

Files\BLM_2015_08_Jaca Reservoir ESR DM - § 1 reference coded [1.31% Coverage]

Reference 1 - 1.31% Coverage

My decision is issued under 43 Code of Federal Regulations (CFR) § 4190.1(a), which states: Notwithstanding the provisions of 43 CFR 4.21(a)(1), when BLM determines that vegetation, soil, or other resources on the public lands are at substantial risk of wildfire due to drought, fuels buildup, or other reasons, or at immediate risk of erosion or other damage due to wildfire, BLM may make a rangeland wildfire management decision effective immediately or on a date established in the decision.

Files\BLM_2015_09_Leslie Gulch ESR DM - § 1 reference coded [1.24% Coverage]

Reference 1 - 1.24% Coverage

The Leslie Gulch fire burned approximately 7,851 acres on Vale District BLM (see Map 1) lands, approximately 634 acres of privately owned land, and 195 acres of Bureau of Reclamation lands. The Leslie Gulch fire was started by lightning on June 28, 2015. Moderate winds and very dry fuels allowed the fire to escape initial attack. The fire was contained on July 3, 2015. The fire burned portions of the Leslie Gulch Area of Critical Environmental Concern (ACEC), Slocum Creek and Honeycombs Wilderness Study Areas (WSAs), and the Spring Creek Fenced Federal Range (FFR) pasture which is within the Three Fingers Allotment.

Files\BLM_2015_12_Dry Gulch ESR DM - § 1 reference coded [3.12% Coverage]

Reference 1 - 3.12% Coverage

Based on analysis and input from my staff, it is my final decision to implement the treatments as listed in the Dry Gulch ESR plan. This decision is effective immediately due to the immediate risk of erosion and the threat to wildlife, specifically the likelihood of the loss of mountain shrub habitat to invasive annual grasses if they are not treated. My decision is issued under 43 Code of Federal Regulations (CFR) § 4190.1(a), which states: Notwithstanding the provisions of 43 CFR 4.21(a)(1), when BLM determines that vegetation, soil, or other resources on the public lands are at substantial risk of wildfire due to drought, fuels buildup, or other reasons, or at immediate risk of erosion or other damage due to wildfire, BLM may make a rangeland wildfire management decision effective immediately or on a date established in the decision.

Files\BLM_2016_01_Windy Ridge DM - § 1 reference coded [0.66% Coverage]

Reference 1 - 0.66% Coverage

The Windy Ridge Complex Fire was ignited by lightning on August 10, 2015. Thunderstorms and low fuel moistures contributed to conditions that allowed the fire to escape initial attack and consume 103,791 acres.

Files\BLM_2016_02_Bendire Complex ESR DM - § 1 reference coded [1.46% Coverage]

Reference 1 - 1.46% Coverage

The Bendire Complex was ignited by lightning on Monday, August 10, 2015. The fire began as two small fires, Pole Gulch (450 acres) and Bully Creek (45 acres). On Tuesday, August 11, 2015, the two fires grew together forming one fire and became the Bendire Complex and totaled 49,628 acres. Weather at the time of ignition was hot and dry with temperatures in the area ranging from the mid-80s to 100-degrees Fahrenheit since August 1, 2015 with no measureable precipitation over the month prior.

Files\BLM_2016_05_Bendire Complex ESR Invasive Plan DM - § 1 reference coded [0.86% Coverage]

Reference 1 - 0.86% Coverage

On Monday, August 10, 2015, two small wildfires, Pole Gulch (450 acres) and Bully Creek (45 acres) ignited.

On Tuesday, August 11, 2015, the two fires grew together forming one fire and became the Bendire Complex. At the time of containment, the Bendire Complex burnt a total of 49,628 acres. Weather at the time of ignition was hot and dry with temperatures in the area ranging from the mid-80s to 100-degrees Fahrenheit since August 1, 2015 with no measureable precipitation over the month prior.

Files\BLM_2016_10_Juntura Complex ESR DM - § 2 references coded [3.66% Coverage]

Reference 1 - 2.16% Coverage

Native Aerial Seeding for Weed Prevention (Native Seeding Maps): Aerial seed a native grass seed mix to assist in stabilizing soils, most importantly, prevent the increase in invasive annual grasses on the 622 acres of BLM managed lands that burned in an area that is most susceptible to erosion. The seed mix would include bluebunch wheatgrass, Sandburgs bluegrass and bottlebrush squirreltail. Emergency Stabilization aerial seeding on the Simmons Gulch fire would occur between October 2016 through December 2016 depending on seasonal precipitation and weather conditions. Seeding is proposed for these acres due to the fire burning in the upland canyon of the Squaw Creek drainage which could potentially increase erosion and sedimentation downstream. Due to the slope, rocky terrain and access routes, aerial seeding is the only available option for these acres. The entire native aerial seeding for weed prevention is proposed in the Squaw Creek Wilderness Inventory Unit.

Reference 2 - 1.50% Coverage

Native Aerial Seedings (Native Seeding Map): Approximately 3,620 acres on Simmons Gulch and 6,291 acres on Sheep Rock are proposed to be aerial seeded following imazapic treatment. Both areas would be aerial seeded with bluebunch wheatgrass, Sandbergs bluegrass, bottlebrush squirreltail and perennial forbs. The terrain is rocky and steep, therefore, not conducive for drill seeding. Aerial seeding is planned to begin in early Fall 2017 following application of imazapic. If the imazapic treatments reduce invasive annual grasses by 80-90%, and regrowth of existing perennial grasses and forbs occur, the total proposed seeding acres would be reduced to appropriate sizes.

Files\BLM_2016_10_Juntura Complex Invasives Plan DM - § 1 reference coded [0.89% Coverage]

Reference 1 - 0.89% Coverage

The Juntura Complex burned rapidly because it was enabled by above-average and continuous fuel loading within and adjacent to the areas burned. Portions of the fire that normally would not sustain fire carried the fires with high winds and dry fine fuels. Annual grass was abundant and tall enough in the fire areas to carry the fires through the sagebrush. Topography varied from flat plateau tops, steep side slopes and valley bottoms. Rocky fields are common especially along ridge lines.

Files\BLM_2016_10_Owyhee Canyon and Rim Invasives Plan DM - § 1 reference coded [0.71% Coverage]

Reference 1 - 0.71% Coverage

The progression of the Owyhee Canyon Fire was facilitated by above average and continuous fuel loading in the fire perimeter. Areas that normally would not sustain fire were burned due to high winds and dry fine fuels. Annual grass was abundant and tall enough in the fire area to carry fire through the sagebrush. Topography varied from flat plateau tops, steep side slopes and valley bottoms.

Files\BLM_2017_07_Malheur Sage Grouse Project DM - § 2 references coded [1.01% Coverage]

Reference 1 - 0.22% Coverage

Forested stands in the Project Area were historically dominated by large, fire-resistant ponderosa pine and

lesser amounts of Douglas-fir at higher elevations and on north-facing slopes. Today,
NW Malheur EA Decision Record 1

the understory and middlestory of these stands are crowded with fire-intolerant, small-diameter trees, and canopies are often in closed conditions.

Reference 2 - 0.79% Coverage

Between 1870 and 1900, rapid increases in western juniper stand establishment within sagebrush-steppe plant communities throughout eastern Oregon coincided with the onset of favorable climatic conditions, major changes in land-use patterns, and decreases in fire frequency and intensity. Fire return intervals in mountain big sagebrush/bunchgrass plant association groups varied between 15 and 25 years prior to Euro-American settlement (Miller & Rose, 1999). Increasing the distribution and density of juniper within shrubland and grassland ecosystems dramatically impacts biodiversity, hydrologic cycles, fauna, and nutrient cycling (Bates, et al., 1999). The most frequently cited cultural factor in the historic expansion of juniper were the introduction of sheep and cattle grazing at the end of the 19th century. Prior to the Taylor Grazing Act in 1934, many federal and unclaimed lands in the American West were heavily overgrazed as stockmen competed for a deteriorated public range (Foss, 1960). Unregulated livestock grazing resulted in removal or reduction of herbaceous fine fuels from the understory of shrubland plant communities, thereby reducing fire frequency, intensity, and extent of areas burned. Fire suppression also contributed toward a trend of fire exclusion as tactics and technologies advanced over time.

Files\BLM_2017_09_Bowden ESR DM - § 1 reference coded [2.09% Coverage]

Reference 1 - 2.09% Coverage

The Bowden Hills fire was ignited by lightning the evening of July 24, 2017. The majority of the fire was wind driven on ignition through light flashy fuels. Fire intensity was greatest in rocky outcrops and drainage areas where heavier fuel loads of dead brush were present. Lower mortality and less severity burns were in areas where the fire was backing down the northern hillsides, and/or where fire activity took place during nocturnal hours. The areas of greatest intensity appear in drainages, chutes, and chimneys where there was a funneling effect concentrating heat. The Bowden Hills Fire was contained on June 25th, totaling 16,765 acres, 16,742 Vale District BLM administered lands and 23 acres of private land, located approximately 7 miles east of Basque Station.

Files\BLM_2017_09_Cherry Road ESR DM - § 1 reference coded [1.08% Coverage]

Reference 1 - 1.08% Coverage

The Cherry Road Fire was ignited by unknown causes on the afternoon of August 21, 2016. Strong winds and dry fuels allowed the fire to escape initial attack. The Cherry Road Fire was contained on August 28, after burning a total of 35,308 acres. Of the those acres burned, 34,140 acres are in Vale District BLM administered lands, 351 acres are on private land and 817 acres are on Bureau of Reclamation lands.

Files\BLM_2017_09_Hawk Fire ESR DM - § 1 reference coded [1.70% Coverage]

Reference 1 - 1.70% Coverage

The Hawk fire was ignited by lightning on July 27, 2017. The fire was wind driven to the northwest. The continuous fuel load provided sufficient conditions for the sagebrush, invasive annual grass, and other vegetation to burn. The burn was patchy and low in intensity with the exception of small areas of higher intensity due to dense Wyoming big sagebrush. The Hawk fire was contained on July 28, 2017. All 1,432 acres of the fire are designated as Priority Habitat for sage-grouse and are within the Cow Lakes Priority Area for Conversation (PAC).

Reference 1 - 2.13% Coverage

The Currey Canyon Fire was human caused and ignited on the morning of July 14, 2018. The majority of the fire was wind and steep terrain driven through dry fine flashy fuels. Fire intensity was greatest immediately around dead and down juniper and strips of grass/herbaceous fuels. The areas of greatest intensity appear in drainages, chutes, and chimneys where there was a funneling effect concentrating heat. The fire burned into steep, rocky topography with drainages and ridgelines leading into the Malheur River Canyon. The fire was contained the evening of July 17. The Currey Canyon Fire burned 2,805 acres of BLM, 228 acres of Department of Energy, and 178 acres of private for a total of 3,211 acres.

Reference 1 - 0.29% Coverage

There are approximately 17,000 citizens residing within the BFPD. The District is approximately 99 square miles with 46 miles encompassing the WUI study area. This area includes a ½ mile buffer beyond the District boundaries in the interface zone. The interface areas of the District were divided into 10 communities. Five of the 10 communities are located within the foothills. The areas within each community represent certain dominant hazards from a wildfire perspective. Fuels, topography, structural flammability, availability of water for fire suppression, egress and access difficulties, as well as other hazards both natural and manmade, are considered in the overall hazard ranking of these communities. The hazard assessment identified three of the ten communities in the study area to be very high hazard areas. Under extreme burning conditions, there is a likelihood of rapid increases in fire intensity and spread in these areas due to steep topography, fast burning or flashy fuel components and other topographic features that contribute to channeling winds and promotion of extreme fire behavior. These areas may also represent a high threat to life safety due to poor egress, the likelihood of heavy smoke, heat, and/or long response times.

Reference 2 - 0.06% Coverage

The USDA Forest Service fire regime and condition class evaluation of forest stands in the study area shows that historic fire regimes have been moderately altered. Please see the Fire Regime and Condition Class section of this report for details.

Reference 3 - 0.22% Coverage

Deriving FRCC entails comparing current conditions to some estimate of the historical range that existed prior to substantial settlement by Euro-Americans. The departure of the current condition from the historical baseline serves as a proxy for probable ecosystem effects. In applying the condition class concept, it is assumed that historical fire regimes represent the conditions under which the ecosystem components within fire-adapted ecosystems evolved and have been maintained over time. Thus, if it is projected that fire intervals and/or fire severity have changed from the historical conditions, then it would be expected that fire size, intensity, and burn patterns would also be subsequently altered if a fire occurred. Furthermore, if it is assumed that these basic fire characteristics have changed, then it is likely that there would be subsequent effects to those ecosystem components that had adapted to the historical fire regimes.

Reference 1 - 3.06% Coverage

Community Risk Assessment The purpose of the community risk assessment is to help to prioritize areas for treatment and identify the highest priority uses for available financial and human resources. This section is divided into five areas of concern: • Fuel Hazards – An evaluation of vegetation conditions within the

community and on adjacent lands.

included are: □ Larimer County Wildfire Safety Program – Subdivision Wildfire Hazard Review □ Larimer County Fuel Hazard Map

Files\\Buckskin Heights_2014_CWPP - § 6 references coded [2.62% Coverage]

Reference 1 - 0.23% Coverage

In recent years, Colorado has experienced numerous droughty periods. This contributes to high fire danger. Combining dry weather with extreme fuel hazard adds up to a ‘matter of time’ situation when catastrophe hits. Preparedness is the only solution to combat climatic realities.

Reference 2 - 1.02% Coverage

Natural Fire Hazards – Fuels in the area vary between the east and west facing slopes, and to a lesser degree from south to north. On most of the eastern flank of the neighborhood below 7,000 ft elevation, grasses and brush dominate the vegetation component. Throughout the western aspect of the community and above 7,000 ft elevation, ponderosa pine trees have become established. Truly at the lower extents, this is a fringe community transitioning from grasslands to marginal forestland. A conservative estimate of site quality would be less than 50 feet in height development at 100 years old. At such poor site indices, ponderosa pine has trouble expressing dominance. Thus, self-thinning and pruning does not occur. Rather, without natural intervention via fire or human activity such as mechanical thinning, stands tend to stagnate. Interspersed amongst the pine are fire-flashy Rocky Mountain juniper trees. They are characterized by thickets of stems with crowns extending the full length of their boles. This is a very tenuous situation if wildfire were allowed to burn. Tall prairie grasses reside along most of the roadways. During dry seasons of the year, this material would ignite quickly, carrying wildfire throughout the community.

Reference 3 - 0.16% Coverage

In addition to the mistletoe proliferation, the community has been infested with the mountain pine beetle. As a result, there are many dead ponderosa pines, posing an additional safety issue.

Reference 4 - 0.69% Coverage

History – Up until approximately 80 to 100 years ago, fire occurrence within this area varied from approximately 10 to 25 years. It is speculated that this area may have been permanently maintained as grassland, at least on the south and east aspects at lower elevations. Most Buckskin Heights ponderosa pine trees are 80 years old. There are few fire scars on the younggrowth trees; fire scars that have been found exist on old remnant trees. This indicates a history of open grass meadows that were perpetuated by frequent wildfires. Another possibility was that stand-replacement fires totally denude the existing landscape, requiring many decades if not centuries to restore the forest. Recently, most wildfires have been suppressed, causing a greater proportion of young trees and denser vegetation with fewer interruptions in fuel continuity.

Reference 5 - 0.29% Coverage

Risk – Since fire suppression has been a longtime policy within this community, there are few places on the landscape where fuel density, fuel continuity, and fuel loads have not increased. Therefore, the probability for a large wildfire has gradually increased over the years especially during drought years or when the weather is hot and the fuels are dry.

Reference 6 - 0.23% Coverage

Risk – Because of the natural fuel continuity, steep slopes, and limited access, the community would be very difficult to protect in the event of a wildfire under very high or extreme fire danger conditions. The common

and intrinsic values identified by the residents would be in jeopardy

Files\\Cherokee Meadows_2007_CWPP - § 1 reference coded [0.99% Coverage]

Reference 1 - 0.99% Coverage

Fuel Hazards – An evaluation of vegetation conditions within the community and on adjacent lands. included are: □ Larimer County Wildfire Safety Program – Subdivision Wildfire Hazard Review □ Larimer County Fuel Hazard Map

Files\\CherokeeMeadows_2012_CWPP - § 1 reference coded [1.24% Coverage]

Reference 1 - 1.24% Coverage

Colorado has experienced some of the most severe drought conditions in history. This combined with the unprecedented pine beetle epidemic add to the vulnerability of the area to experience a large scale fire. Over the past 10 years, numerous wildfires have occurred in Larimer County; but most notable is the increase in size and intensity of wildfires. The recent Hewlett Gulch, Picnic Rock, Stuart Hole and High Park Fires were all near the CWPP Southern border. During this same 10 year time frame, the CMRA area experienced one structure fire and several lightning-caused wildfires, along with multiple fires related to careless human activity. Fortunately, all fires were aggressively and quickly responded to by LFPD, and none of these fires exceeded 30 acres in size.

Files\\Crystal Lakes_2008_CWPP - § 2 references coded [1.49% Coverage]

Reference 1 - 0.65% Coverage

Fuel Hazards – An evaluation of vegetation conditions within the community and on adjacent lands. included are: □ Larimer County Wildfire Safety Program – Subdivision Wildfire Hazard Review □ Larimer County Fuel Hazard Map

Reference 2 - 0.85% Coverage

Develop Crystal Lakes Firewise Management Plan 1. Plan mitigation and develop priorities for treatment of all public & private lands a. Defensible Space
b. Construction Materials c. Safety Zones
d. Defensible Profile Thinning, and Prescribed Fire (National Forests) e. Mountain Pine Beetle

Files\\Denver Post_2010_09_Foothills fire danger extreme - § 1 reference coded [19.06% Coverage]

Reference 1 - 19.06% Coverage

People are blamed for the blazes that raced through foothill communities west of Boulder and Loveland, but it was a month of exceptionally dry and hot weather that allowed the fires to happen.

Precipitation in the foothills over the past 30 days totaled only 25 percent to 50 percent of average for this time of year, said federal fire meteorologist T im Mathewson. Temperatures were 2 to 4 degrees higher than average.

Humidity levels, normally about 20 percent at day and 50 percent at night during this driest month of the year, plunged as low as 5 percent.

And the conditions that primed the foothills for the Fourmile Canyon fire west of Boulder and the Reservoir Road fire southwest of Loveland - both blamed on slash burns that flamed out of control - have not improved. "The fire conditions haven't changed at all. The likelihood that we will get a large fire remains elevated," said Mathewson, who works at the Rocky Mountain Area Coordination Center in Lakewood. "The only wild card is ignition."

As the humidity drops below 15 percent, fuels dry out, pushing the risk of wildfire into the very high to

extreme category, said National Weather Service meteorologist Dan Leszczynski.

Files\\Denver Post_2010_09_Reservoir Road Fire weather crews battle looking very good - § 1 reference coded [2.49% Coverage]

Reference 1 - 2.49% Coverage

Still, there is little or no moisture in the forecast for the near future.

"There doesn't look like much for the next several days, and maybe just a chance on the weekend," she said.

Files\\Denver Post_2010_09_Reservoir blaze began as slash fire - § 1 reference coded [1.16% Coverage]

Reference 1 - 1.16% Coverage

Monday's weather, though dry, was not windy and helped firefighters keep the blaze in check.

Files\\Denver Post_2010_10_Park cites benefits of slow fire - § 1 reference coded [3.88% Coverage]

Reference 1 - 3.88% Coverage

High winds pushed the fire toward the east, threatening structures and communities that lie just outside the park's boundaries. Both Estes Park and tiny Glen Haven were in its path, Lewelling said.

Files\\Denver Post_2011_04_Crews try to contain Crystal Fire - § 1 reference coded [12.35% Coverage]

Reference 1 - 12.35% Coverage

But they worried that heavy winds overnight could breathe new life into the wildfire, which has already destroyed 15 homes. Winds gusted to 40 mph in the afternoon, grounding three helicopters that were dousing the flames.

"If those winds blow, this could be breathing fire once again," Larimer County Sheriff Justin Smith said.

Files\\Denver Post_2011_04_Crystal fire put out after 11 days - § 1 reference coded [16.13% Coverage]

Reference 1 - 16.13% Coverage

The fire in thick pine stands and dry grass on private property and public lands in the Roosevelt National Forest was fed by high winds. Fire restrictions enacted in the Arapaho and Roosevelt national forests remain in effect. Joey Bunch, The Denver Post

Files\\Denver Post_2011_04_High winds to return to fire area - § 2 references coded [5.81% Coverage]

Reference 1 - 4.43% Coverage

Winds up to 90 mph blew up the fire from about 20 acres Saturday night to more than 2,000 by Sunday morning, then to the current 3,200 acres that evening, down from earlier estimates. The fire was stable but smoldering in heavy pine timber Monday, officials said.

Reference 2 - 1.39% Coverage

"Any place, given these dry conditions, is a fire-prone area this year," he said.

Files\\Denver Post_2011_04_Hundreds flee blaze - § 1 reference coded [3.62% Coverage]

Reference 1 - 3.62% Coverage

Though the fire was deemed a "minimal threat" Sunday evening, Nick Christensen, executive officer of the Larimer County Sheriff's Department, said residents in the community will have to remain vigilant, as wind and drier, warmer temperatures return today.

Files\\Denver Post_2012_05_Evacuations eased for blaze near Fort Collins - § 1 reference coded [5.81%

Coverage]

Reference 1 - 5.81% Coverage

A thunderstorm rolled through Thursday afternoon, kicking up winds that changed direction rapidly and kept helicopters and tankers from dropping water and retardant on the fire.

"Today's weather makes fighting the fire much more complex," said U.S. Forest Service spokeswoman Jackie Parks. "This wind and these weather conditions are not helpful."

Files\\Denver Post_2012_05_Wider evacuation alert issued for Hewlett Fire near Fort Collins - § 1 reference coded [4.48% Coverage]

Reference 1 - 4.48% Coverage

"Erratic, shifting winds have caused some growth today," the Forest Service said. "Persistent winds are expected tonight with winds out of the west 10-15 mph and gusts up to 25 mph."

Files\\Denver Post_2012_06_112 homes were lost in early days - § 3 references coded [7.25% Coverage]

Reference 1 - 2.23% Coverage

At 54,230 acres, the High Park fire now is the third-largest in recorded Colorado history behind the devastating Hayman fire at 137,760 acres and Missionary Ridge, at 71,739 acres. Both occurred during the drought of 2002.

Reference 2 - 3.33% Coverage

Dave Lipson, a fire-weather meteorologist assigned to the High Park effort, said winds from a brief thunderstorm Friday fed the blaze, much more than the brief shower dampened it.

Storms are expected to move out Sunday, leaving "another hurdle for us to jump" on Monday and Tuesday, with dry weather and wind gusts up to 50 mph, he said.

Reference 3 - 1.68% Coverage

The terrain near the Glacier View spot fire is extreme, with many steep pitches and gullies. Fire fuels are abundant, including large patches of beetle-killed timber.

Files\\Denver Post_2012_06_Attack plan leans on 1910 technique new technologies - § 1 reference coded [3.24% Coverage]

Reference 1 - 3.24% Coverage

"This fire, ... we got a mess. It's so doggone big," said Bill Hahnenberg, the Type 1 incident commander leading the battle against the High Park fire, explaining his attack on the blaze, which seems to be spreading in every direction in tinder-dry forest.

Files\\Denver Post_2012_06_Blazes temps stoke fears - § 3 references coded [15.53% Coverage]

Reference 1 - 3.78% Coverage

On the hottest day of the year so far, wildfires erupted throughout Colorado on Saturday, producing fast-moving fires that burned down homes in Estes Park, forced evacuations in Colorado Springs and shut down state highways in southern Colorado.

Reference 2 - 1.84% Coverage

Firefighting officials are girding for more of the same as a hot and dry weather pattern likely won't lift until midweek.

Reference 3 - 9.91% Coverage

Relative-humidity levels were near zero Saturday, drying trees and grasses to tinderbox-like conditions. High temperatures hovered above 100 degrees. And even the slightest wind could blow a spark into a raging fire. Fire managers use the "Haines Index" that takes into account temperatures and moisture content to determine the fire potential on a scale of 1 to 6, with 6 being the worst possible conditions for large fire growth.

Saturday was a "super 6." Today is expected to be the same, Segin said.

"We have got a couple of critical fire days ahead," he said. "It is going to be very active. We haven't had a fire season this bad since certainly 2002."

Files\\Denver Post_2012_06_Colorado Wildfire More homes burn in High Park Fire - § 2 references coded [7.51% Coverage]

Reference 1 - 5.54% Coverage

LARIMER COUNTY A resurgent High Park fire, already the most destructive in state history, consumed even more homes Friday, as hot weather and high winds allowed the blaze to rage northward.

A spot fire sprung from wind-blown embers that shot out of the main blaze erupted north of the Poudre Canyon, prompting the Larimer County Sheriff's Office to issue 998 new evacuation notices for homes. By late afternoon, officials said the spot fire had grown to perhaps 2,000 acres. That additional acreage pushed the High Park fire -- at more than 70,000 acres -- close to becoming the second-largest in state history, behind only the Hayman fire.

Reference 2 - 1.97% Coverage

Weather throughout the weekend is expected to continue to favor the fire, with high temperatures and low humidity. Those kinds of conditions make it dangerous for firefighters to even stand up to the blaze, much less push back.

Files\\Denver Post_2012_06_Dry heat fuels blaze residents evacuated - § 1 reference coded [2.97% Coverage]

Reference 1 - 2.97% Coverage

High temperatures and winds gusting up to 30 mph in Larimer County on Saturday afternoon fanned the flames and made fighting the blaze difficult.

Nick Christensen, executive officer for the Larimer County Sheriff's Office, said, "Obviously, the conditions today were very tough, very hot, windy conditions, steep conditions."

Files\\Denver Post_2012_06_Fire blasts over hills Fort Collins-area fire rages out of control expanding in size as mountain residents flee - § 4 references coded [6.14% Coverage]

Reference 1 - 1.63% Coverage

"This fire has a mind of its own, and it's just telling us what to do," said Poudre Fire Authority Chief Tom DeMint. He called the blaze a "dirty fire" with the potential to be very destructive.

Reference 2 - 2.57% Coverage

High winds and dry fuels are driving the blaze, forcing more than 2,600 evacuation calls by Sunday evening to people living in Poudre, Rist, Redstone and Mill canyons. Another 325 calls were made just after 8 p.m. for the area south of County Road 38E from Gindler Ranch Road west to Milner Ranch Road.

Reference 3 - 1.28% Coverage

The High Park fire is burning in thick timber and large stands of beetle-killed trees. Fighting it has been

compounded by winds and hot, dry weather.

Reference 4 - 0.66% Coverage

Firefighters are working in steep, heavily wooded areas as well as meadows.

Files\\Denver Post_2012_06_Fires burning across the state - § 1 reference coded [5.08% Coverage]

Reference 1 - 5.08% Coverage

All of Colorado isn't burning, but there's enough flame and enough potential to have authorities deeply worried as the drought-parched state braces for another week of searing temperatures, high winds and low humidities.

Files\\Denver Post_2012_06_Flames jump river race toward homes - § 2 references coded [6.98% Coverage]

Reference 1 - 3.81% Coverage

Resources were quickly refocused in the hope of keeping in check the blaze that started when a thunderstorm parked over the southwest corner of the fire kicked up winds about 4:30 p.m, causing trees to flame and spreading embers past the northern perimeter established by the river and Colorado 14 in Poudre Canyon.

Reference 2 - 3.17% Coverage

At a morning briefing, Hahnenberg said he worried that high winds and low humidity would allow the troublesome west flank to "make a several-mile run. And it could do that. If it does, it could go across the river and then we have a whole different fire to deal with."

Files\\Denver Post_2012_06_Fresh fire crews sought as new arrival ship out fast - § 4 references coded [7.91% Coverage]

Reference 1 - 3.08% Coverage

Dry winds, rising temperatures and overly dense forests across Colorado have combined to create ideal conditions for catastrophic conflagrations. Lightning rolled into western Colorado -worsening the overall risk.

Reference 2 - 2.40% Coverage

"Zero snowpack left"Forests west of the Continental Divide are drier and more overloaded than those along the Front Range, U.S. Forest Service spokesman Steve Segin said.

Reference 3 - 0.88% Coverage

And an intensifying regional drought is worsening conditions

Reference 4 - 1.54% Coverage

Not since 2002 has the snowpack been so low so early, with rivers running around 25 percent of average, she said.

Files\\Denver Post_2012_06_Grief with some relief death destruction - § 1 reference coded [1.08% Coverage]

Reference 1 - 1.08% Coverage

Conditions today are expected to be warm again -- about 80 degrees -- and windier, and an additional 200 firefighters will be on the lines, bringing the total to 600.

Files\\Denver Post_2012_06_High Park Fire 55 percent containment - § 1 reference coded [2.59% Coverage]

Reference 1 - 2.59% Coverage

Cooler, more humid weather also allowed firefighters to finally punch back at the third-largest blaze in recorded Colorado history, after three consecutive days of red-flag warnings earlier this week kept fire crews just trying to hang on.

Files\\Denver Post_2012_06_High Park fire Barriers established on two front - § 3 references coded [5.41% Coverage]

Reference 1 - 2.44% Coverage

New orders were issued in the northwest, in areas where roads might be closed as the more-than-43,000-acre blaze edges toward vast wilderness areas with few homes and a forest where beetles have killed 70 percent of the trees.

Reference 2 - 1.75% Coverage

Firefighters aren't focused there now, Type 1 incident team spokesman Steve Segin said, because of the extra danger that beetle-killed trees create for crews.

Reference 3 - 1.22% Coverage

The National Weather Service forecast a high today near 90, with winds of 6 to 9 mph out of the south and southeast.

Files\\Denver Post_2012_06_High Park fire grows to 81190 acres - § 2 references coded [7.45% Coverage]

Reference 1 - 3.25% Coverage

Hot, dry winds expanded the High Park fire again Saturday, pushing the total acres burned in what is now the second-largest blaze in state history to 81,190.

Reference 2 - 4.20% Coverage

But the fight will be tough again today. A red-flag warning has been issued for between noon and 10 p.m. "Which means high temperatures and low humidity, and winds of some significance," Armstrong said.

Files\\Denver Post_2012_06_High Park fire nations tank fleet old and depleted close to empty - § 1 reference coded [0.30% Coverage]

Reference 1 - 0.30% Coverage

Windy, dry and hot conditions that day blew the fire out of control.

Files\\Denver Post_2012_06_High winds stymie efforts - § 4 references coded [8.36% Coverage]

Reference 1 - 2.01% Coverage

Wind gusts of up to 50 mph have been screaming across the High Park fire, forcing helicopters that have been helping fight the blaze west of Fort Collins to stay on the ground and prompting a number of new evacuations

Reference 2 - 3.01% Coverage

Humidity is expected to remain in the 3 percent to 8 percent range Monday, wind gusts up to 30 mph, with temperatures in the 90s at 8,000 feet, where the fire is being fought.

"Today, expect worse," Haberstick said, characterizing Monday's expected fight. "We'll have to see what Mother Nature throws at us and react to it."

Reference 3 - 1.93% Coverage

Firefighters have built a line around a spot fire that is roughly 200 acres on the north side of Poudre Canyon near Steven's Gulch. The fire is in steep terrain and timber and is difficult to access by ground.

Reference 4 - 1.41% Coverage

In addition to the winds, temperatures today soared to a record high of 98 degrees with low humidity, creating conditions that could spread the fire.

Files\\Denver Post_2012_06_Highpark Fire Homesick about Homes - § 2 references coded [4.16% Coverage]

Reference 1 - 2.78% Coverage

Christensen said progress has been made containing the fire on the northern and eastern edges. Firefighters are having trouble "connecting the dots" of the containment perimeter on the southern edge, and beetle-killed trees continue to be a worry on the western edge.

Reference 2 - 1.39% Coverage

He said conditions in the northwest quadrant of the fire were difficult for firefighters because of the steep terrain and heavy fuels.

Files\\Denver Post_2012_06_Low snowpack pushes states fire risk higher - § 4 references coded [22.44% Coverage]

Reference 1 - 3.59% Coverage

With Colorado's snowpack virtually nil, conditions are worse than in 2002, when the Hayman fire ravaged 214 square miles of forest.

Reference 2 - 7.16% Coverage

The difference today is that many of Colorado's forests have been decimated by beetle kill, including much of the area where the High Park fire, northwest of Fort Collins, has been burning, said Maggie Skordahl of the U.S. Natural Resources Conservation Service.

Reference 3 - 3.56% Coverage

"It's very conducive to large wildfires spreading," Skordahl said. "You are talking about drought conditions across the state."

Reference 4 - 8.13% Coverage

The snowpack levels have already had an effect on stream-flow volumes, which are very low, Skordahl said. Dry conditions across Colorado harken back to 2002, when the Hayman fire, the state's largest wildfire in recorded history, blew up. It spread in Douglas, Jefferson, Park and Teller counties.

Files\\Denver Post_2012_06_Record 181 homes destroyed - § 2 references coded [6.73% Coverage]

Reference 1 - 3.32% Coverage

The blaze is 45 percent contained, but weather conditions are expected to worsen today and Monday, and on the very active western flank, the fire will be allowed to burn until it reaches the natural fire line, Pingree Park Road 3 to 4 miles west, incident commander Bill Hahnenberg said.

Reference 2 - 3.41% Coverage

Crews made some progress Saturday but will be battling the fire under tough conditions. A red flag warning

has been issued forecasting winds to 50 mph on ridgelines and in Poudre Canyon, and temperatures in the 90s. Crews have been sent to the northern edge of the fire to attempt to hold the line.

Files\\Denver Post_2012_06_Red slurrys toxic dark side - § 2 references coded [4.99% Coverage]

Reference 1 - 2.95% Coverage

Many wildfires burn in remote, rugged areas, and the application of fire retardant can slow the spread of a fire until ground forces can reach the area and begin construction of a fireline," Segin said. "You can put it on homes. It works better on the ground. It slows the advance of a fire so that ground crews can get in there."

Reference 2 - 2.03% Coverage

Federal data show that, since 2007, air tankers have dropped an average of 486,385 gallons of fire retardant a year while suppressing wildfires in Colorado, where drought and overly dense forests favor large wildfires.

Files\\Denver Post_2012_06_Residents back crews diligent in mop up stage - § 1 reference coded [7.40% Coverage]

Reference 1 - 7.40% Coverage

Despite dry conditions -- and the eighth day with consecutive red flag warning -- U.S. Forest Service spokesman Jake Brollier said the fire crews are officially in the "mop-up" stage of the fire that has so far cost \$33.5 million to fight. This means firefighters are using shovels and Pulaski tools to turn over the soil where infrared equipment has detected heat. Back burning continues up the mountainside.

Files\\Denver Post_2012_06_Some go home while others learn theirs is lost - § 1 reference coded [3.45% Coverage]

Reference 1 - 3.45% Coverage

Extreme heat and low humidity have sparked fires across the state. Today, temperatures will be in the 80s and low 90s with 10 to 20 mph winds.

"Hopefully Mother Nature will start to cooperate at some point," Christensen said.

Files\\Denver Post_2012_06_Spot Blaze slips past boundary - § 2 references coded [9.25% Coverage]

Reference 1 - 3.18% Coverage

Hot, swirling winds complicated the battle against the High Park fire. Temperatures were in the 90s in the interior of the fire. Relative humidity levels were in the single digits.

Reference 2 - 6.07% Coverage

"That doesn't sound like a lot, but it should help because the relative humidity has been in the single digits," Lipson said. "Hopefully, with that, we can make some progress."

But the weather relief will be temporary.

"Thursday morning, we may wake up to lower temperatures and overcast skys, but things will heat up again Friday," Lipson said.

Files\\Denver Post_2012_06_Wildfire research turns to the sky - § 4 references coded [9.00% Coverage]

Reference 1 - 2.35% Coverage

"It's been difficult to predict the behavior of the High Park fire," Schranz said. "It jumped over the (Poudre) river and the road. That was unexpected early on. This fire has sometimes baffled incident managers."

Reference 2 - 1.85% Coverage

The behavior of winds in the complex terrain and conditions of the High Park fire have also at times stumped researchers by not conforming to their models, Schranz said.

Reference 3 - 2.19% Coverage

The High Park fire is complicated because topography and elevation are highly varied, fire managers have said. The fuels are especially volatile because of dry conditions and beetle-killed trees.

Reference 4 - 2.60% Coverage

"We don't know how to predict the effects of all these factors," Schranz said. "We don't know why one house is left standing with the forest burned all around it. We don't know why another house burns down but the trees around it are spared."

Files\\Denver Post_2012_06_Wildfire sparking event cancellations Ride the Rockies tour could be affected too - § 1 reference coded [2.46% Coverage]

Reference 1 - 2.46% Coverage

"The firefighter in me thinks about all the things that could happen, how hard it is to control an unpredictable fire. It makes it very scary. Having been on those fires, you just start thinking about all the things that could happen."

Files\\Denver Post_2012_09_Disastrous wildfire era set to continue - § 6 references coded [7.36% Coverage]

Reference 1 - 1.34% Coverage

The threat to Colorado homes in 2013, it now appears, will likely be as high as ever. Forest restoration and bush clearance have lagged even as new housing is built in threatened areas. And, for a variety of reasons, little progress was made this year in reducing the fire danger.

Reference 2 - 1.27% Coverage

Instead, 2012 saw a drastic change in Forest Service policy. Officials say the shift was done for just one year because of the unusual emergency but that, nonetheless, the overall picture remains one of stretched resources, dry woodlands and endangered homes.

Reference 3 - 0.88% Coverage

From the first days of spring, 2012 looked like a potentially disastrous year for wildfires. Winter had brought scant snow to the Rocky Mountains. The summer forecast: hot and dry.

Reference 4 - 0.84% Coverage

Hubbard's fire-suppression directive came six years after a federal audit concluded with an ominous warning about the dangers lurking in the nation's overgrown forests.

Reference 5 - 1.20% Coverage

Yet they also see signs of growing trouble. Climate change is lengthening the wildfire season and drying the forests, they say, and a possibly related infestation of pine-bark beetles left vast expanses of Colorado forests standing dry and dead.

Reference 6 - 1.83% Coverage

Everywhere, it's a race against time. With each passing year, forests with 10 times the number of trees they once held are ready to burn with devastating fury in the event of a lightning strike or careless campfire. Residential development is pushing higher and deeper into the woods. The record-breaking summer heat of

2012 left foresters pondering an unanswerable question.

Files\\Denver Post_2012_10_Briefs(1) - § 2 references coded [7.60% Coverage]

Reference 1 - 4.32% Coverage

ROCKY MOUNTAIN NATIONAL PARK Despite wet weather Friday night and Saturday morning, fire officials say the Fern Lake fire is still zero percent contained and may grow with warmer, drier weather moving into the area Sunday.

Reference 2 - 3.28% Coverage

More than 140 fire personnel, seven engines and a helicopter have been dispatched to fight the fire, which is burning in rugged terrain that includes beetle-kill trees.

Files\\Denver Post_2012_10_Cold front expected to dampen Fern Lake fire - § 1 reference coded [6.68% Coverage]

Reference 1 - 6.68% Coverage

The fire is burning in steep, rugged terrain that includes beetle-killed trees west of the Fern Lake Trailhead.

Files\\Denver Post_2012_10_High winds prevent aerial attack on wildfire - § 2 references coded [23.71% Coverage]

Reference 1 - 9.72% Coverage

High, gusty winds prohibited an aerial attack on a wildfire burning out of control on the east side of Rocky Mountain National Park for a second day Wednesday.

Reference 2 - 13.99% Coverage

The Fern Lake fire, west of the Fern Lake Trailhead and Moraine Park, grew to more than 400 acres Wednesday, but no homes or other structures are threatened in the steep, rugged terrain, the National Park Service said Wednesday.

Files\\Denver Post_2012_10_Officials look for leads on source of park fire - § 1 reference coded [4.95% Coverage]

Reference 1 - 4.95% Coverage

The fire, burning in steep, rugged terrain, was 5 percent contained Sunday.

Files\\Denver Post_2012_11_Conditions kick up smoke from Fern Lake wildfire - § 1 reference coded [3.76% Coverage]

Reference 1 - 3.76% Coverage

The terrain is too remote, steep and filled with dead trees and debris to put firefighters safely on the perimeter, so an extended snow is needed to put out the fire.

Files\\Denver Post_2012_11_Dry warm weather prompts fire restrictions - § 1 reference coded [24.83% Coverage]

Reference 1 - 24.83% Coverage

"This certainly isn't typical," Morales said in a statement. "But we want to be proactive. We've had unseasonably warm weather, and we want to make people aware that fires can happen, even as we head into the winter season."

The dry weather has also allowed the remote Fern Lake fire to continue to burn after more than six weeks in

Rocky Mountain National Park. High winds and drought have helped the fire burn more than 1,370 acres.

Files\\Denver Post_2012_12_Evacuation orders eased in Larimer County fire zone - § 2 references coded [17.72% Coverage]

Reference 1 - 7.24% Coverage

The 3,750-acre fire is 40 percent contained. About 1,000 homes and other structures have been threatened since high winds doubled the size of the fire last Friday night and early Saturday, prompting evacuations.

Reference 2 - 10.48% Coverage

The fire began Oct. 9 , caused by an illegal campfire that remains under investigation. It has burned in rugged, steep terrain feeding off beetle-killed trees, lodgepole and ponderosa pines and other winter-dried and drought-parched fuels in an area that has not burned in centuries, authorities have said.

Files\\Denver Post_2012_12_Last Fern Lake Fire evacuees to head home - § 1 reference coded [11.22% Coverage]

Reference 1 - 11.22% Coverage

The 3,492-acre fire threatened as many as 1,000 homes and other structures last weekend, after high winds doubled the size of the fire from Friday night to Saturday morning.

Files\\Denver Post_2012_12_Size blowing up 583 homes evacuated - § 7 references coded [13.97% Coverage]

Reference 1 - 1.41% Coverage

The 3,584-acre fire, sparked by an illegal campfire in the park, exploded early Saturday when it was pushed by strong winds, with gusts up to 75 mph.

Reference 2 - 1.51% Coverage

"The wind last night was very strong and fanned the flames," said John Schulz, spokesman for the Larimer County Sheriff's Department. "It jumped the lines."

Reference 3 - 2.50% Coverage

"The fire was spotting a mile ahead of itself, which is an incredibly long distance," she said. "What happened last night was a rather unexpected wind event.

"That is way beyond any of our predictive tools to say what a fire would do. It just moved incredibly fast."

Reference 4 - 1.85% Coverage

Before Friday night, the fire had been listed as 1,515 acres in steep, rough terrain. Containment had been up to 40 percent. Weaver said she could not estimate the level of containment Saturday.

Reference 5 - 2.80% Coverage

For most of November, the fire smoldered quietly, being monitored by about a dozen firefighters, with containment expected by Dec. 17. Suppressing the fire on the ground was considered extremely unsafe because of the terrain, and officials expected the fire to diminish once the snows came.

Reference 6 - 1.77% Coverage

Helicopter and tanker assistance for the wildfire has been grounded because of high winds and poor visibility, according to Rocky Mountain National Park spokeswoman Kyle Patterson.

Reference 7 - 2.13% Coverage

Temperatures were about 20 degrees above normal in Estes Park on Saturday, with a high around 60degrees. Jim Kalina, meteorologist for the National Weather Service in Boulder, said winds will gust to around 30 mph Sunday.

Files\\Denver Post_2012_12_Snow blankets fern lake fire as crews work to gain ground - § 1 reference coded [5.65% Coverage]

Reference 1 - 5.65% Coverage

Crews from across the country are still working to improve fire lines on the southwest perimeter. If snow or wind conditions get too dangerous, they'll retreat to Estes Park and remain on standby.

Files\\Denver Post_2012_12_Wind fuels worry Strong gusts could create explosive mix in Marys Lake area - § 4 references coded [13.95% Coverage]

Reference 1 - 3.70% Coverage

ESTES PARKHigh winds were expected to make it perilous overnight in the Marys Lake community southwest of Estes Park, as the Fern Lake fire blazes a few miles away.

Winds could gust up to 70 mph until about 3 a.m., and a critical "red flag" fire danger warning remains in effect until 6 a.m. Monday.

Reference 2 - 5.10% Coverage

Firefighting helicopters and air tankers were grounded Sunday afternoon because of winds, as ground crews shored up the perimeter. The Fern Lake fire started from an illegal campfire Oct. 9 in remote terrain and has spread to 3,580 acres, but as of Sunday evening, only a privately owned cabin has been lost. No firefighters have been injured in the steep, rough terrain of Rocky Mountain National Park.

Reference 3 - 3.11% Coverage

Early Saturday, wind gusts of up to 75 mph doubled the size of the blaze and pushed it 3 miles to the east in 35 minutes. At about 1 a.m. Saturday, residents of 583 homes along the Colorado 66 corridor were forced to leave and remained evacuated Sunday.

Reference 4 - 2.04% Coverage

The fire is burning winter-dry grasses and dense lodgepole pines, but it primarily has lingered by consuming beetle-killed trees in abnormally dry conditions

Files\\Denver Post_2013_03_Crews make gains on Galena fire - § 2 references coded [7.97% Coverage]

Reference 1 - 2.32% Coverage

Wind gusts up to 37 mph were recorded in the area Monday afternoon, the National Weather Service said.

Reference 2 - 5.65% Coverage

Simons said the blaze had reached the "smoldering, creeping stage" by Monday afternoon, but that could change fast if just one ember escapes containment lines. "It's a wind-driven event. These are flash fuels, and it's being extremely erratic."

Files\\Denver Post_2013_03_Winds feed blaze - § 2 references coded [6.70% Coverage]

Reference 1 - 2.34% Coverage

A wildfire burning in and near Lory State Park northwest of Fort Collins exploded to between 750 and 1,000 acres Friday, pushed by erratic winds, record temperatures and low humidity.

Reference 2 - 4.36% Coverage

More than 100 firefighters were working on the Galena fire -- originally reported as being named the Soldier Canyon fire -- but no aircraft could be used because of high winds. The winds also were driving the fire, which was first reported at about 11:45 a.m. by a person who called 911, said Capt. Patrick Love, a Poudre Fire Authority spokesman.

Files\\Denver Post_2016_09_Larimer fire grows to 350 acres - § 1 reference coded [6.49% Coverage]

Reference 1 - 6.49% Coverage

The Larimer sheriff's emergency service, the Livermore Fire Protection District and the U.S. Forest Service responded and found a 2- to 3-acre fire burning. Wind gusts of up to 25 mph were spreading the flames, the sheriff's office said.

Files\\Estes Park Uplands_n.d._CWPP - § 2 references coded [4.52% Coverage]

Reference 1 - 2.84% Coverage

The Uplands HOA Board has met with Scott Dorman, Fire Chief of the Estes Valley Fire Protection District to gain his insight regarding the risk of wildfire within the Uplands subdivision. At the 2010 Annual Meeting, Sue Pinkham, Community Liaison Officer for the Estes Valley Fire Protection District presented a program on fire mitigation and actions that property owners should take to better reduce the risk of wildfire. Bob Clark, President of the Uplands HOA and Ron Harris, one of the property owners attended a seminar in 2011 sponsored by the Colorado State Forest Service on Fire Mitigation and Community Wildfire Protection Plans. The Board also approved the development of a Forest Stewardship Plan for the Uplands subdivision which was prepared by Greg Zauzen and Kyle McCatty – both employees of the Colorado State Forest Service. The plan was presented to the HOA Board on August 10, 2011, and will in turn be shared with the property owners at a meeting in October 2011. In addition to the above matters, the Uplands subdivision spent \$8088 this year in spraying for pine beetles and 41 of the 42 property owners also had many of their trees sprayed. This year for the first time we were able to persuade four property owners to treat their trees for dwarf mistletoe. These actions will reduce the risk of tree death and increased fire danger. In the spring of 2011 the HOA spent \$550 to remove beetle infested trees and at our Annual Spring Cleanup we spent \$1250 to remove slash and other debris that property owners removed from their lots and from some of the outlots as part of our fire mitigation effort.. We spent another \$650 to a Fall Cleanup. On December 3, 2011, the newly appointed Forest Stewardship Committee met for the first time to begin plans for the implementation of the Forest Stewardship Plan prepared for The Uplands by the CSFS, This plan was presented to the property owners at their Annual Meeting in November 2011 by Kyle McCatty, Forester for the CSFS. The Forest Stewardship Committee is composed of five property owners in The Uplands one of whom is a member of The Uplands HOA board. The charter of the committee is:

Reference 2 - 1.68% Coverage

Wildfire hazard in the Uplands subdivision has a very high hazard rating across a large portion of the property (See the Forest Stewardship Plan). The wildfire hazard rating is very high in the denser areas of the ponderosa pine stands on the property. The areas with high wildfire hazard ratings have abundant surface fuels with low canopy base heights and canopy closure. Canopy base heights and closure are responsible for crown fire initiation and spread. The areas of the property with less trees and slope are classified as moderate. These hazards are mapped based on the expected fire behavior which is determined by vegetative cover type and perceived quantity and density of fuels. However, if the aspect is south or southwest, and/or if the slope is greater than 30%, increase the hazard class one category. Also, if slash is present and in significant quantities, increase the hazard class one category. The data used to determine the wildfire hazard rating in

this model has not been updated to account for the increased dense roadside vegetation in the developed portion of the subdivision and increased heavy surface fuel loading in the undeveloped portion. Therefore, the wildfire hazard rating is more likely very high across the entire subdivision.

Files\\Estes Park_2009_CWPP - § 1 reference coded [0.53% Coverage]

Reference 1 - 0.53% Coverage

With the added problem of advancing pine bark beetles and other forest insects and diseases throughout the area, in both lodgepole and ponderosa forests, residents and town officials are concerned about forest health, wildfire, and the need for defensible spaces. The Town of Estes Park has developed a Public Information Officer (PIO) team to provide timely and accurate information to the public.

Files\\HCRC_2008_05_Meeting Notes - § 1 reference coded [0.72% Coverage]

Reference 1 - 0.72% Coverage

Russ H – Perhaps broaden the scale of the conversation ... “in the face of Climate change we need to rebuild resiliency back into forests of Harney County and surrounding area for healthy ecosystems.”

Files\\HCRC_2009_03_Consensus Document DRAFT - § 1 reference coded [0.34% Coverage]

Reference 1 - 0.34% Coverage

Restoration of forest health and return of natural ecosystem processes, thereby:

- o Reducing threats to forests from high stand densities and uncharacteristically severe fire;
- o Recovering watershed health;
- o Restoring native plant, wildlife, and aquatic species biodiversity

Restoring and protecting ecological integrity including hydrologic function and soil fertility and stability

- o Reducing future costs of fire suppression;

Files\\HCRC_2015_03_Meeting Notes - § 1 reference coded [6.05% Coverage]

Reference 1 - 6.05% Coverage

His research interest has been to explore variability in the forest – variability in species composition and forest structure. The trees in our forests are long lived forest species. However, there are a lot of young trees on the forest because most of the older structure has been removed after 80-90 years of intensive management. From sampling old growth trees in the Malheur forest, James has been able to determine that the mean fire return interval is relatively common on the Malheur – burned on average of 15-20 years and there was a lot of fire historically. We now have gone more than a hundred years without fire where the previous longest prior fire interval was 33 years. Fire abruptly halted in all these sites in about 1898. There are number of theories to why this occurred, including sending Native Americans to reservations, removing fine fuels with livestock grazing, and/ or possible effective fire control. It appears that in the late 1200s there was a powerful drought, leading to the conclusion that drought structures composition in the forest. From a management perspective, we might have to rethink fire intolerance or patchiness of the forest and low intensity surface fires under mild conditions. HCRC group might find the upcoming webinar listed below to be useful and to provide feedback.

Files\\HCRC_2015_09_Field Trip Notes - § 4 references coded [3.89% Coverage]

Reference 1 - 0.87% Coverage

Conditions were ripe for a fire of this nature, weather conditions on the days that the fires blew up there was very little anyone could do.

Reference 2 - 1.06% Coverage

Primarily a result of climate change – drought and climate conditions. Need to shift thinking from all fires are catastrophic to the ecological significance of fires.

Reference 3 - 0.44% Coverage

The fires were fed from overstocking of too many small diameter trees.

Reference 4 - 1.51% Coverage

At our first stop Howard Richburg said “We’re looking for opportunities. We’re trying to reduce fuel loads – especially fir – in what is supposed to be an open pine site. The encroaching fir is creating an increased fire risk to the older pine.

Files\HCRC_2015_10_Meeting Notes - § 1 reference coded [2.88% Coverage]

Reference 1 - 2.88% Coverage

The end goal of all projects is to produce a forest that is tolerance to prescribed fire. Currently, the forest is not at this phase, there are too many stems/ acre. Prescribed fire cannot be used when the forest is not fire tolerant. The usual return interval in this forest is 6-20 years we have gotten far away from this. The goal for our forest is to have multiple seral stages in our forest. We need stand initiation, large diameter trees, and we are trying to reduce competition to create old growth stands. Unfortunately with our current prescriptions we are hammering the midgrowth stands. If we only go after mid-growth we need to retain some of the economically viable stands to retain

Files\HCRC_2015_11_Meeting Notes - § 3 references coded [9.15% Coverage]

Reference 1 - 3.95% Coverage

Tim Boyce – It’s important to remember the Canyon Complex was a weather event – not a fire event. If Josh wants a 50 Basal Area on his projects then we should cut it back to 30 so it will grow back to 50. If we just cut it back to 50 then in ten or fifteen years it will be back up to 80 basal area. Phil Jenkins – Dana estimates 70% of the treated areas were heavily burned in the Canyon Complex. Zach Williams – James Johnston has written a spatial pattern paper that says our dry forests burned regularly in a low severity manner. There were fewer stand replacement fires than people think. Jim Campbell – We need to burn more acres whether they are in big or small units.

Reference 2 - 1.33% Coverage

Zach Williams: Thin throughout the diameter range of a stand. We wouldn’t be hammering the mid-diameter trees and we would be increasing variability across the landscape. There would be less heavy fuels on the ground.

Reference 3 - 3.86% Coverage

Travis: Being able to thin throughout the diameter range. Take some trees greater than 21”. Dana: Get prescribed fire treated for air quality purposes the same as wildfire. Wildfires don’t require burn permits. This would increase the burn opportunities. Jason McGovern: More fire. It would manage tree density, decrease small diameter timber and allow more water to infiltrate the soil. Jason Kesling: Treat thinned and unthinned areas with large prescribed fires. Dan Bishop: Harvest more volume per acre, harvest some of the large diameter trees, treat riparian areas and end up with a forest that is better for younger trees.

Files\HCRC_2016_02_Meeting Notes - § 2 references coded [1.72% Coverage]

Reference 1 - 0.84% Coverage

The rings from 1266 tree that is dead at the top of Crane creek. Oldest living tree is 1299 knowing we are

going to warmer and drier.

□ There is enormous amount of uncertainty of how the climate will change in this area precipitation is unknown; temp might be 2-3 degrees higher. Think like an insurance adjuster – best insurance risk on the forest is old growth ponderosa pine the more resilient the forest will be.

Reference 2 - 0.88% Coverage

Is there a point for basal area that is sufficient for the prescriptions we are doing now? Most sites of 50 sq. feet/ acre for basal area is not sustainable. Some folks think it is opening up the stand too much but I don't think so. What about the wildlife corridors – is there a way to inform for wildlife habitat? The primary difference of forest on the Westside has similar water across this area. All forests have these large patches.

Files\HCRC_2016_06_Meeting Notes - § 1 reference coded [1.63% Coverage]

Reference 1 - 1.63% Coverage

When the fire came through this area the additional dry fuels that were on the ground created a hot fire that heavily damaged the mature aspen trees and small sprouts in this area.

Files\HCRC_2016_08_Field Day Meeting Notes - § 1 reference coded [3.22% Coverage]

Reference 1 - 3.22% Coverage

We also learned about fine fuels and how to quantify fine fuels on trees. The monitoring crew is essentially taking data on the “fine fuels” on the tree and they are measured by the distance from the ground where the small dead branches occur. This gives an indication how high flames would have to be to ignite the tree.

Files\HCRC_2016_10_Meeting Notes - § 1 reference coded [11.10% Coverage]

Reference 1 - 11.10% Coverage

Had a good fall prescribed fire season but felt very lucky that they were able to conduct prescribed fires without converting into wildfires. It was a short season, but the prescribed fire crews never missed a burn day and they never had smoke into town. The crews burned as much as they could. The crews have a variety of things to burn, including slash and also trying to reduce fine fuels. Two other forests in the area had prescribed fires convert to wildfires. The Dairy Project prescribed fire was conducted most recently (10/8/16), on the day they burned the Ochoco forest had a fire convert to wildfire. On the Dairy project it was an active fire with thousands of spot fires but it was a very successful burn. In this project in the timber sale area the burn was beautiful. Heavier fuels and the trees looked good with bigger fuels burned well. Logging is not enough, important for optimum desired ecological conditions need to burn. Fall burning is better than spring to get optimum fire activity. With the prediction of a big storm (Oct. 15) it is anticipated the prescribed fire season is over. There are over 8000 acres of pile burning (essentially 1 pile for every 10 acres for landing piles) that still need to be conducted and this can occur after significant moisture. Wet conditions are actually desired for pile burning. However, the work force is small now, most seasonal positions are now terminated. USFS is finding that the smoke management officials (DEQ from Oregon Dept. of Forestry) have been out to the forest to help understand the issues more. They are working with USFS.

Files\HCRC_2016_11_Meeting Notes - § 1 reference coded [1.59% Coverage]

Reference 1 - 1.59% Coverage

Q. How do you think national forest lands are being managed and how to make more resilient? How will stand density – climate variation will impact us? A. There are 2 broad scale periodicities – el Nino and a longer 30-year period. When those 2 coincide it can have an impact on the forest. Manmade climate

change hasn't impacted us heavily yet. If change in amplitude is fairly constant, then this is a lot to do with nothing. What does our management role play in this? Hard to say.

Files\\HCRC_2017_04_Common Ground - § 1 reference coded [0.95% Coverage]

Reference 1 - 0.95% Coverage

Low basal area indexes that will create stands that are more fire tolerant initially and for a longer time after treatment except on: - North facing slopes - Areas needed for wildlife needs

Files\\HCRC_2017_10_Meeting Notes - § 1 reference coded [0.85% Coverage]

Reference 1 - 0.85% Coverage

Rod: First time I have heard this discussion of wildfire. Fire folks usually get nervous. There is potential but is not going to save it. Chetco Bar fire started in a wilderness area and it got out of the box we drew for it. FS did try to put resources on it and could not get personnel on it because of terrain. They did bucket drops but didn't work.

Files\\HCRC_2017_12_Meeting Notes - § 1 reference coded [2.55% Coverage]

Reference 1 - 2.55% Coverage

Tim Boyce: We have a set amount of resources down here. We have to consider the 4.5 million acres south of the highway. Desert fires take a lot of resources - 20-person hand crews. We are really limited on resources on any given day and have to work with BLM and USFWS on any given day. We have Frenchglen and Allison as active guard stations. Also Crow Flat and 19 trucks total on the zone - 15 BLM and 4 FS. Last footprint was Egley in 2007. Underburning has been about 10,000 acres. Back log on prescribed fire is over 150,000 acres due to timing including nesting and wildlife, resources, funding, a few internal constraints. Fuel level and weather are another constraint - parameters have expanded for fire behavior and have done this to open up more fire. We have a spring and fall prescribed fire. In the fall, it goes from too dry to too wet and snowy very fast. Spring is a little more open and bigger window. I think we could take a little more risk. Not everyone is on board with more risk but some leadership is willing.

Files\\HCRC_2018_03_Meeting Notes - § 3 references coded [7.28% Coverage]

Reference 1 - 3.86% Coverage

Update on the Rattlesnake, Soldier and Hazard Tree projects - Travis Swaim Currently, laying the project out and moving forward with implementation. The prescriptions are written as everything up to 21" are harvestable. No 21" trees will be cut. We don't know slash treatment yet (Travis doesn't make that call, didn't specify in the NEPA document so could go anyway). Drainages are fir, rest of the project is Ponderosa, Old growth dead and dying. We have no salvage component the idea is to take the pressure off good green trees, density management is the goal to let trees protect themselves. Beetle killed trees. Q. How about spraying the beetles? A. This is very expensive and with the stage of the outbreak, it is too late in the life cycle. However, in the campgrounds we are putting together a spray program to save old trees.

Reference 2 - 2.23% Coverage

Q. Did you analyze for juniper? A. No specific Juniper treatments, unless it is an old growth (don't cut old growth juniper). The mahogany prescription has a lot of juniper. Is the juniper a commercial product now? Possibly. The juniper business would be new to us. For aspen restoration, we are getting away from aspen fencing and trying to use residual slash to get away from the maintenance of fence around aspen. Use slash to keep ungulates out until it gets above browse height.

Reference 3 - 1.20% Coverage

District wide danger tree project Harney County asked us to do this project because they were seeing these dead trees. Trying to respond to the county concern. This project is on all 2 and 4-digit roads – all likely and imminent danger and will do campgrounds.

Files\\HCRC_2018_05_Meeting Notes - § 1 reference coded [7.13% Coverage]

Reference 1 - 7.13% Coverage

What are your worst fears about having more managed fire on the southern Malheur National Forest? • The one that gets away (2 • Resource depletion • Political will and community will change the objectives of returning to a fire interval • Knowing the good of fire on the landscape but the concern of catastrophic fire • Something might go wrong • Don't get enough of prescribe fire done (4 • Public misunderstanding and disconnect of the big issues. • Too risk adverse to try to innovate to meet ecological objectives • Tim (Boyce) will take a job somewhere else • Fire is unpredictable, and people focus on areas that don't meet prescription. • I don't think benefit outweighs the risk. If we can subsidize fire why can't subsidize getting it out of the woods for biomass?

• The landscape is not ready for managed fire yet and then they blow up. • From wildlife standpoint need hotter fires for landscape goals • Irrate public in my face. • Several stand replacing fires before returning fire and the public putting FS in a no-win situation. • Not enough timber removed in a stand before fire introduced.

Files\\HCRC_2018_08_Meeting Notes - § 3 references coded [6.41% Coverage]

Reference 1 - 0.59% Coverage

We are also approaching historically low fuel moisture (1000 hr fuels)

Reference 2 - 1.75% Coverage

Looked into managing some of those fires, but for various reasons they wouldn't have worked (near private, too much fuel, fire effects in a small 3 acre fire in rattlesnake were extreme so it wouldn't have worked).

Reference 3 - 4.07% Coverage

Comment by Jim Sproul – it seems like a priority for management should be reducing fine fuels (in July / August) through cattle grazing, grasses are the most combustible fuel source and are what carries the fire. Tim's comment in response to previous comment: The buildup of duff & litter is the bigger issue, whether there is grass or not. Cattle aren't going to remove the buildup of those types of fuel, which also carry the fire and result in most of the tree mortality (buildup around tree base).

Files\\HCRC_2018_09_Meeting Notes - § 1 reference coded [5.03% Coverage]

Reference 1 - 5.03% Coverage

Fir is 2346% over represented on the (Malheur) forest.

Much of what we look at is 1,000 to 5,000 TPA (trees per acre). We have roughly 1 million acres of forest & we have roughly 1 – 5 billion too many trees.

Items of concern we see as contractors:

Variable density thinning specifications often not working as intended.

Commitment to & understanding of local economic benefit.

We are seeing way too much grand fir being left (due to contract requirements) on our completed projects

Files\\HCRC_2018_09_Rx ZOA - § 4 references coded [35.54% Coverage]

Reference 1 - 9.28% Coverage

To achieve this goal, we suggest:

Low basal area indexes that will create stands that are more fire tolerant initially and for a longer time after treatment.

Target stand density indices (SDIs) that are appropriate for the HRV of the site. Management should drop SDIs to the lower end of the recommended (Powell's reference) management zones to allow more time between treatments.

More extensive use of prescribed fire where and when possible

Exempt specific areas needed for wildlife

Reference 2 - 12.88% Coverage

According to the best available science that we are aware of, the dry forests of the Emigrant Creek Ranger District historically experienced fire every 5-15 years. James Johnston. Because fire came through so often, small woody material rarely had the chance to accumulate, and fires were mostly low and moderate intensity. They were rarely crown fires, and they rarely bothered the old growth ponderosa pine that are fire-adapted. However, they did remove most of the young trees. Fire suppression, and other factors, since the early 1900's have allowed many smaller trees to fill in where they would not normally have been present. This causes three important problems:

Reference 3 - 9.19% Coverage

Science indicates that density management especially commercial & noncommercial mechanical thinning (as recommended above) is usually a necessary first step in restoration. It removes many of the fuels that could cause a crown fire, and it produces valuable saw-logs that should go to the mill. However, science indicates that fire-adapted forests, like ours, are not fully returned to their historic fire, drought and insect resiliency until fire is returned to the ground.

Reference 4 - 4.20% Coverage

Time is of the essence. Because our forests are so full of fuels, and because we see so many lightning strikes, slow, methodical progress will eventually result in a stand replacing wildfire, insect kill or drought kill.

Files\\Hermit Park Open Space_2008_CWPP - § 1 reference coded [0.80% Coverage]

Reference 1 - 0.80% Coverage

Property Risk Assessment The purpose of the property risk assessment is to help to prioritize areas for treatment and identify the highest priority uses for available financial and human resources. This section is divided into five areas of concern: • Fuel Hazards – An evaluation of vegetation conditions within the community and on adjacent lands.

included are: □ Larimer County Wildfire Safety Program –Property Wildfire Hazard Review □ Larimer County Fuel Hazard Map

Files\\Little Valley_2005_CWPP - § 1 reference coded [9.34% Coverage]

Reference 1 - 9.34% Coverage

Little Valley properties contain dense, overstocked stands of pure lodgepole, mixed conifer (lodgepole and ponderosa pine with some aspen and Douglas-fir component), and pure ponderosa with a dense regeneration understory. The topography and slope vary widely within the community; north- and northwest-facing slopes are prevalent, with slope percentages of 15-45%. Little Valley has been working with Larimer County and the Colorado State Forest Service to identify fuel reduction priorities and complete individual property

assessments. Both agencies have already assisted the community in marking properties to meet defensible space standards, mark trees to thin in community open space areas, and mark trees along access roads for fuel break thinning.

Files\\Manhattan Creek_2007_CWPP - § 3 references coded [3.85% Coverage]

Reference 1 - 1.20% Coverage

The elevation in the Manhattan Creek area ranges between 7,200 and 8,300 feet. This consists mostly of ponderosa pine. Interspersed amongst the pine are fire-flashy Rocky Mountain juniper trees. Other trees in the area consist of blue spruce, Engelmann spruce, aspen. The rivers edges are predominately populated with cottonwood and willows, with interspersed dogwood. At this elevation there is still a fair amount of highly combustible sage brush, chokecherry, and current bushes. Tall prairie grasses reside along most of the roadways. During dry seasons of the year, this material would ignite quickly, carrying wildfire throughout the community

Reference 2 - 1.13% Coverage

olorado as well as other western states is experiencing some of the largest fires in recent memory, in part, because we are experiencing some of the most severe drought conditions in history. Fire ecology reveals that you get big fires with extreme drought. There is little one can do to control drought. Under severe drought, especially if coupled with winds, normal fire behavior is thrown out the window. History shows the West has always experienced periodic drought, and large fires are not just a recent phenomenon. During the 1930s Dust Bowl era more than 39 million acres burned on average across the United States.

Reference 3 - 1.52% Coverage

The drought condition is also a major factor in the recent pine beetle epidemic. The pine beetle has not yet hit the Manhattan Creek community in epidemic proportion as it has in many other parts of the state, but many trees have been lost to the pine beetle. However, it is predicted to crest over Cameron Pass into Larimer County in large numbers within the next few years. Red and dead trees in large numbers will add to the vulnerability of the area to experience a large scale fire. Couple that with the overgrown forest, which are in part a result of an old philosophy to suppress all fire and we have a forest vulnerable to fire. Without natural intervention via fire or human activity such as mechanical thinning, stands have stagnated. Fire crowning into these stands would ignite quickly, carrying wildfire throughout the community.

Files\\Pinewood Reservoir_2008_CWPP - § 2 references coded [3.49% Coverage]

Reference 1 - 1.20% Coverage

Fuel Hazards – An evaluation of vegetation conditions within the community and on adjacent lands. included are: □ Larimer County Wildfire Safety Program – Subdivision Wildfire Hazard Review □ Larimer County Fuel Hazard Map

Reference 2 - 2.29% Coverage

The community encompasses 200 acres, with 63 lots and 62 residences. Treating High and Very High fire danger areas have been identified as crucial to reducing wildfire risk. Pinewood Reservoir has two stands of densely forested mixed conifer that grow in swaths across the community; these two stands are within the red and yellow zones on the attached map, which denotes those areas as having severe and high risk, respectively.

Files\\Pinewood Springs_2010_CWPP - § 3 references coded [1.29% Coverage]

Reference 1 - 0.35% Coverage

Slope: Larimer County and PSFPD agree that the topography in Pinewood Springs has a slope that ranges from 11-30%, which would be a score of 5. A detailed map of area slope can be found in the Appendix of this document, on page 22.

Reference 2 - 0.57% Coverage

With the exception of some recent mitigation work done in the forest lands west of Pinewood Springs as part of the Estes Valley Fuels Reduction Program, there is substantial understory growth, and a lot of dead and down trees as fuel sources in the wildland-urban interface (WUI) surrounding the community. There are similar fuel sources within the community, as well.

Reference 3 - 0.37% Coverage

Pinewood Springs has approximately 400 homes (see map on page 25), most of which would be at risk in the event of a wildfire. The area of Estes Park Estates is especially of concern, due to the limited access, steep slope, and heavy fuel load.

Files\Pole Hill_2009_CWPP - § 1 reference coded [1.39% Coverage]

Reference 1 - 1.39% Coverage

Objective: Improve protection of life, property, infrastructure, and other tangible and intangible values by mitigating catastrophic wildfire probability and damage. This report contains our risk assessment, concerns, action plan, and responsibilities for: 1. Reducing hazardous fuels 2. Reducing ignitability of structures 3. Trimming and thinning along roads for safe access by fire fighting personnel and safe evacuation egress 4. Trimming and thinning along private drives for safe access by fire fighting personnel and safe egress 5. Mapping and improving escape routes and reverse 911 communication 6. Improving public education and community awareness of wildfire issues

Files\Poudre Fire Authority_2011_CWPP - § 4 references coded [0.35% Coverage]

Reference 1 - 0.15% Coverage

Within Poudre Fire Authority's jurisdiction there are a substantial number of structures intermixed with fire adapted vegetation. Intense fires in these ecosystems can be natural or the result of fire exclusion and often exceed the suppression capabilities of handcrews. PFA's vital role in local wildland fire suppression has continued to grow with increased development in the wildland-urban interface.

Reference 2 - 0.06% Coverage

1.) Local wildland fuels can support extreme fire behavior under historic climatic conditions which may be exacerbated by the effects of fire exclusion.

Reference 3 - 0.07% Coverage

4.) Modeled and observed fire behavior illustrates the need for rapidly deployable engines, indirect line construction, and air resources during times of severe fire weather.

Reference 4 - 0.08% Coverage

1.) Local wildland fuels can produce extreme fire behavior under historical conditions. This can be exacerbated by the impacts of fire exclusion, climatic variability, or mountain pine beetle infestation.

Files\Poudre Park_2008_CWPP - § 2 references coded [3.95% Coverage]

Reference 1 - 1.41% Coverage

The elevation in the Poudre Park area ranges between 5,000 and 7,000 feet. This elevation is known as the

Lower Montane and consists mostly of ponderosa pine. Interspersed amongst the pine are fire-flashy Rocky Mountain juniper trees. Other trees in the area consist of blue spruce, Engelmann spruce, aspen. The river's edge is predominately populated with cottonwood and willow. At this elevation there is still a fair amount of highly combustible sage brush, chokecherry, and currant bushes. Vegetation varies between the north and south facing slopes. The south aspect is predominantly sage brush and grasses. The north aspect consists of a much denser tree population, most of which is ponderosa pine. Tall prairie grasses reside along most of the roadways. During dry seasons of the year, this material would ignite quickly, carrying wildfire throughout the community

Reference 2 - 2.55% Coverage

Colorado as well as other western states is experiencing some of the largest fires in recent memory, in part, because we are experiencing some of the most severe drought conditions in history. Fire ecology reveals that big fires occur during times of extreme drought. There is little one can do to control drought. Under severe drought, especially if coupled with winds, normal fire behavior is thrown out the window. History shows the West has always experienced periodic drought, and large fires are not just a recent phenomenon. During the 1930s Dust Bowl era more than 39 million acres yearly burned on average across the United States. The drought condition is also a major factor in the recent mountain pine beetle epidemic. The pine beetle has not yet hit the Poudre Park community in epidemic proportion as it has in many other parts of the state, but many log pole and ponderosa trees have been lost to the mountain pine beetle. However, the mountain pine beetle is predicted to crest over Cameron Pass into Larimer County in large numbers within the next few years. Red and dead trees in large numbers will add to the vulnerability of the Poudre Canyon to experience a large scale fire. Couple that with the overgrown forest, which is in part a result of an old philosophy to suppress all fire and we have a forest that is very vulnerable to fire. Without natural intervention via fire or human activity such as mechanical thinning, or prescribed burns, tree stands have stagnated. Fire crowning into these vulnerable stands would ignite quickly, carrying wildfire throughout the community.

Files\\Rist Canyon Volunteer Fire Department_2010_CWPP - § 4 references coded [3.25% Coverage]

Reference 1 - 0.76% Coverage

RCVFD's response area is a classic urban-interface wildland fire area characterized by: ☐ Multiple houses in the woods ☐ Steep and rugged terrain, poor access roads and no established water system ☐ Relatively mature Pine forest managed by homeowners. ☐ High level of community awareness with respect to wildfire mitigation efforts and needs, supported and driven by RCVFD community outreach and awareness. ☐ Significant forest management efforts coordinated and supported by both RCVFD and Colorado Tree Farmers Association.

Reference 2 - 0.91% Coverage

Colorado as well as other western states is experiencing some of the largest fires in recent memory, in part, because we are experiencing some of the most severe drought conditions in history. Fire ecology reveals that big fires occur during times of extreme drought. There is little one can do to control drought. Under severe drought, especially if coupled with winds, normal fire behavior is thrown out the window. History shows the West has always experienced periodic drought, and large fires are not just a recent phenomenon. During the 1930s Dust Bowl era more than 39 million acres yearly burned on average across the United States.

Reference 3 - 0.79% Coverage

The drought condition is also a major factor in the recent mountain pine beetle epidemic. The pine beetle has not yet hit the RCVFD community in epidemic proportion as it has in many other parts of the state, but many

lodge pole and ponderosa trees have been lost to the mountain pine beetle. However, the mountain pine beetle is predicted to crest over Cameron Pass into Larimer County in large numbers within the next few years and impact is growing. RCVFD has an active education program related to pine beetle in support of the Colorado Tree Farmers programs.

Reference 4 - 0.78% Coverage

Red (dried standing with needles) and dead trees in large numbers will add to the vulnerability of the RCVFD

to experience a large scale fire. Couple that with the overgrown forest, which is in part a result of an old philosophy to suppress all fire and we have a forest that is very vulnerable to fire. Without natural intervention via fire or human activity such as mechanical thinning, or prescribed burns, tree stands have stagnated. Fire crowning into these vulnerable stands would ignite quickly, carrying wildfire throughout the community.

Files\\Rustic Community_2007_CWPP - § 2 references coded [3.90% Coverage]

Reference 1 - 1.49% Coverage

The elevation in the Rustic area ranges between 7,000 and 7,500 feet. This elevation is know as the Lower Montane and consists mostly of ponderosa pine. Interspersed amongst the pine are fire-flashy Rocky Mountain juniper trees. Other trees in the area consist of blue spruce, Engelmann spruce, aspen. The rivers edge is predominately populated with cottonwood and willows, with interspersed dogwood. At this elevation there is still a fair amount of highly combustible sage brush, chokecherry, and current bushes.

Page 4

Vegetation varies between the North and South facing slopes. The south aspect is predominantly sage brush and grasses. The North aspect consists of a much denser tree population, most of which is ponderosa pine. Tall prairie grasses reside along most of the roadways. During dry seasons of the year, this material would ignite quickly, carrying wildfire throughout the community

Reference 2 - 2.40% Coverage

Colorado as well as other western states is experiencing some of the largest fires in recent memory, in part, because we are experiencing some of the most severe drought conditions in history. Fire ecology reveals that you get big fires with extreme drought. There is little one can do to control drought. Under severe drought, especially if coupled with winds, normal fire behavior is thrown out the window. History shows the West has always experienced periodic drought, and large fires are not just a recent phenomenon. During the 1930s Dust Bowl era more than 39 million acres burned on average across the United States. The drought condition is also a major factor in the recent pine beetle epidemic. The pine beetle has not yet hit the Rustic community in epidemic proportion as it has in many other parts of the state, but many trees have been lost to the pine beetle. However, it is predicted to crest over Cameron Pass into Larimer County in large numbers within the next few years. Red and dead trees in large numbers will add to the vulnerability of the Poudre Canyon to

experience a large scale fire. Couple that with the overgrown forest, which are in part a result of an old philosophy to suppress all fire and we have a forest vulnerable to fire. Without natural

Page 5

intervention via fire or human activity such as mechanical thinning, stands have stagnated. Fire crowning into these stands would ignite quickly, carrying wildfire throughout the community.

Files\\Spencer Heights_2008_CWPP - § 3 references coded [4.60% Coverage]

Reference 1 - 1.84% Coverage

The elevation in the Spencer Heights WUI ranges between 7,200 and 10,000 feet. This elevation consists mostly of ponderosa pine in the lower elevations and lodgepole pines in the higher elevations. Interspersed amongst the pine are fire-flashy Rocky Mountain juniper trees. Other trees in the area consist of blue spruce, Engelmann spruce, and aspen. The rivers edge is predominately populated with cottonwood and willows. At this elevation there is still a fair amount of highly combustible sage brush, chokecherry, and current bushes. On the east end of the WUI, vegetation varies between the North and South facing slopes. The south aspect is predominantly sage brush and grasses. The North aspect consists of a much denser tree population, most of which is ponderosa or lodgepole pine. Tall prairie grasses reside along most of the roadways. During dry seasons of the year, this material would ignite quickly, carrying wildfire throughout the community. As the elevation rises and the Poudre River turns South near MM 74, the vegetation is more consistent on both sides of Highway 14. The forest is much denser with a mixture of lodgepole pine and Engelmann spruce being the dominate tree species along with some subalpine fir.

Reference 2 - 0.93% Coverage

Colorado as well as other western states is experiencing some of the largest fires in recent memory, in part, because we are experiencing some of the most severe drought conditions in history. Fire ecology reveals that you get big fires with extreme drought. There is little one can do to control drought. Under severe drought, especially if coupled with winds, normal fire behavior is thrown out the window. History shows the West has always experienced periodic drought, and large fires are not just a recent phenomenon. During the 1930s Dust Bowl era more than 39 million acres burned on average across the United States.

Reference 3 - 1.83% Coverage

he drought condition is also a major factor in the recent mountain pine beetle epidemic. The mountain pine beetle is beginning to move into the Spencer Heights community in near epidemic proportion as it has in many other parts of the state, and we are starting to see tree loss due to the mountain pine beetle. The USFS is doing mitigation in the campground areas around Chambers Lake and Long draw road. The mitigation consists of spraying health trees and removal of beetle hit trees. While many Engelmann spruce trees are dead due to a spruce beetle outbreak, these areas are further away from homes and not yet expected to significantly contribute to the community fire risk. Red and dead trees in large numbers will add to the vulnerability of the Poudre Canyon to experience a large scale fire. Couple that with the overgrown forest and relatively low stand age diversity over the watershed, which are in part a result of an old philosophy to suppress all fire and we have a forest with magnified vulnerability to fire. Without natural intervention via fire or human activity such as mechanical thinning, stands have stagnated. Fire crowning into these stands would ignite quickly, carrying wildfire throughout the community.

Files\\USFS_2004_03_Arapaho NRA ROD - § 1 reference coded [0.28% Coverage]

Reference 1 - 0.28% Coverage

I decided on Alternative 3, with modifications, because I am concerned with the possible economic, social and environmental repercussions that the ongoing mountain pine beetle infestation could have in the area. I feel that this alternative does the most to slow the beetle infestation. Without taking these steps, we may create the conditions that would permit a high intensity/high severity wildfire that could be catastrophic for the local community in this wildland-urban interface.

Files\\USFS_2007_10_Blue Ridge DN - § 1 reference coded [0.55% Coverage]

Reference 1 - 0.55% Coverage

The purpose of this project is to: Modify existing and future fuel buildup from the MPB infestation to moderate fire behavior near structures and other resource values.

Maintain, restore or improve wildlife habitat and watershed conditions in the long term through road and trail management, aspen and sagebrush expansion, and shrub rejuvenation. Salvage the beetle-killed timber before it loses its marketable value.

Files\\USFS_2008_09_Egley Fire Restoration DN - § 1 reference coded [0.77% Coverage]

Reference 1 - 0.77% Coverage

This Decision Notice (DN) documents my decision and rationale for the Egley Fire Restoration Project. In July 2007 the Egley complex began as a series of lightning events over the northwest portion of the Harney basin. These lightning strikes ignited close to 30 confirmed fires on the Burns Interagency Fire Zone. Over the course of the next few days' high winds, high temperatures, low humidity's and inaccessible terrain combined to restrict control efforts on these fires. Out of the initial starts three large fires emerged to form the Egley complex. Within the complex 140,100 acres were consumed of which 98,500 acres were on National Forest lands, 34,200 acres on Bureau of Land Management lands and 7,400 acres of private ground involved. The Egley Fire resulted in a high severity burn in most of the drainages of Emigrant, Blue, Stinger, and Dodson Creeks.

Files\\USFS_2008_09_Red Feather FONSI - § 1 reference coded [1.75% Coverage]

Reference 1 - 1.75% Coverage

he Red Feather Project Area contains several communities, municipal watersheds and infrastructure such as public utility corridors that are considered to be 'at risk' from potential wildfires. In addition, many of the conifer stands within the project area are in Condition Class 2 or 3 meaning the stands have missed one or more fire return intervals. Without low intensity fires, surface fuels and ladder fuels increase. These hazardous fuel conditions, when added to the intermix of private lands, creates potential for extreme wildfire behavior and unsafe conditions for firefighters that would be sent to suppress fires next to private property.

Files\\USFS_2009_01_Lonetree Fuels Reduction Project DM - § 1 reference coded [2.91% Coverage]

Reference 1 - 2.91% Coverage

The vegetation in the area is primarily mixed conifer stands consisting of ponderosa pine and Douglas fir. Aspen exists in small pockets and stringers and is being encroached upon by the conifers. Past fire suppression activities, tree mortality from insect and disease loss, drought and plant succession have resulted in a build-up of hazardous fuels and overstocked stands within the project area. Approximately 1,649 acres are classified as very high fuel hazard with a tree canopy closure of 70% or greater. Because of the very high fuel hazard, a wildfire start in the Poudre Canyon could result in an intense wildfire with high severity. Prevailing southwest winds could drive a wildfire through National Forest land into the WUI, threatening private property. In 1994, a wildfire burned approximately 600 acres of private and National Forest and stopped just short of the Glacier View Meadows subdivision. In response to this potential threat and the previous experience with wildfire, various private landowners have been creating areas of defensible space on their property.

Files\\USFS_2009_04_Pingree Hills DM - § 1 reference coded [1.87% Coverage]

Reference 1 - 1.87% Coverage

Within the last 30 years, mountain pine beetle and spruce budworm epidemics have been responsible for an increase in mortality in the ponderosa pine and Douglas fir. A portion of these dead trees have been removed from the area through small salvage timber sales. Many of the remaining dead trees are now on the ground and, when added to the young trees that have regenerated, create a condition that is conducive to the spread of severe, fast moving wildfires. In addition to reducing hazardous fuels, areas where improvement to bighorn sheep habitat through the use of prescribed fire were identified. The primary benefits would be an increase in grass for forage and a reduction in hiding cover used by predators to prey on lambs.

Files\\USFS_2010_04_Glen Haven Fuel Reduction FONSI - § 2 references coded [2.88% Coverage]

Reference 1 - 1.43% Coverage

The Glen Haven Project Area contains several communities, municipal watersheds and infrastructure such as public utility corridors that are considered to be ‘at risk’ from potential wildfires. In addition, the amount of flammable fuels has increased due in part to immediate suppression of wildfires. Without low intensity fires, surface fuels and ladder fuels increase and, when added to the intermix of private lands, creates potential for extreme wildfire behavior and unsafe conditions for firefighters that would be sent to suppress fires next to private property.

Reference 2 - 1.45% Coverage

There is a need to apply appropriate vegetative treatments to maintain or improve watershed and forest health, reduce hazardous fuels and modify wildfire behavior in the forested areas of the project area. Treatments need to be applied in a manner and location that complement defensible space efforts on private land and/or protect other values at risk. In addition, these treatments are needed to maintain or restore ecosystem composition and structure that would reduce the risk of uncharacteristic wildfire that would be expected to occur within the current climatic period.

Files\\USFS_2010_06_Elkhorn Project FONSI - § 1 reference coded [0.64% Coverage]

Reference 1 - 0.64% Coverage

Reduce hazardous fuels on National Forest System (NFS) lands that could contribute to the increased spread and intensity of wildfire. Current fuels conditions, including dead trees killed by MPB, can contribute to uncharacteristically severe wildfire behavior that could threaten improvements on private property and affect natural resources on NFS land. Action is needed to restore these stands to stocking levels and species composition that more closely resemble typical conditions.

Files\\USFS_2010_08_Forest-wide Fuels Reduction FONSI - § 1 reference coded [1.09% Coverage]

Reference 1 - 1.09% Coverage

During the last ten years, mountain pine beetle (MPB) activity has dramatically increased across pine forests in Colorado. Due to the increase in dead and dying trees, the Arapaho and Roosevelt National Forests (ARNF) have analyzed the effects of cutting trees that are considered at risk of falling along roads, trails, and administrative sites within the ARNF. The Proposed Action is to employ a concerted effort to reduce the possibility of injury to ARNF visitors, employees, and property from falling trees, as well as to reduce the potential hazard and impacts of forest fires within the project area.

Files\\USFS_2010_08_Jane Hazardous Fuel Reduction DM - § 1 reference coded [0.93% Coverage]

Reference 1 - 0.93% Coverage

In making this decision, I considered important ecological contributions. Fuel treatments in the selected alternative are designed to protect lives and property, reduce canopy fuels, ladder fuels, and surface fuels,

decrease the Fire Regime Condition Class (FRCC) from a future condition class of III to a condition class I, reduce the insect and disease risk, and restore structural and compositional forest conditions considering the variability in landscape vegetation types. Treatments will reduce fuel levels and allow a more natural fire regime to occur in the future, while also restoring deficient old forest structures across the landscape in areas where they are ecologically sustainable. Dense stand conditions have created conditions where large diameter trees are susceptible to loss from fire, insects and disease. By implementing biomass removal and underburning to reduce fuel levels the potential loss of large diameter trees to wildfire, insects and disease are reduced (EA page 3-24 and 3-41).

Files\\USFS_2011_01_Magic Sky FONSI - § 2 references coded [3.99% Coverage]

Reference 1 - 1.78% Coverage

The Magic Sky project area has been prioritized for treatment due to the large amount of acres in a high to very high fuel hazard condition and a high percentage of private land and other values at risk within and adjacent to the project area. These hazardous fuel conditions, when combined with intermingled private lands, creates potential for extreme wildfire behavior and unsafe conditions for firefighters. Private lands within the project area include buildings and other infrastructure associated with the Magic Sky and Ben Delatour Scout Camps, the Sundance Trail Guest Ranch, as well as private residences within adjacent subdivisions. Segments of the Poudre REA utility line also exist within the project area.

Reference 2 - 2.21% Coverage

his alternative fully meets the purpose and need for action for the project as described above and detailed in the EA. Through thinning and prescribed fire, this alternative treats an estimated total of 2,849 acres of NFS land (see map in EA pg. 25). Thinning treatments on an estimated 1,998 acres will emphasize thinning primarily smaller diameter conifer trees growing underneath larger, more mature trees. However, in some areas where the Mountain Pine Beetle (MPB) epidemic is evident, larger diameter trees infested with MPB could be removed. Treatments in inventoried old growth stands and areas classified in the Forest Plan as old growth development and recruitment would be designed to maintain or develop old growth characteristics. In such occurrences, it may be necessary to leave smaller diameter non-infested trees to allow development of future old growth characteristics.

Files\\USFS_2012_01_Dairy Project DN - § 1 reference coded [0.35% Coverage]

Reference 1 - 0.35% Coverage

Improve the health, vigor, and resiliency of vegetation to insects, disease, wildfire, and other disturbances, to more closely resemble historical conditions in order to promote long-term forest sustainability and wildlife species diversity; and meet requirements of the Ochoco National Forest Plan (Recommendation from Silver Creek WA, pp.62),

Files\\USFS_2012_01_Soda Bear Project DN - § 1 reference coded [1.23% Coverage]

Reference 1 - 1.23% Coverage

(1) Reduce fire hazard including surface, ladder and crown fuels within the urban interface on the National Forest.

To reduce the fire hazard, there is a need to remove fuels from the area and manage forest vegetation to reduce the risk of fire moving from the National Forest System lands on to private property. Past management including timber harvest and fire suppression have contributed to forest conditions that are unlike historic conditions. Woody debris (surface filels) have built up on the forest floor and trees have grown close together providing fuel ladders for ground fires to climb into the crowns of larger trees. These

changes have increased the risk of loss of large diameter trees and remaining old forest stands in the Project Area from wildfire. The Forest Plan includes direction to manage residue profiles (activity and natural fuels) at a level that will minimize the potential of high intensity catastrophic wildfires and provide for other resource objectives in individual management areas (ForestWide Standard #181, IV-45). The Forest Plan directs that fuel treatments should be prescribed by site-specific analysis to achieve resource management objectives, with utilization of wood residue as a priority treatment, consistent with long-term site productivity and wildlife habitat needs (Forest-Wide Standard, #183, IV-45).

Files\\USFS_2012_06_Cedar Park FONSI - § 3 references coded [4.51% Coverage]

Reference 1 - 1.46% Coverage

Two large wildfires that have threatened and/or destroyed homes and other values have occurred within the project area in recent history: the Bobcat Gulch Fire in 2000 and the Crystal Fire in 2011. The impact of these wildfires underscored the need for collaboration between property owners and associations and State and County agencies to create areas of defensible space around homes and other improvements on private land. Furthermore, a large portion of the Cedar Park project area is classified as high or very high fuel hazard (11,744 acres of the 21,819 acre total). Currently there is not a Community Wildfire Protection Plan (CWPP) in the Cedar Park project area.

Reference 2 - 1.97% Coverage

This alternative fully meets the purpose and need for action for the project as described above and detailed in the EA. Through thinning, clearcutting and prescribed fire, this alternative treats an estimated total of 4,400 acres of NFS land (see map in EA pg. 19). Thinning treatments on an estimated 3,660 acres will emphasize thinning primarily smaller diameter conifer trees growing underneath larger, more mature trees. However, in some areas where the mountain pine beetle (MPB) epidemic is evident, larger diameter trees could be removed. Treatments in inventoried old growth stands and areas classified in the Forest Plan as old growth development and recruitment would be designed to maintain or develop old growth characteristics. In instances where MPB is evident, it may be necessary to leave smaller diameter non-MPB infested trees to allow development of future old growth characteristics.

Reference 3 - 1.08% Coverage

Implementation of clearcuts with reserve areas and patch clearcuts will occur in lodgepole pine dominated stands on approximately 300 acres. Because lodgepole pine regenerates in even-aged stands and because high MPB-caused mortality is occurring in lodgepole forest types, clearcutting is the most appropriate vegetation treatment method for this species. Reserve areas will be left within the clearcuts to provide for wildlife habitat, including snag retention, and visual resources.

Files\\USFS_2012_06_Marshall Devine Hazardous Fuel Reduction Project DN - § 1 reference coded [0.88% Coverage]

Reference 1 - 0.88% Coverage

Landscape scale fuels treatment activities will occur on 15,218 acres within 8 fuel blocks (See Prescribed Fire Map). Prescribed fire will remove the excess fuel accumulations and reduce the risk of large stand—replacement fires. Underburning (the use of low intensity ground fire) will be utilized for managing mixed ponderosa pine and associated fir stands to reduce fir encroachment and perpetuate ponderosa pine. The objectives of fuels management are to reduce the fire hazard. Prior to reintroducing fire into the area, some areas will have Hazardous Fuel Reduction Activities, as described in the preceding section.

Roads and natural boundaries will be the main fire control lines however, some areas may need hand or plow

constructed line prior to ignition. Implementation of fuel treatments will occur over the next 10 years with periodic review as required by NEPA. The exact timing and acreage will be determined by funding, availability of personnel and variations in weather patterns.

Files\\USFS_2013_09_Upper Pine Hazardous Fuel Reduction DN - § 1 reference coded [0.22% Coverage]

Reference 1 - 0.22% Coverage

Reduce fuels (including surface fuels, ladder fuels, and crown fuels) to alter fire behavior (intensity, duration, rate of spread, torching, and crowning) and move the area towards historical fire behavior (low intensity surface fires) and fire regime (frequency) with historical fire effects on vegetation (from high mortality to low mortality).

Files\\USFS_2015_03_Manhattan DM - § 1 reference coded [2.93% Coverage]

Reference 1 - 2.93% Coverage

In order to improve forest health and reduce hazardous fuels in the vicinity of Crystal Lakes and Red Feather Lakes, Colo., the Forest Service plans to implement 54 acres of vegetation treatments (see Map 1 and Table 1 below). These areas were previously treated in the Sevenmile project, but significant mortality has occurred since as a result of the mountain pine beetle. These units are adjacent to fuels treatment units planned as part of the Red Feather Fuels Reduction Project and will likely be implemented in 2015 or 2016. Treatments will be accomplished using mechanical equipment and forest products would be removed where feasible and appropriate

Files\\USFS_2015_05_Cherokee Park FONSI - § 1 reference coded [2.00% Coverage]

Reference 1 - 2.00% Coverage

Many of the ponderosa pine and mixed conifer stands in the project area do not exhibit characteristics typical of the fire regimes and condition classes expected at this elevation and location, and are considered outside the historic range of variation due to fire suppression activities. The combination of current fuels conditions and trees killed by mountain pine beetle (MPB) could produce uncharacteristically severe wildfire behavior that would threaten improvements on private property and affect natural resources on National Forest system lands. Action is needed within the Cherokee Park project area to minimize the probability of crown fires that threaten values-at-risk, including homes, structures, wildlife habitat, watersheds and to restore the ecosystems to a more natural fire regime.

Files\\USFS_2015_07_Wolf Vegetation Management Project DN - § 5 references coded [1.62% Coverage]

Reference 1 - 0.41% Coverage

Harvest in mixed conifer stands will be accomplished through variable density thinning to reduce tree density creating stands that are more resilient and resistant to fire making the stand composition and structure reflect more closely what may have been in the area historically. No trees over 21" DBH will be cut. The treatment includes variable density thinning by reducing basal area to around an average of 80 ft². Gaps up to 2 acres in size will be created by removing all trees less than 21" DBH within those openings. This is to simulate disturbance. Skips of high tree densities will be left uncut for the benefit of wildlife; these patches will be 2 to 5 acres in size. One skip and one gap will occur for every 10 acres. If feasible all created biomass will be removed for commercial use. Any created biomass not utilized for commercial purposes will be piled and burned or jackpot burned in areas of light fuel loads.

Reference 2 - 0.42% Coverage

Harvest in ponderosa pine stands will be accomplished through variable density thinning to reduce tree

density creating stands that are more resilient and resistant to fire making the stand composition and structure reflect more closely what may have been in the area historically. No trees over 21" DBH will be cut. The treatment includes variable density thinning by reducing basal area to an average of 60 ft². Gaps will be created measuring up to 2 acres by removing all trees less than 21" DBH within those openings. This is to simulate disturbance. Skips of high tree densities will be left uncut for the benefit of wildlife these patches should be no more than 2 acres. Gaps will be placed every five acres and skips will be one each for every 10 acres. If feasible all biomass will be removed for commercial use. Any biomass including slash not utilized for commercial purposes will be piled and burned or jackpot burned in areas of light fuel loads.

Reference 3 - 0.29% Coverage

Harvest on slopes greater than 35% will be accomplished through variable density thinning to decrease tree densities, reducing the chance of wildfires becoming stand replacement events. No trees over 21" DBH will be cut. The treatment will leave a target basal area of 80 ft² regardless of predominant species type. The treatment will utilize non-ground based logging systems. Skips between 0.25 and 2 acres will be left uncut to provide for wildlife cover. All biomass will be utilized for commercial purposes when feasible. Any slash not utilized for commercial purposes will be hand piled and burned or jackpot burned in areas of light fuel loads.

Reference 4 - 0.25% Coverage

Conifer encroachment treatment is proposed to remove encroaching conifers into historically non forested areas, returning the areas to a more historic range of variability. The treatment will consist of cutting all conifers less than 20.9" DBH and cutting all juniper trees that do not exhibit old tree characteristics. All biomass will be utilized for commercial purposes when feasible. Any biomass including slash not utilized for commercial purposes will be piled and burned or jackpot burned in areas of light fuel loads slash material may be lopped and scattered.

Reference 5 - 0.25% Coverage

Juniper reduction treatment will remove all junipers that do not exhibit old tree characteristics within these units. The treatment is to remove encroaching juniper from larger ponderosa pine stands to increase tree growth and vigor in the pine stands by reducing competition. This treatment will also help reduce juniper as a ladder fuel in the event of a wildfire, reducing the chances of a crown fire occurring. Any created biomass will be removed if feasible or piled and burned, jackpot burned in areas of light fuel loads slash material may be lopped and scattered.

Files\USFS_2017_03_Poudre Canyon Rx DM - § 2 references coded [2.27% Coverage]

Reference 1 - 0.93% Coverage

Both the statewide bighorn sheep management plan (CPW 2009) and the local sheep management plan for the Poudre River herd noted above (CPW 2012) identified habitat deterioration due to wildfire suppression, which allows tree and shrub encroachment, as a limiting factor for sheep populations. These plans also identified the use of prescribed burning as a recommended management tool for restoring higher quality habitat by reducing visual obstruction and improving forage quality.

Reference 2 - 1.34% Coverage

Wildfire suppression has contributed to increased densities of conifer trees, Rocky Mountain juniper, and shrubs within the burn units, resulting in reduced habitat quality and sight distances for bighorn sheep. Sheep prefer open habitats dominated by herbaceous vegetation and lower shrub cover. Increased juniper, conifer, and shrub densities provide increased ambush cover for sheep predators. Located within the 51 Game Management Unit for the Poudre River Sheep herd, the project area

provides important winter and summer range and is also within a bighorn production area identified by CPW. For these reasons, there is a need for management action that would improve bighorn sheep habitat.

Files\\USFS_2018_02_Flat Vegetation Management Project DN - § 1 reference coded [0.56% Coverage]

Reference 1 - 0.56% Coverage

I also evaluated the environmental consequences of a non-commercial size restoration alternative (Alternative A, EA Chapter 2 at 2-2). Without removal of trees ranging from 10-21" DBH targets aimed at increasing diversity and structure in upland forest would not be met. Reference conditions described by Churchill et al. (2017) show trees occurring as widely spaced individuals (no neighbors within 20 ft) and high proportions of stands containing large openings. A vast majority of the project area is currently characterized by dense, even-aged, second growth timber stands with homogeneous horizontal and vertical structure and high percentages of trees falling between 10-21" DBH. Without removal of trees in this size range the project area will continue to deviate from reference conditions. Specifically, targets for structural stages and openings across the landscape will not be met. Furthermore, without removal of trees in this size range

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stocking levels would remain above those recommended by Powell (1999). A noncommercial alternative will leave stands overstocked and will not mitigate against current and predicted future drought effects, leaving stands highly susceptible to insect and disease attacks and stand replacing wildfires.

Files\\USFS_2019_02_Magic Feather DM - § 2 references coded [2.50% Coverage]

Reference 1 - 0.86% Coverage

The purpose of this project is to restore the ponderosa pine and mixed conifer stands to a more natural state. Restoration of these stands will include reducing surface and crown fuel loading across the landscape and across jurisdictional boundaries, retaining and encouraging old growth qualities, and improving wildlife habitat. The ponderosa and mixed conifer stands in the Red Feather Lakes area will benefit from reintroducing fire back into these fire dependent ecosystems. Decreasing the fuel loading will increase resiliency to future natural disturbances in these stands. Reintroducing fire across the landscape will also reduce the effects and risk of uncharacteristic wildfire by re—establishing natural fire regimes.

Reference 2 - 1.64% Coverage

Ponderosa pine stands in the project area generally burned every 8—79 years (Hunter, et al 2007¹) and mixed conifer stands burned every 7-125 years (Evans, et al 2011²). Historical fires in this upper montane zone are described as mixed-severity where areas burned with low severity (surface fires) to high severity (crown fires). This fire regime³ would have led to a mosaic of stand structure across the landscape to include areas that were very open and some areas remaining fairly dense. Because these stands have missed fire cycles, likely due to suppression activities, it will take multiple entries to bring the project area back to a more natural

¹ A Comprehensive Guide to Fuels Treatment Practices for Ponderosa Pine in the Black Hills, Colorado Front Range, and Southwest. RMRS—GTR-198, September 2007. ² Comprehensive Fuels Treatment Practices Guide for Mixed Conifer Forests: California, Central and Southern Rockies, and the Southwest. Forest Guild, May 2001. ³ Fire regime refers to the role a fire plays in the ecosystem. it is the pattern, frequency, and intensity of wildfires that prevail in an area over long periods of time.

fire regime. Previous broadcast burning in the Lady Moon and Dowdy Lake areas were considered first entries. Re—burning these areas will further move these stands towards their historical fire regime.

Files\\Upper Cherokee Park_2011_CWPP - § 1 reference coded [0.68% Coverage]

Reference 1 - 0.68% Coverage

Fuel Hazards – An evaluation of vegetation conditions within the community and on adjacent lands.

References to be included: Larimer County Wildfire Safety Program – Subdivision Wildfire Hazard Review

Larimer County Fuel Hazard Map Colo. State Forest Service Fuel Hazard Map