaluating the fire prevention program for the Russian Federal Forest Service in Russia's Far East.

Fire prevention is a small part of Cathy's responsibilities; she has gone above and beyond the normal call of duty in support of fire prevention and education programs, particularly in the development of the Northern Rockies Coordinating Group Interagency Fire Prevention Committee. Due to Cathy's committee leadership, one of her greatest accomplishments was the revision of the Northern Rockies fire restrictions and closure process. Her efforts led to workable system, strengthening working relationships with all agencies involved, and streamlining the implementation procedures.

Cathy's work also involves tremendous regional support for existing programs and support for fresh, new thinking. She has worked diligently to integrate fire prevention and education programs into the fire management program as a whole and has been instrumental in the delivery of fire prevention training throughout the region.

Cathy is an untiring spokesperson for the benefits of preventing unwanted wildfires. Cathy's enthusiasm and innovative spirit inspire others to achieve great things. Being able to learn from her has made a difference in the lives and careers of numerous individuals in the fire prevention world. Her ideas, experience and enthusiasm have served as the foundation for fire prevention programs in the Northern Rockies. She goes out of her way to support, assist, and educate new and up-and-coming prevention technicians, providing necessary guidance and leadership. She is a fire prevention mentor and a true professional. And now she finally has her Smokey!

Thinning Project Provides Firewood for Public

This summer the South Dakota Field Office's Fort Meade Fuels Module and the South Dakota Division of Wildland Fire Suppression worked on the first phase of an urban/interface project located on the Fort Meade Recreation Area. The project was designed to reduce the wildland fire intensity in an area adjacent to the Black Hills National Cemetery and private land outside of Sturgis, South Dakota. The project included thinning 35 acres of ponderosa pine and removing large pockets of pine regeneration directly downslope from private land with homes.

The common fuels reduction practice is to thin, pile, and burn all the biomass resulting from these kinds of projects. However, the South Dakota Field Office decided that along with the thinning, piling and burning, the six-inch and larger diameter material would be removed from the project and be offered as firewood to the public. Not only does the public benefit, but the piles burn more quickly and completely when they consist only of limbs and smaller material. The firewood logs were cut into 10 to15-foot lengths, removed from the slope using a skid steer loader, and placed into a log deck in an open field. This allowed the public easy access and plenty of room to pull vehicles and trailers next to the pile for bucking and loading. After the 35 acres were finished, there were about 120 chords of wood available. The field office sent news releases to the local newspapers and provided maps with the purchase of the firewood permits. Since the log deck was located only minutes off of Interstate 90 with easy access, the office received numerous calls for information.

Next summer, the Fort Meade Fuels Module will start working on an additional 30 acres adjacent to the current project, thus increasing the protection of private land from wildfire and providing more firewood for the public.

Project prior to thinning shows the amount of pine regeneration with private homes located just upslope.

Piling leftover slash from thinning project. Logs were limbed and cut into 10' to 15' lengths prior to being hauled down the hill for use as firewood.

A member of the public loading firewood.

Logs that were hauled for use as firewood from the 35 acre thinning project. Project is seen in the background.

Terra Torch Test

On Sunday, October 1, 2006, the BLM fire crews from the Eastern Montana Fire Zone conducted a test burn in the North Pine Area, about 20 miles southeast of Glendive, Montana. The crews were using a new terra torch for the first time. The purpose of the test fire was to observe fire behavior and fire effects under current weather and fuel moisture conditions. Upon completion of the test fire, they determined that there was a high probability of meeting the objectives outlined in the prescribed fire burn plan with the weather predicted the next day.

Fire crews from the Charles M. Russell National Wildlife Refuge, additional BLM employees, as well as West Glendive Volunteer firefighters were called in to assist with the 400-acre burn. The crews arrived the next morning and after an extensive briefing, they began burning. The prescribed fire was conducted safely with great interagency support. Initial assessments resulted in slightly lower than ideal consumption of the targeted Rocky Mountain juniper pockets, but vital information was gathered that will aid in making changes to the burn plan.

Implementation of the North Pine burn was completed due to the great interaction and collaboration between agencies and local firefighting resources. The community assistance agreement with the county allowed for the use of firefighting resources and equipment from the West Glendive Volunteer Fire Department (VFD). The burn experience gained by the VFD will also improve their capability to pursue private land fuel reduction projects within their respective counties.

Firefighters used the new terra torches to implement the prescribed fire treatment.

The 400-acre prescribed fire targeted pockets of Rocky Mountain juniper.