

Snapshots 2004

Highlighting BLM projects that support the National Fire Plan.



June 4

Idaho

Jackass Creek Stand Density Project Reduces Wildland Urban Fire Risk

The Jackass Creek Project is located on 26 acres of public land approximately one mile south of a small unincorporated community near Pinehurst, Idaho. The BLM parcel, along with a parcel owned by the Idaho Department of Lands and other private lands, is located inside a wildland urban interface area.

The area was severely overstocked with an extreme amount of in-growth consisting of thousands of conifer stems per acre. The forest stand also suffered from root disease in the Douglas fir and grand fir, blister rust in the western white pine, and some mistletoe in the western larch. Overstocking also created unacceptable fuel loading both on the ground and from standing dead trees. The area was ripe for a high intensity wildfire capable of moving quickly from the ground into the crowns of the trees.

The purpose of the project was to restore forest health by reducing stocking levels and reducing ground and vertical forest fuels while retaining the large healthy over story component of the forest ecosystem. The long term goal of the project is to return this forest to its historic stocking levels and species mix with 60 to 70 percent of the future forest being

comprised of ponderosa pine, western larch, and western white pine. Three steps were necessary to accomplish these goals.

Step 1 - Retrieve Commercial Value from Forest: A crew from the Coeur d'Alene Field Office established the unit boundaries and a consultant forester selected trees that would remain on-site after the harvesting and fuels treatments. These generally are eight inches in diameter or greater. All large ponderosa pine, regardless of health, were to be retained because of low numbers in this area. In 2001, a timber sale was completed and removed 180 thousand board feet of merchantable in growth consisting mostly of Douglas fir and grand fir, and trees that were dead, dying, and diseased. The trees were hauled to two local mills, one in Coeur d'Alene and one a few miles northeast of Kingston, Idaho. The sale generated approximately \$70,000 to the local community.



The eight ton excavator with rake attachment and boom reach of 25 feet helped in thinning.

Step 2 – Reduce Fuel Loading: In late 2001, a contract was prepared to mechanically reduce vertical and ground fuels on the project area. The contract required leaving any healthy ponderosa pine, western larch, and rust-free western white pine less than eight inches in diameter and cutting and piling all trees, brush, and shrubs over one foot in height. Large woody debris made up of logs over six inches in diameter was left on-site to sustain that portion of the ecosystem that relies on this material for survival.



The untreated area, at left, represents what the area looked like before the Jackass Creek Project was completed. Treated area is shown on the right side.

The contract did not specify how these fuels were to be cut and piled. Instead, it was left open for the contractor to decide how to best meet the terms of the contract. The contractor elected to manually cut the slash and then piled the slash using an excavator equipped with a rake attachment. Work commenced July 16, 2002 and was completed by August 8, 2002. Under burning the unit was not considered an option due to the existing heavy fuel loads which were compounded by the slashing operations so only

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The contractor is shown piling the slash with the use of an excavator.

the slash piles were burned in the fall of 2002.

Step 3 – Ensure Desired Species Mix Survives in the Future: As noted above, one of the long-term goals of the project is to return the forest to its historic species mix and stand density.

In order to control in-growth and build a future forest with the desired species mix, additional management actions will be needed. To assure that sufficient ponderosa pine, western larch, and rust resistant western white pine would be available to select from during future stand thinning operations, these species were planted in the project area during spring 2003.

Following completion of fuels treatment operations, approximately 40 to 50 trees per acre remained. A majority of these trees were 12 inches in diameter or larger. Many trees exceeded 16 inches diameter. It is estimated that the next thinning project will need to be done around 2025. This thinning will probably be accomplished using mechanical means rather prescribed fire because many of the trees that will be selected for

retention will not have achieved the ability to survive a low intensity fire.

Subsequent thinning, starting around 2050, could use prescribed fire to control in-growth because most of the trees to be retained will have achieved fire hardiness. It may be necessary for these later efforts to require additional measures such as pulling fuels away from the base of the trees to protect rust resistant western white pine from the effects of low intensity prescribed fires. It is also anticipated that prescribed burns will be required approximately every 25 to 40 years to control in-growth and prevent the potential for a crown fire.

The Jackass Creek Stand Density Project is a good example of an interdisciplinary effort involving the Coeur d'Alene Field Office staff, to identify a project that will achieve multiple resource goals. Shoshone County cited this project in their *Wildland Urban Interface Fire Mitigation Plan* as an example of "ideal management for reducing fire risk in the wildland urban interface."

Contact: Mark Reeves, (208) 769-5046

Cooperation Lends Successful Mechanical Thinning

Wildland urban interface homeowners in Almo, Conner Creek and Elba, Idaho understand what it means to have fire threaten their homes and livelihood. The fire mitigation plan written for the A.C.E. Fire Protection District specifically addressed individual homeowner needs along with ways to coordinate with South Central Idaho Bureau of Land Management fuels project work. The plan was developed to contain costs and achieve necessary goals to protect life and property. Having been signed



Distant view of the Jackass Creek Stand Density Reduction Project area where the stands were reduced from thousands of conifer stems per acre to the desired species mix at 40 to 50 trees per acre.

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Site shows part of the thinned area in the demonstration project.

by ten private land owners in the area and with all the paperwork finalized by federal agencies, the mechanical thinning treatment specified in the plan is currently getting underway.

With juniper and sage the predominant fuel type in the Almo, Conner Creek, and Elba area, mechanical treatment was clearly seen as the most effective fuels treatment method. Juniper encroachment is a high priority issue in the Burley Field Office and BLM fuels specialists recommended a mechanical thinning for the adjacent Jim Sage area surrounding these rural communities. With both private and federal funds involved, Nordstrom Mechanical of Kingston, Idaho was contracted to thin juniper on 1,400 public and private acres with a specialized machine that could grind the trees into mulch.

Stage one of the project is currently near completion. The thinning machine was recently on site around private property to do a demonstration

for surrounding private land owners, showing specifically what would be occurring on their own property this fall. Approximately 35 residents watched as the machine seemed to effortlessly create survivable space around the demonstration home. A second demonstration will occur in the near future to give all residents throughout

the valley a chance to observe the results.

Beyond creating survivable space for homeowners, south central Idaho BLM fuels specialists will work in conjunction with Nordstrom to perform a more encompassing treatment to achieve a 50 to 70 percent canopy reduction of junipers in the nearby Jim Sage Mountains. Before beginning the actual thinning, a seeding treatment will be conducted to plant grasses and forbs. The mulch that will result from the mechanical



The contractor did work on both public and private land, stretching the use of funds.

treatment will then provide a moist groundcover to the perennial mix that will postpone the fire season by providing a longer green period.

Due to the cooperation of private homeowners seeking survivable space and BLM specialists aiming to improve range health, contracting funds were maximized by using a single contractor for both needs. Success will come not only in the short term view of conservation, but also as homeowners look around and know that the next time they see smoke in the distance, their homes can be protected.

Contact: Sky Huffaker, (208) 732-7307

Alaska

Duff Moisture in Thinned Black Spruce Helps Predict Fire Behavior

Almost 80 percent of the human population in Alaska currently lives in a wildland urban interface surrounded by black spruce, an extremely flammable fuel type. Shaded fuel breaks, constructed by thinning tree stands, have been utilized throughout Alaska as a proactive fire mitigation tool. They are designed to enhance suppression efforts and reduce crown fire potential by modifying surface fuels. Alteration of the surface fuels, including the moss, could have pronounced effects on fire behavior.

Black spruce stands can be very dense and burn frequently. Dead branches extend to the ground and create a highly flammable ladder from the surface into the treetops that may result in crown fires.

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Thick black spruce surrounds the Alaska Native village of Tanacross.

A study was conducted in interior Alaska to determine the effects of thinning on duff moisture content and relate it to predicted fire behavior. Duff is made up from moss and decomposing organic material.

Data was collected from two study sites and one fuels project where shaded fuel breaks had already been created. Of the two study sites, one



BLM's Jennifer Hrobak at work collecting duff samples in a hazardous fuel reduction area.

was near the Delta Junction State Bison Range, and the second on Toghothlele Native Corporation land near Nenana, both located in Joint Fire Science Boreal Forest Fuel Demonstration Projects. The third site, in the native village of Tanacross, was part of a wildland urban interface hazardous fuels reduction project conducted jointly by the Alaska Fire Service and Tanacross village.

The treatment consisted of areas that were thinned to ten-foot spacing between trees, which were also pruned to a height of four feet. Duff moisture was sampled at the end of July, 2003, using a Campbell Scientific Duff Moisture Meter-600, a recently developed field instrument. The moss was found to be significantly drier in treated areas versus areas that had not been altered. The Fire Weather Index, a Canadian system that provides relative numerical ratings used to predict wildland fire potential values were also significantly higher in thinned plots. This means a higher ignition potential, faster rate of spread, and longer duration of duff consumption could be expected.

However, fire behavior is not the only factor that determines the effectiveness of shaded fuel breaks. They are important from the management perspective. Without fuel breaks, it may



Fire behavior in a black spruce stand.

be difficult to use ground suppression techniques. Also, dense vegetation may prevent retardant from reaching the ground surface fuels. Therefore, shaded fuel breaks are not necessarily meant to stop an oncoming fire, but create an area of defensible space from which suppression resources can implement tactics which may have a higher potential for success.

The overall conclusion was that fuel moisture studies will help managers understand more about fire behavior in areas that have been thinned. This information will influence fire management decisions and increase awareness of potential changes in fire danger within shaded fuel breaks

Contact: Jennifer Hrobak, (907) 356-5864 or Maggie Rogers, (907) 356-5511

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BLM Teams Up With U.S. Army

BLM's Alaska Fire Service Military Zone office took advantage of spring weather conditions to conduct prescribed burns on five different military training areas. The Military Zone manages fire suppression on U.S. Army Alaska lands throughout the state. Part of the zone's responsibility is to be proactive in fuels management to reduce the risk of ignition during military training exercises.

Fuel reduction on the training ranges benefits BLM, the military and wildland urban interface communities adjacent to military lands. Cost effective prescribed fires prevent catastrophic wildfires and reduce the risk to surrounding communities. Fuels reduction projects increase military training days allowed on live fire ranges.

The projects ranged from smaller, regularly occurring maintenance fires to large, less frequent, burns. Two burns were conducted simultaneously on Fort Richardson, northeast of



Prescribed burning on the Malemute drop zone near Fort Richardson, Alaska.



BLM firefighters use drip torches on the Army's Grezelka small arms range.

Anchorage. The purpose was to not only reduce the chance of wildfire, but to provide a safe range for more realistic combat training. A total of 115 acres were burned on the complex, including 15 acres on Grezelka, the small arms range, and 100 acres on the Malemute Drop Zone. In Fairbanks, just southeast of Fort Wainwright, 550 acres were burned on the small arms range.

Two prescribed fires took place west of Ft. Greely, near Delta Junction, an area with large aircraft and personnel training ranges. The Texas Range burn consumed 1,122 acres. Aerial ignition on the Oklahoma Range resulted in a 300-acre black line that is the beginning of a 48,000-acre burn planned for the range. The zone plans to continue burning the remaining acreage when the weather permits and resources are available.

Utah

Planting the Seed at Home and Garden Show in Ogden

Sandwiched between construction developers and landscape architects an interagency *Living with Fire* booth was set up at the Ogden Home and Garden Show the weekend of March 12-14.

Fire personnel from the Forest Service, Forestry, Fire and State Lands and BLM staffed the booth and offered homeowners materials and ideas on how to reduce risk of wildfire to personal and community property. The Weber County Fire Warden, Cary Jenkins, also offered to conduct personal risk assessments for interested citizens.

Ogden proved a prime location to offer *Living with Fire* information. Staff specialists discovered many of the booth visitors were concerned homeowners that have second homes or cabins in the nearby wildlands. Many of the cabins have been in families for generations. Fire awareness has been heightened in recent years due to high fire activity that literally came knocking on owner's backdoors.

On paper the resource value of these cabins may not be considered significant, but from descriptions by owners, the emotional and sentimental value was above measurement. It was not uncommon to hear during the *Living with Fire* event such responses as, "My great, great grandfather built.....we could never replace it."

Slowly but surely it seems local residents are realizing that they need to take some proactive steps to protect their property.

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Quick Start for Park Valley Community Fire Plan

Community fire planning has been the focus for the wildland urban interface fuels crew at the Salt Lake Field Office since the start of the year.

BLM's Salt Lake Field Office has found the most successful scoping efforts take place through community meetings. Issues identified by local people in the early stages of the planning process assist in choosing the methods, size and type of treatment best suited for communities at risk from wildfire.

An informal residents forum in Park Valley, Utah helped identify two distinct local population and property demographics to deal with. One is a subdivision with five to ten acre lots, retirement homes, some absentee landowners, and an established homeowner's association.

The other is farmers and ranchers just a few miles up the main street in the same community, most with larger acreage which will require more extensive treatment projects. Land treatments took precedence above structure protection on the priority list for ranchers.

The discussion brought out the practical reality that ranchers have the equipment such as tractors and bulldozers to carry out projects on personal and community property. Discussion was stimulated regarding the possibility of the subdivision contracting the ranchers up the street to assist with fuel reduction efforts.

In late May, BLM's Salt Lake office, Forestry, Fire and State Lands sat down at the table again, this time over a pot-luck luncheon to start writing the community fire plan. Citizens, federal and state agencies unanimously decided to develop two different fire plans for one community in order to adequately mitigate wildfire hazards.



Local citizens in Park Valley, Utah meeting to organize community fire planning.