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Department of
Agriculture

Forest
Service



Environmental Assessment

Pahvant Interagency Fuels Reduction Project Healthy Forest Initiative-Fuels Reduction 2003

August 2003

Fillmore Field Office
Bureau of Land Management

&
Fillmore Ranger District
Fishlake National Forest



United States
Department of
Interior

Bureau of Land
Management



Mature pinyon-juniper and mountain brush adjacent to a residence in the wildland urban interface zone

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INTRODUCTION AND BACKGROUND

The proposed action evaluated by this Pahvant Interagency Fuels Reduction Project Environmental Assessment (EA) is to cut and burn approximately 14,300 acres of hazardous fuels along the west side of the Pahvant Mountain Range (Pahvant Front). The proposed treatment units are located east of Interstate 15, between Fillmore and Richfield, and extending from Scipio to Meadow, Utah (see Figure 1, pg. 5).

The documents cited in this EA and additional project documentation, including resource specialist reports and detailed analyses of project-area resources, can be obtained from the Richfield Interagency Fire Center webpage at: www.fs.fed.us/r4/rifc/pahvant/pahvant, and in the project planning record located at the BLM Fillmore Field Office in Fillmore, Utah and the Fishlake National Forest Supervisor's Office in Richfield, Utah. The findings contained within those resource specialist reports are incorporated by reference into this EA.

This assessment tiers to the Final Environmental Impact Statements for the BLM House Range Resource Management Plan (RMP, 1987), BLM Warm Springs RMP (1986), and Fishlake National Forest Land and Resource Management Plan (Forest Plan, 1986), as amended. Specifically, this proposal is designed to be consistent with the management direction contained in Chapter 2 (pages 13-94) of the BLM House Range RMP, Chapter 2 (pages 9-62) of the BLM Warm Springs RMP, and Chapter IV (pages IV-1 to IV-160) of the Fishlake Forest Plan. The proposed action is also designed to be consistent with the Endangered Species Act, Clean Water Act, Clean Air Act and National Historic Preservation Act.

PURPOSE AND NEED FOR THE PROPOSAL

This section summarizes the existing and desired conditions in the project area, which led to the purpose of and need for the proposed action.

Existing Condition

This EA presents a summary of the existing condition. A complete discussion of the existing condition and history of events leading up to the proposed action is contained in the Fire and Fuels Specialist Report (FFSR, Chappell, 2003).

The project analysis area is located along the west side of the Pahvant Mountain Range (Pahvant Front), east of Interstate 15, between Fillmore and Richfield, and extending from Scipio to Meadow, Utah (see Figure 1, pg. 5). The Pahvant Front contains various vegetation types including pinyon-juniper, sagebrush/grass/forb, and Gambel oak. Historically, fire played a regular disturbance role in these vegetation types (FFSR, pg. 6). Fire suppression activity over the last 150 years has resulted in increased height and density of these vegetation types, with more tons of fuel per acre available to burn (ibid.). This is particularly evident in areas that have changed from mixed grass and sagebrush to pinyon-juniper and Gambel oak (ibid.). If fires were allowed to burn as they did historically, we would currently expect a mosaic of various

vegetation types and fuel loads. Instead, there exists a heavy, continuous fuel loading that presents an increased risk of a wildfire rapidly spreading once ignited (ibid., pg.12).

Over the last ten years there have been numerous, large, high severity wildfires along the Pahvant Front. An average of 31 lightning-caused fires occur in this area each year (ibid., pp.12-13). In 1996, the Adelaide wildfire burned approximately 15,000 acres near Kanosh, which later resulted in flooding to farmlands and damage to hay crops. A bridge, fences, and fisheries habitat structures were also damaged on National Forest System lands. In August 2000, the Swain's wildfire burned about 7,700 acres along the Pahvant Front. The wildfire threatened several structures in the area. In the summers of 2000 of 2001, heavy thunderstorms resulted in flood damage to residences in Holden, as a result of the loss of vegetation and soil damage caused by the Swain's fire. A Forest Service road and campground were also damaged.

Vegetation along the Pahvant Front is expected to increase in density, thereby accumulating more dead fuels (ibid., pp. 16-17). When wildfire occurs it would likely produce high severity, potentially damaging fires. Such fires would consume much vegetation, resulting in unprotected soils and watersheds. Fire starts would likely continue to occur at the average rate of 30 per year. It is expected that some of the lightning fires would escape initial attack and grow to very large sizes. Fires would burn with more intensity, longer flame lengths and higher severity than would have been typical 150 years ago. The result would be uncharacteristically intense and severe fires. Resistance to fire control would increase, while the ability to provide for public and firefighter safety and structure protection would continue to decrease (ibid.).

The steep canyons and dense fuels adjacent to the communities of Scipio, Holden, Fillmore and Meadow have the potential to burn hot enough to prevent safe and effective deployment of suppression resources for the protection of individual homes, communities and watershed values (ibid., pp. 16-17; Hydrology Report, pp. 36-37). There would be increased probability of flood events as a result of loss of vegetation and adverse effects to soils (Soil Resource Management Report, pg. 28).

Desired Condition

The proposed action responds to the goals and objectives outlined in the House Range RMP (1987), Warm Springs RMP (1987), and Fishlake Forest Plan (1986), as amended by the Utah Fire Amendment (USDA, 2000). The proposed action is designed to meet goals, objectives and guidelines and helps move the project area towards desired conditions described in those plans. Relevant goals and objectives include, "Reduce human and ecological losses, complement resource management objectives, and sustain productivity of biological systems through fire management" (*RMPs, pg. 61, 93*), and "Ecosystems are restored and maintained, consistent with land uses and historic fire regimes, through wildland fire use and prescribed fire" (*Utah Fire Amendment, pg. A-40*).

The specific desired condition related to this proposal is that fuel height and fuel loading are at a level that, if ignited by wildfire, would result in flame lengths and fireline intensity that would allow for safer initial attack and less risk to firefighters, and less potential for large, high severity wildfires. There would also be a reduced potential of damage to communities and resources from wildfire and flooding. Firefighters can safely attack up to a four-foot flame length with

handtools. Fireline intensity at four-foot flame lengths is about 100 British thermal units per foot per second (Btu/ft/sec). Fire engines can safely attack fires with flame lengths up to eight feet. Eight-foot flames produce about 500 Btu/ft/sec. (FFSR, pp. 17-18)

Purpose and Need for Action

The general concern for the communities of Scipio, Holden, Fillmore and Meadow is a high risk of high severity wildfire, and public and firefighter safety. The purpose of the proposed action is to change fire behavior conditions near these communities to reduce the risk of uncharacteristically intense and severe wildfire and secondary effects, such as flooding, to these communities and the environment, while providing for firefighter safety.

The BLM and Forest Service are proposing to change fire behavior by reducing vegetative fuels because vegetation is the only one of the three (weather and topography being the other two) factors influencing fire behavior that can be changed. Decreased fuels, along with associated reduced flame lengths and fireline intensity, support public and firefighter safety (FFSR pp. 17-18). The specific fuel condition and fire behavior needs surrounding these communities are: 1) shorter fuel heights, 2) decreased fuel loads, 3) decreased flame length, and 4) decreased fireline intensity. A comparison of existing and desired fuel conditions and fire behavior in the table below shows there is a need for change.

Table 1. Existing and Desired Conditions for Fuels and Fire Behavior.

	Existing Level	Desired Level
Fuel Height (feet)	3-20	<2
Fuel Load (tons per acre)	3-30	<5
Flame Length (feet)	10-45	<8
Fireline Intensity (Btu/ft/sec)	190-24,000	<500

Ranges are based on actual figures for sagebrush/grass/forb, Gambel oak/mountain brush, and pinyon-juniper vegetation types (see Fire and Fuels Specialist Report, contained in the project planning record)

ALTERNATIVES, INCLUDING THE PROPOSED ACTION

Alternative 1 - No Action

Under the No Action alternative, the proposed fuels reduction activities would not occur in the proposed treatment units at this time. This alternative represents the existing condition against which the action alternative is compared. The project area would remain as described in the Existing Condition section (pp. 1-2), and current trends would continue. Vegetation would continue to grow more densely, accumulating more dead fuels. The result would be uncharacteristically intense and severe wildfires, when they occurred. Resistance to fire control would increase, while the ability to provide for public and firefighter safety and structure protection would continue to decrease.

Alternative 2 - Proposed Action

The Fillmore Field Office Manager and the Fillmore District Ranger are proposing to treat approximately 14,300 acres of hazardous fuel accumulations along the Pahvant Front. The proposed action is to reduce hazardous fuels by reducing fuel height and fuel loads. Treatments would occur in seven treatment units, each ranging from approximately 500 to 4,900 acres in size. Vegetation to be treated includes sagebrush-grasslands, pinyon-juniper, and Gambel oak. Detailed treatment unit maps, treatment unit acreages, vegetation types and primary treatment methods are displayed in Appendix A.

Approximately 40-80 percent of the vegetation would be removed in each treatment unit. Treatment methods include cutting vegetation by hand (i.e. chainsaw); piling or scattering cut vegetation; burning cut vegetation by hand or helicopter; and broadcast burning by hand or helicopter. Broadcast burning would be applied to create a patchwork burn pattern of burned and unburned vegetation. For example, 40-80 percent of the vegetation would be burned, leaving 20-60 percent unburned. Treatments involving broadcast burning would occur mainly during spring and fall months. Cutting could occur any time of year. Treatments would begin in 2003 and are anticipated to be completed by 2008.

Project Design Specifications

As part of the proposed action, the following design specifications would be implemented in order to ease potential impacts to resource conditions:

1. Where necessary, handlines would be constructed along the perimeters of treatment units in order to contain prescribed fire within the Wild Goose, Pioneer, Horse Hollow and Meadow treatment units. Handline would be created by clearing up to a ten-foot path in overhead fuels, and up to a one-foot wide line scraped to bare mineral soil. Less than one mile of handline would be created in each of these four units.
2. Firelines would be water barred frequently to reduce erosion damage, as part of fireline Best Management Practices (Hydrology Report, pg. 34).
3. Low- to moderate-intensity prescribed fire would be used in order to promote the creation of a patchwork pattern of burned and unburned vegetation, and to protect soil resources.
4. Prior to prescribed burns in the Grabalt, Horse Hollow, and Meadow treatment units, the soil moisture content would be approximately 12-15% water by weight, in order to protect the fragile nature of the soils (Soil Resource Management Report, pg. 29).
5. Treatment of the Holden Springs unit would be deferred until 2005 in order to avoid future potential for flooding to the community of Holden, which could occur as a result of cumulative effects from the Swain's wildfire. This would allow for further rehabilitation and revegetation of the steep mountainsides within upper Maple Hollow drainage (Soil Resource Management Report, pg. 33 and Hydrology Report, pg. 33).

Continued on page 6

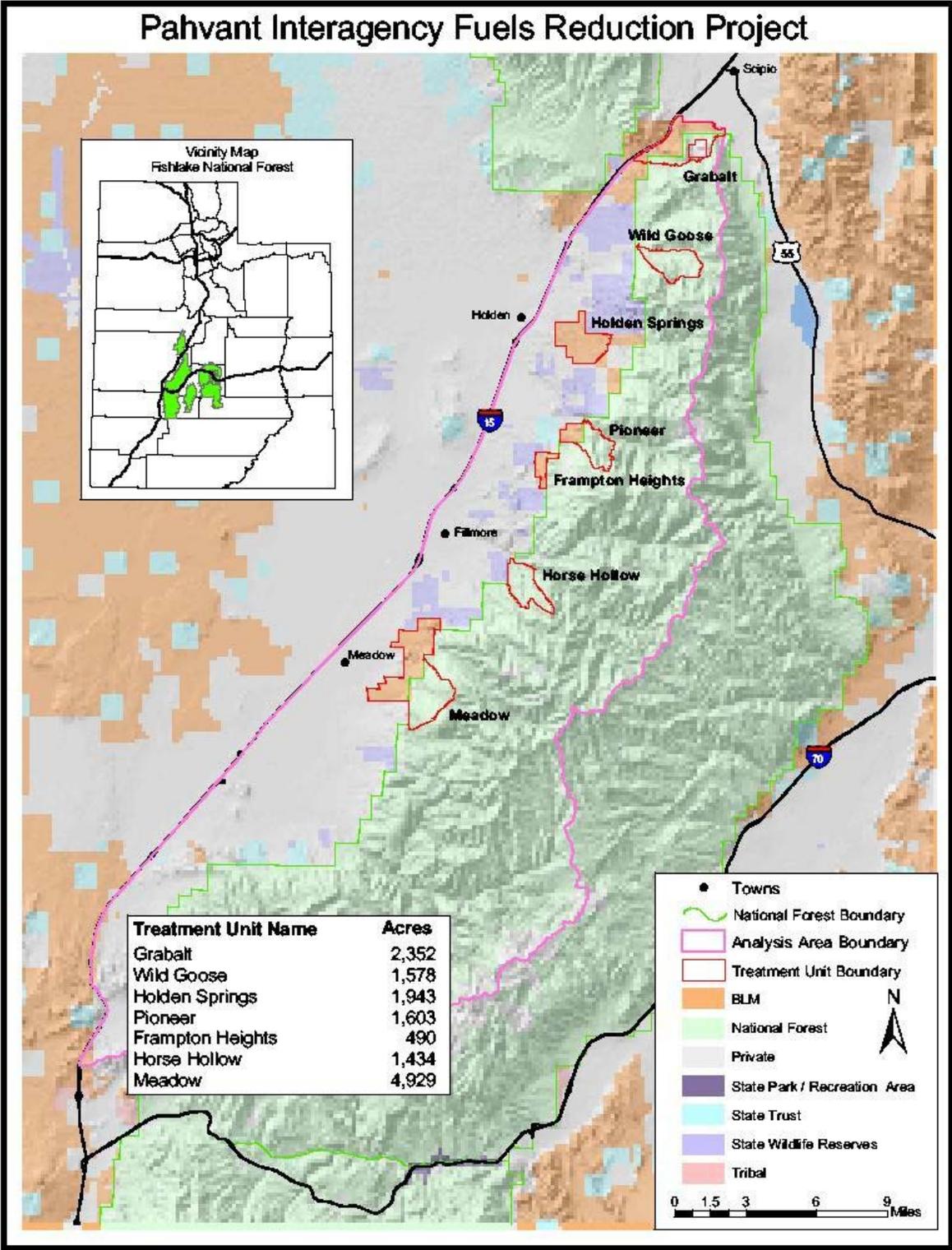


Figure 1. The analysis area, proposed treatment units, and unit acreages.

Project Design Specifications, *continued*

6. Grazing pastures within treatment units would be rested from livestock grazing for a minimum of two growing seasons following a prescribed burn in that unit. Pastures would be rested for an additional season(s), where necessary to allow vegetation to grow and reestablish. The following allotments and units would be affected. BLM: Meadow Spring Allotment; USFS: Wild Goose Allotment – Wild Goose Unit; Pioneer Allotment – Pioneer Unit; Center Fork Chalk Creek Allotment – Horse Hollow Unit; Meadow Creek Allotment – Meadow Creek and Walker Canyon Units.
7. Vegetation treatments would not occur within a minimum 100-foot buffer on either side of Pioneer, Chalk and Meadow creeks, in order to avoid potential negative effects to riparian resources.
8. An average of two pinyon-juniper trees per acre would be retained for wildlife habitat in areas to be cut. Trees with cavities that are observed during cutting of pinyon or junipers would be retained for cavity nesting bird species.
9. Several archaeological sites have been identified in the proposed project areas thus far. It is anticipated that additional sites would be located during future surveys. No ground-disturbing activities would be conducted through known archaeological sites that are eligible to the National Register of Historic Places. Eligible sites would be protected by reducing heat intensity and fire duration on sites through the use of firelines or hand thinning of fuels within and around site boundaries. In areas not previously inventoried, an archaeologist would be present to monitor all ground-disturbing activities to ensure there would be no adverse effects to heritage resources.
10. Prescribed burning would only occur under specified conditions for weather, fuel moisture and other factors as specified in the prescribed burn plan, which would provide for safe burning conditions and would reduce the possibility of fire escape.
11. In the event a prescribed fire escapes control, it would be considered a wildfire and would be treated accordingly, including suppression activities and implementation of burn area emergency rehabilitation (BAER) measures, if necessary.
12. Prescribed burn areas would be seeded to promote recovery of ground cover in order to protect soil resources, if determined to be necessary through post-burn monitoring. Seed mixes would be comprised of grass, forbs, or shrubs, and native seed would be included as appropriate, and where available. Only noxious weed-free seed mixes would be used.

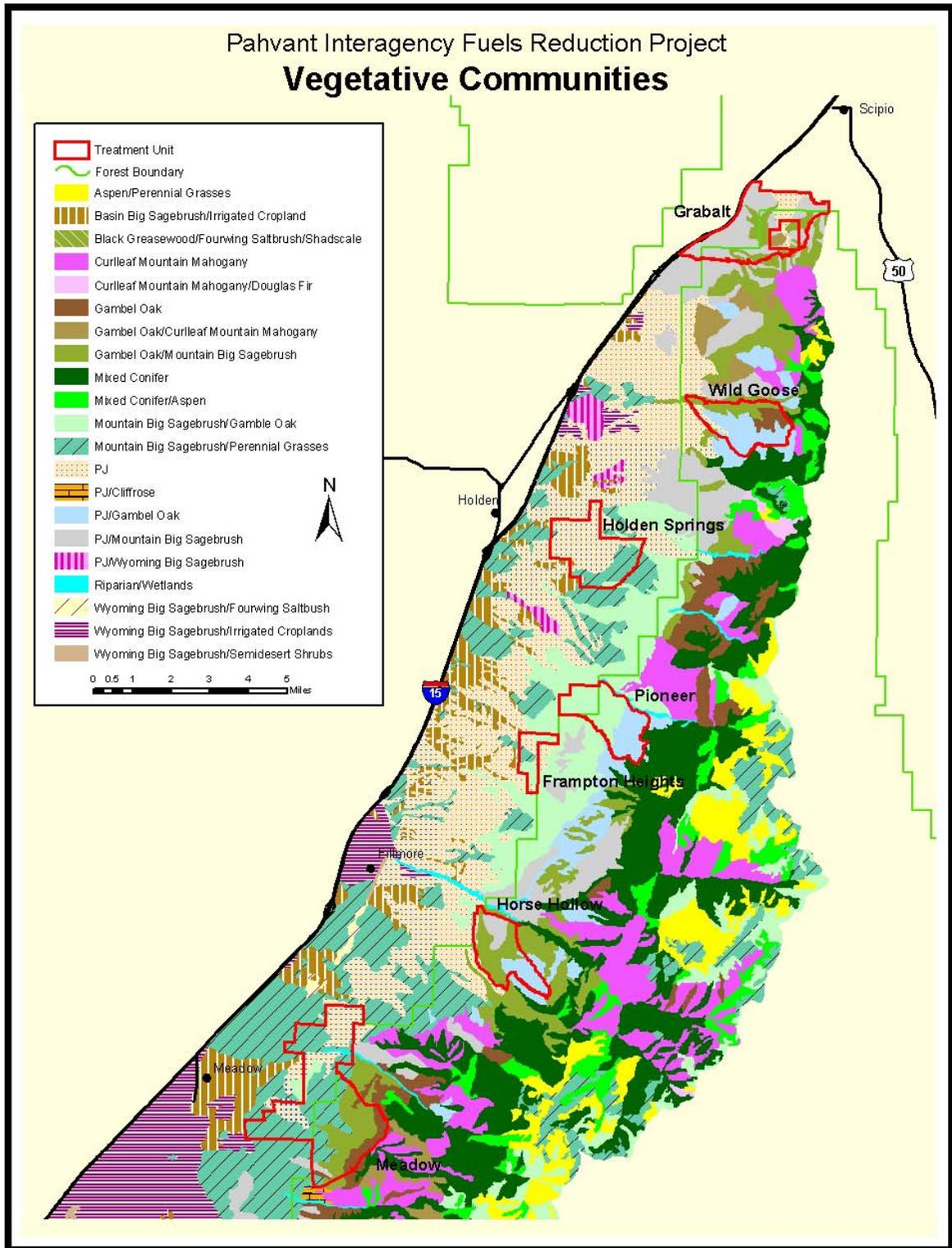


Figure 2. Vegetation types within the analysis area and proposed treatment units.

Other Alternatives

The interdisciplinary team initially considered a proposal to reduce fuels on approximately 40,000 acres throughout the analysis area. During a preliminary evaluation of resource conditions, concerns were raised about potential adverse impacts to fragile North Horn soils, Forest Service aquatic management indicator species (MIS), and sensitive fisheries. The areas of concern were eliminated from further consideration for treatment.

The original proposed action that was included in the legal notice and public scoping letter on February 13, 2003, proposed approximately 16,000 acres of fuels reduction activities. Shortly thereafter, it came to our attention there was a possibility that potential Mexican spotted owl (MSO) habitat occurred in some of the proposed treatment units. Treatment unit boundaries were then modified to eliminate proposed treatments within potential MSO habitat in the Wild Goose, Pioneer, Horse Hollow and Meadow treatment units. This resulted in approximately 14,300 acres proposed for treatment, as described in this EA.

Five letters were received as a result of public involvement efforts. One commenter suggested that long-term or permanent suspension of livestock grazing be considered as an alternative to the proposed action. Currently there is no evidence that elimination of grazing would reduce fuels and fire behavior, and the commenter has not provided any information to establish such. Additionally, this alternative would not meet the purpose and need; therefore, it was not considered to be a reasonable alternative (see Response to Public Scoping, response #3).

No unresolved conflicts concerning alternative uses of available resources have been identified that warrant consideration of additional alternatives; therefore, no other alternatives were identified.

ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION AND NO ACTION ALTERNATIVES

This section provides a summary of the environmental impacts of each alternative. The discussion of environmental impacts focuses on how the proposed action and no action alternative meet the purpose and need and address key issues. The issues evaluated here were determined by the responsible officials to be the key issues related to the proposed action, based on scoping with the public and agency specialists.

Effects Summary

Table 3 below provides a summary comparison of the environmental effects of the alternatives. It provides the information that is necessary to determine whether or not effects are significant and whether or not to prepare an Environmental Impact Statement. Effects of the proposed action are based on implementation of all project design specifications, as described on pages 4 and 6. Evaluation of the no action alternative includes an assessment of the potential for wildfire, as described in the Existing Condition section (pp. 1-2).

The analysis boundary for disclosing effects at the scale for this project is the west side of the Pahvant Mountain Range, which is approximately 287,500 acres in size (see Figure 1, pg. 5).

Detailed discussions of the affected environment and analyses of potential effects, including cumulative effects, are located in the resource specialist reports and other supporting documentation, which are hereby incorporated by reference. These documents can be viewed at www.fs.fed.us/r4/rifc/pahvant/pahvant or in the project planning record. Appendix B includes threatened, endangered and sensitive plant and animal clearances, and critical elements of the human environment checklist as required by the BLM Handbook.

Resource specialist reports include:

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|---|--|
| AQR = Air Quality Report | HRPP = Heritage Resource Protection Plan |
| BA = Biological Assessment | RAIE = Roadless Area Impact Evaluation |
| BE = Biological Evaluation | SRMR = Soil Resource Management Report |
| FFSR = Fire and Fuels Specialist Report | VR = Vegetation Report |
| HR = Hydrology Report | WR = Wildlife Report |

Table 3. Comparison of Alternatives

	Alternative 1 No Action/Wildfire	Alternative 2 Proposed Action
PURPOSE AND NEED ELEMENTS		
Fuel Height (feet)	>3-20 feet Increasing fuel height increases fire behavior and resistance to fire control. (FFSR pg. 16-17, 20-22)	<2 feet Reduced fuel height reduces fire behavior and resistance to fire control. (FFSR pg. 17-22)
Fuel Load (tons per acre)	3-30 tons/acre Increasing fuel load increases fire behavior and resistance to fire control. (FFSR pp. 16-17, 20-22)	<5 tons/acre Reduced fuel load reduces fire behavior and resistance to fire control. (FFSR pp. 17-22)
Flame Length (feet)	10-45 feet Flame lengths result in greater risk of uncharacteristically intense and severe wildfires, higher probability of property and resource damage, and increased risk to firefighters. (FFSR pp. 16-17, 20-22)	1.6-4 feet Flame lengths result in less risk of uncharacteristically intense and severe wildfires, lower probability of property and resource damage, and decreased risk to firefighters. Firefighters with hand tools and fire engines can safely attack up to 4-foot and 8-foot flame lengths, respectively. (FFSR pp. 17-22)
Fireline Intensity (British thermal units per foot per second)	190-24,000 Btu/ft/sec Fireline intensity at a level that results in greater risk of uncharacteristic wildfire, higher probability of property and resource damage, and increased risk to firefighters. (FFSR pp. 16-17, 20-22)	15-136 Btu/ft/sec Fireline intensity at a level that results in less risk of uncharacteristic wildfire, lower probability of property and resource damage, and decreased risk to firefighters. (FFSR pp. 17-22)

	Alternative 1 No Action/Wildfire	Alternative 2 Proposed Action
ISSUES		
Inventoried Roadless Areas (acres affected)	No action: 0 acres affected Wildfire: The project area contains approximately 1,135 acres of roadless areas. These areas could be negatively impacted by heavy equipment during fire suppression activities (i.e. road and fuelbreak construction) in the event of a wildfire; potential long-term degradation of roadless characteristics.	No new road construction would occur in IRAs. Vegetation within IRAs would be treated through prescribed burning. A maximum of 0.2 acres would be temporarily affected by the construction of up to 1.63 miles of one-foot wide handline for containment of prescribed fire. No effect to roadless characteristics beyond acceptable ranges for wilderness consideration. <i>(RAIE pp. 4-7)</i>
Soil Erosion (tons/acre/year accelerated erosion)	No Action: 0.2-0.6 Wildfire: 0.4-1.4+ (29-64 tons/acre have been recorded for wildfires on adjacent Forests) Potential detrimental impact to soils. Accelerated erosion, along with risk of flooding, slumping and landslides until vegetative cover reestablishes. <i>(SRMR pg. 28)</i>	Year 1: 0.3-1.0; Years 2-3: 0.2-0.7; Years 4-5: 0.2-0.6 Low to moderate intensity fire on level to moderately steep terrain would benefit soils by increasing nutrient availability. No BLM designated Critical Erosion Areas occur in project area. Action does not exceed Regional Soil Quality Standards and Guidelines. <i>(SRMR pp. 11, 14, 17, 29)</i>
Water-Related Values at Risk (water quality for municipal & domestic uses, irrigation & agriculture, and cold-water organisms; flooding of communities) (percent sediment increase above normal rate, based on 10-year storm event)	No Action: 0-2.6 times normal (0-250% increase). No effect to Values at Risk. Wildfire: 2.6-22 times normal (650-5,550% increase). Erosion and sedimentation would likely be more than highest values from prescribed burns (erosion rates of 29-64 tons/acre/yr have been recorded for wildfires on adjacent Forests). Peakflow events from storms would be of higher magnitude and could result in flooding of communities, similar to the 2000-2001 floods that occurred in Holden. Wildfire with associated suppression activities could result in heavy sedimentation of streams, covering cold-water organisms with sediment and ash. Fire retardants dropped or washed into streams could also cover cold-water organisms or change water chemistry. Values at risk could be negatively affected. <i>(HR pp. 6-12, 24-25, 30-31, 35-42)</i>	0.4-5.6 times normal (100- 1,400% increase). Sedimentation would likely be less and peakflow events from storms would be of lower magnitude than from wildfire. Values at risk would not be negatively affected because in the long-run riparian buffers would limit the amount of sediment transported and deposited into streams and the channels would likely be able to pass the magnitude of flows generated from the proposed action. Short-term exceedence may occur during large storm and runoff events and could cover cold water organisms with sediment and ash or change water chemistry in areas just below the treatments, but would not result in long-term impairment or listing on State's 303d list of impaired waters. No wetlands or Water Quality Limited Stream segments occur in the project area, and beneficial uses would not be degraded. Action is consistent with the Clean Water Act . <i>(HR pp. 6-12, 24-25, 30-31, 35-42)</i>

	Alternative 1 No Action/Wildfire	Alternative 2 Proposed Action
Heritage Resources (number of affected heritage resources eligible to the National Register of Historic Places)	<p>No Action: No effect to sites potentially eligible for National Register of Historic Places.</p> <p>Wildfire: Intense heat of wildfire and mechanical suppression measures would cause considerable damage or destruction, and would result in potential adverse effects to heritage resources. <i>(HRPP pg. 1)</i></p>	<p>Tribal consultation has been initiated by the BLM and Forest Service and would be ongoing throughout project planning and implementation.</p> <p>Utah State Historic Preservation Office (SHPO) has concurred with the results of completed heritage resource surveys. Surveys would be completed for unsurveyed treatment units and SHPO concurrence obtained prior to project implementation on those units. Mitigation measures, described in the Heritage Resources Protection Plan (HRPP), would prevent adverse effects to heritage resources eligible to the National Register of Historic Places. These mitigation measures would be applied during project implementation. The SHPO has concurred with the mitigation measures contained in the HRPP. Action is consistent with Section 106 of the National Historic Preservation Act. <i>(HRPP pp.10-11, 13-14)</i></p>
Threatened, Endangered, and Sensitive Plants (acres affected)	<p>No Action/Wildfire: 0 acres TES habitat affected because TES plants and suitable habitat do not occur in the project area. No effect to T&E plants <i>(BA pp. 2-3)</i>, and no impact to Sensitive plants <i>(BE, pp. 3-8)</i>.</p>	<p>0 acres TES habitat affected because TES plants and suitable habitat do not occur in the project area. No effect to T&E plants <i>(BA pp. 2-3, and EA Appendix B)</i>, and no impact to Sensitive plants <i>(BE pp. 3-8, and EA Appendix B)</i>. Action is consistent with the Endangered Species Act and National Forest Management Act.</p>
Threatened and Endangered Wildlife (acres affected)	<p>No Action: 0 acres of bald eagle wintering habitat and western yellow-billed cuckoo summer habitat affected. No designated critical habitat for T&E occurs in project area. No effect to T&E.</p> <p>Wildfire: unknown amount of acres of bald eagle wintering foraging habitat moderately altered. Unknown acres of potential cuckoo nesting, breeding and foraging habitat moderately altered if riparian areas are burned. May affect, not likely to adversely affect bald eagle and western yellow-billed cuckoo. <i>(BA pp. 12-13)</i></p>	<p>Approximately 14,300 acres of potential bald eagle winter foraging habitat maintained (no net gain or loss). 0 acres of potential cuckoo habitat affected because riparian habitat would not be treated. No designated critical habitat for T&E species occurs in the project area. May affect, not likely to adversely affect bald eagle and western yellow-billed cuckoo <i>(BA pp. 12-13 and EA Appendix B)</i>. U.S. Fish & Wildlife Service has concurred with these determinations. Action is consistent with the Endangered Species Act.</p>

	Alternative 1 No Action/Wildfire	Alternative 2 Proposed Action
Sensitive Wildlife (acres affected)	<p>No Action: 0 acres of habitat affected for spotted bat, peregrine falcon, western big-eared bat, northern goshawk, flammulated owl, and three-toed woodpecker. No impact to Sensitive wildlife.</p> <p>Wildfire: unknown amount of acres moderately affected. May impact individuals or habitat, but will not likely contribute to a trend towards federal listing or loss of viability to the population or species.</p>	<p>Approximately 14,300 acres of potential foraging habitat maintained or improved for spotted bat, peregrine falcon, western big-eared bat, northern goshawk, flammulated owl, and three-toed woodpecker. May impact individuals or habitat, but will not likely contribute to a trend towards federal listing or loss of viability to the population or species (<i>BE pp. 18-22 and EA Appendix B</i>). Action is consistent with the National Forest Management Act.</p>
Forest Service Aquatic Management Indicator (MIS) Species (tons/acre/year accelerated erosion)	<p>No Action: 0.2-0.6; No direct adverse effect to individuals or habitat, and would not adversely affect population numbers or species viability for resident trout and aquatic macroinvertebrates.</p> <p>Wildfire: 0.4-1.4+. 29-64 tons/acre have been recorded for wildfires on adjacent Forests. Effects would range to no measurable decrease to complete extirpation. May adversely affect population numbers or species viability for resident trout and aquatic macroinvertebrates in specific affected streams or drainages (<i>WR, pp. 48-49</i>).</p>	<p>Year 1: 0.3-1.0 Years 2-3: 0.2-0.7 Years 4-5: 0.2-0.6</p> <p>Untreated riparian buffers would provide some filtering of sediments. May affect individuals or habitat, but would not adversely affect population numbers or species viability for resident trout and aquatic macroinvertebrates (<i>WR pp. 49-50</i>). Action is consistent with the National Forest Management Act.</p>
Forest Service Terrestrial Management Indicator (MIS) Species (amount of habitat affected)	<p>No Action: 0 acres of habitat directly affected for elk, deer, cavity nesters, riparian dependant guild, sage nesters, and northern goshawk.</p> <p>Wildfire: Unknown amount of acres moderately affected. Beneficial or negative effects depending on the species. May affect individuals or habitat, but would not adversely affect population numbers or species viability for elk, deer, cavity nesters, riparian dependant guild, sage nesters, and northern goshawk (<i>WR pp. 39-48, and 52-55</i>).</p>	<p>Approximately 14,300 acres of habitat maintained or improved for elk, deer, cavity nesters, riparian dependant guild, sage nesters, and northern goshawk. May affect individuals or habitat, but would not adversely affect population numbers or species viability (<i>WR pp. 39-48, and 52-55</i>). Action is consistent with the National Forest Management Act.</p>
Migratory Birds (amount of habitat affected)	<p>No Action: 0 acres of habitat directly affected. (<i>WR pg. 50</i>)</p> <p>Wildfire: Unknown amount of acres moderately affected; isolated mortality would occur if wildfire occurs during nesting season. Beneficial or negative effects depending on the species. (<i>WR pg. 50</i>)</p>	<p>Approximately 14,300 acres of habitat maintained or improved. Individuals could be displaced or killed if prescribed burns occur during spring. May affect individual species, but would not adversely affect population numbers or viability of these species. Action is consistent with the Migratory Bird Treaty Act. (<i>WR pp. 37, 50-52</i>)</p>

	Alternative 1 No Action/Wildfire	Alternative 2 Proposed Action
Air Quality (amount of smoke produced)	No Action: Air quality would remain good to excellent. Wildfire: A large, uncharacteristically intense and severe wildfire would result in greater amount of smoke. (<i>AQR pg. 6</i>)	Lower amount of smoke produced than large, uncharacteristically intense and severe wildfire. Project would not exceed National Ambient Air Quality Standards because weather conditions must meet a preset prescription in order to safely implement prescribed burns, enhance efficient fuel consumption and effectively disperse smoke. The project area is more than 75 miles from non-attainment areas. Action is consistent with the Clean Air Act . (<i>AQR pg. 1, 6</i>)
Vegetation (acres moved toward Desired Future Condition, DFC)	No Action: No movement towards DFC. Pinyon-juniper would continue to expand, sagebrush would continue to decline. (<i>VR pp. 1, 6-7</i>) Wildfire: Up to approximately 14,300 acres of improved species diversity, age class and structure. High severity fire may delay vegetation recovery (<i>VR pg. 7</i>)	Approximately 6,600 acres of pinyon-juniper, 3,100 acres of sagebrush, and 4,600 acres of Gambel oak would move towards DFC, with improved species diversity, age class and structure. (<i>VR pp. 1, 8-10</i>)

Cumulative Effects

Detailed discussions of cumulative effects are included in resource specialist reports, which are hereby incorporated by reference. Cumulative effects that are relevant to a determination of significance are summarized in the previous Effects Summary section.

The effects of the past, present and reasonably foreseeable projects in combination with the proposed action are not expected to result in any measurable changes to soils, water-related values-at-risk, heritage resources, threatened, endangered and sensitive plants and wildlife, Forest Service management indicator species, migratory birds, air quality or vegetation. The cumulative effects area for most resources is the same as the project analysis area, with the exception of wildlife. The cumulative effects area for wildlife includes the entire Pahvant Mountain Range. The larger cumulative effects area for wildlife is based on the mobile nature of wildlife, particularly wide-ranging species such as the bald eagle, elk and deer.

Past and present actions that may affect the various resource areas include wildfires, wildfire area rehabilitation, chaining, prescribed burning, and thinning of vegetation, livestock grazing, hunting, dispersed camping, ATV and equestrian trail use, access on unimproved dirt roads, cricket control activities. Homes, culinary water developments and diversions, power line and communication sites are also located within or adjacent to the project area. Many of these activities are displayed on maps located in the project planning record.

Reasonably foreseeable actions that may affect the various resource areas include additional hazardous fuels reduction activities similar to the Pahvant Interagency Fuels Reduction Project, wildfire, continued rehabilitation of the Swain's Fire area, and reconstruction of Maple Hollow Road and Campground. Utah Forestry, Fire, and State Lands is planning future hazardous fuels reduction projects in the Pahvant Front; however, no specific proposals have been produced thus far.

The BLM Fillmore Field Office began analyzing fuels reduction activities along the Pahvant Front in 1991. Several EAs were completed including the Holden Springs EA (1991), Section 31 EA (1996), Frampton Heights EA (1996), and Meadow Creek EA (1998). The EAs evaluated the cutting of vegetation within some of the BLM lands covered by the Pahvant Interagency Fuels Reduction Project EA. The BLM EAs are reevaluated prior to implementation, and cutting has been completed on approximately 1,000 acres thus far. This equates to approximately 19 percent of the total acreage planned for cutting by the BLM. The BLM EAs did not evaluate prescribed burn activities.

The Pahvant interagency fuels reduction project area is approximately 14,300 acres in size. The total acreage that would be cut or burned through implementation of the proposed action ranges from 40 to 80 percent of the total project area; therefore, the acreage that would be cut or burned ranges from approximately 5,700 to 11,500 acres. This is a very small amount of vegetative change when considered at the scale of the approximately 287,500-acre analysis area. Implementation of the proposed action would result in cutting and burning of less than four percent of the analysis area.

It is expected that in the future, many more similar projects will be proposed across the Pahvant Front. These projects as a whole would make considerable progress towards more desired conditions for fuels and fire behavior and would further reduce the risk of uncharacteristically intense and severe wildfires, reduce the risk of property and resource damage, and decrease the risk to firefighters.

AGENCIES AND PERSONS CONSULTED

The Bureau of Land Management, Forest Service and State of Utah have been planning for hazardous fuels reduction needs for the Pahvant Front over the last several years. In 2002, the Central Utah Fuels and Wildland/Urban Interface Committee, which consists of representatives from land management agencies in the Central Utah area, recommended fuels reduction activities be accomplished in this area (Fire and Fuels Specialist Report, pg. 5, Chappell, 2003).

Federal and state managers are collaborating with the Millard County Fire District and the Millard County Fire Chief's Association. Private land owners are completing defensible space activities and are supporting fuels reduction projects in this area because they experienced firsthand the threat and destructive effects of previous wildfires. The county, state and federal agencies have also been actively involved in fuels reduction and defensible space activities in this area.

Five individuals attended a public meeting on February 20, 2003. Some individuals were concerned about the potential economic impacts to range permittees that would result from the resting of grazing pastures after prescribed burning, as described in project design specifications. Five letters were received through public involvement efforts. Letters received from the Utah Department of Natural Resources, Division of Forestry, Fire and State Lands and the Millard County Office of the Sheriff support the proposed action to reduce hazardous fuels near Scipio, Holden, Fillmore and Meadow. Letters received from the U.S. Fish and Wildlife Service (FWS) and Utah Governor's Office of Planning and Budget, Resource Development Coordinating Committee reiterated the regulatory requirements of the Endangered Species Act and Clean Air Act, respectively. A letter received from the Utah Environmental Congress expressed concerns related to the "Bescheta Report", grazing, inventoried roadless areas, threatened, endangered, sensitive and management indicator species (MIS), and Neotropical migratory birds protected under the Migratory Bird Treaty Act.

Many comments and concerns have been addressed through project design specifications. Regulatory requirements were evaluated in appropriate specialist reports and are summarized in the environmental impacts section. Other comments did not warrant the creation of additional alternatives or project design specifications. Responses to all comments are included in the Response to Public Comments document contained in the project planning record. Based on the scope of the project and issues it raised, the responsible officials determined that the two alternatives considered in this EA provide a reasonable range of alternatives.

The Forest Service and BLM consulted the following federal, state, and local agencies, tribes and individuals during the development of this environmental assessment:

FEDERAL, STATE, AND LOCAL AGENCIES:

Capitol Reef National Park
Congressman Chris Cannon
Congressman Jim Matheson
Five County Association of Governments
Fremont Indian State Park
Juab County Commission
Mayor, Delta
Mayor, Fillmore
Mayor, Kanosh
Mayor, Meadow
Mayor, Scipio
Millard County Commission
Representative Brad Johnson
Representative Michael Styler
Senator Leonard Blackham
Senator Orrin Hatch
Senator Robert Bennett
Six County Association of Governments

U.S. Fish & Wildlife Service
Utah Department of Natural Resources
Utah Division of Indian Affairs
Utah Division of Parks & Recreation
Utah Division of Wildlife Resources
Utah Governor's Office of Planning & Budget
Utah State Forestry, Fire, and State Lands
Wild Utah Project

TRIBES:

Ely Shoshone Tribe
Goshute Business Council
Goshutes Tribal Council
Hopi Tribe
Kanosh Band of Paiutes
Navajo Nations
Paiute Tribe of Utah
Pueblo of Zuni
Skull Valley Goshutes
Te-Moak Tribe of Western Shoshone
Ute Indian Tribe

OTHERS:

Earth Justice
Energy Reserve Group
Forest Guardians
Milford Wildlife Association
Sierra Club
Southern Utah Wilderness Alliance
The Wilderness Society
Utah Environmental Congress
Utah Shared Access Alliance
Utah Wilderness Association
Wild Utah Forest Campaign
Wildlife Manage Institute

The following individuals attended the public meeting on February 20, 2003:

Bill Thompson
Clinton Quarnberg
Doug Reid
Frank Stevens
Ross Stevens

References

- USDA Forest Service. 1986a. Fishlake National Forest Land and Resource Management Plan. Fishlake National Forest, Richfield, UT.
- USDA Forest Service. 1986b. Fishlake National Forest Final Environmental Impact Statement. Fishlake National Forest, Richfield, UT.
- USDA Forest Service. 2000. Utah Fire Amendment Environmental Assessment. Ashley, Dixie, Fishlake, Manti-La Sal, Wasatch Cache and Uinta National Forests. Intermountain Region, Ogden, UT.
- USDA Forest Service. 2000. Restoring Fire-Adapted Ecosystems on Federal Lands, A Cohesive Strategy for Protecting People and Sustaining Natural Resources. Updated in draft form, 2002.
- USDI Bureau of Land Management. 1986. Warm Springs Resource Area, Final Environmental Impact Statement. Richfield District, Richfield, UT.
- USDI Bureau of Land Management. 1987. Warm Springs Resource Area, Resource Management Plan. Richfield District, Richfield, UT.
- USDI Bureau of Land Management. 1986. House Range Final Environmental Impact Statement,
- USDI Bureau of Land Management. 1987. House Range Resource Area, Resource Management Plan. Richfield District, Richfield, UT.
- USDI Bureau of Land Management. 1991. Holden Springs Environmental Assessment. Fillmore District, Fillmore, UT.
- USDI Bureau of Land Management. 1996. Frampton Heights Environmental Assessment. Fillmore District, Fillmore, UT.
- USDI Bureau of Land Management. 1996. Section 31 Environmental Assessment. Fillmore District, Fillmore, UT.
- USDI Bureau of Land Management. 1998. Meadow Creek Environmental Assessment. Fillmore District, Fillmore, UT.

APPENDIX A

Proposed Treatment Units

Table A. Proposed Treatment Unit Locations, Unit Acreages, Vegetation Types and Primary Treatment Methods.

Unit Name	Legal Location (Salt Lake Meridian)	Unit Size (acres)	FS Acreage	BLM Acreage	Vegetation Types	Primary Treatment Methods
Grabalt	T.18 S., R.2 W., Sec. 31-32; T.18 S., R.3 W., Sec. 25-26, 35-36; T.19 S., R.3 W., Sec. 1-4	2,352	914	1,438	78% pinyon-juniper 20% Gambel oak 2% sagebrush/grass/forb	Cutting & burning by hand
Wild Goose	T.19 S., R.3 W., Sec. 22-27, 35-36	1,578	1,578	N/A	58 % pinyon-juniper 42% Gambel oak	Burning by hand or helicopter
Holden Springs	T.20 S., R.3 W., Sec. 6-9, 17-18; T.20 S., R.4 W., Sec. 12	1,943	N/A	1,943	68% pinyon-juniper 32% sagebrush/grass/forb	Burning by hand*
Pioneer	T.20 S., R.3 W., Sec. 31-33; T.21 S., R.3W., Sec. 4-6, 8-9	1,603	1,149	454	38% pinyon-juniper 33% Gambel oak 29% sagebrush/grass/forb	Burning by hand or helicopter *
Frampton Heights	T.21 S., R.4 W., Sec. 1, 12	490	N/A	490	65% pinyon-juniper 35% sagebrush/grass/forb	Pile burning by hand*
Horse Hollow	T.21 S., R.4 W., Sec. 35-36; T.22 S., R.4 W., Sec. 1-2	1,434	1,434	N/A	51% pinyon-juniper 49% Gambel oak	Burning by hand or helicopter
Meadow	T.22 S., R.4 W., Sec. 7-8, 18-20, 29-32; T.23 S., R.4.5 W., Sec. 3-4; T.22 S., R.5 W., Sec. 13, 24-26	4,929	2,195	2,734	43% Gambel oak 35% sagebrush/grass/forb 22% pinyon-juniper	Burning by hand or helicopter *

* Cutting on BLM portions of these units was analyzed by the Section 31 EA (1996), Holden Springs EA (1991), Frampton Heights EA (1996), and Meadow Creek EA (1998).

Note: Aproximately 40-80% of the vegetation would be cut and/or burned in each treatment unit, as described in the Proposed Action section on page 4.

APPENDIX B

Checklist and Threatened, Endangered and Sensitive Plant and Animal Clearances (BLM Requirements)

**FILLMORE FIELD OFFICE
INTERDISCIPLINARY TEAM REVIEW CHECKLIST**

Project Title: Pahvant Fuels Project
NEPA Number: UT-010-03-030
Project Leader: Justin Johnson

Project Number: RC 52
Date Proposal Received: Feb 1 2003
Date of ENBB Posting: Feb 11 2003

NI: resource/use present but not impacted
PI: potentially impacted
NP: not present

STAFF REVIEW OF PROPOSAL:

NI/PI/NP	Name/Discipline	Date Reviewed	Signature	Review Comments: required for all NIs and PIs. Attach an additional page if needed.
CRITICAL ELEMENTS				
NR	Air Quality	3-4-03	Plan	Impacts to air quality by burning would be temporary
NP	ACEC's	2/24/03	JH	
PI	Cultural Resources ¹	4-9-03	GN	will be addressed in EA
NP	Prime/Unique Farmland	3-4-03	Plan	
NP	Floodplains	3-4-03	Plan	
PI	Native American Concerns	4-9-03	GN	will be addressed in EA
NP	TES Plant Species ²	3/12/03	DMW	
NP	TES Wildlife Species ¹	3/20/03	NP	None in area
NP	Hazardous/Solid Waste	4-7-03	Plan	
NP	Water Quality Drink/Grnd	3-4-03	Plan	
PI	Wetland/Riparian Zones	2/28/03	WGT	Pioneer & Meadow Creeks are in or adjacent to Treatment AREAS. Treatment should be conducted to avoid riparian impacts
NP	Wild & Scenic Rivers	2/24/03	JH	
NP	WSA/Other Wilderness	2/24/03	JH	
NP	Standards & Guidelines	3/25/03	WGT	
NP	Environmental Justice	4-7-03 3/25/03	GN	Circumstances do not exist
NP	Noxious Weeds			
OTHER ELEMENTS				
NI	Forestry	3/27/03	Plan	Wood land products should be harvested as possible
PI	Lands	3/27/03	ce	Numerous RW in project area - see attached list

NI	Minerals	2-27-03	G	Proposed action should not affect any resource in area.
NP	Paleontology	2-27-03	G	Proposed action would not affect any resource in area.
NP	Range	3/25/03	ADG	
PI	Recreation (VRM)	3/24/03	JH	The Proposed Projects are within Recreation Use Areas. VRM - see Below.*
NP	Water Rights	3/25/03	ADG	
NI	Watershed	3-4-03	ES	Impacts from burning would be short-term + beneficial in long-term.
NP	Wildhorse/Burro	4-9-03	GN	
NT	Wildlife	3/20/03	WR	Should be beneficial to big game

FINAL REVIEW	Date	Signature	Comments
Environmental Coordinator			

* All of the BLM lands are in VRM Class III zones. This requires that fire lines and thinning edges NOT follow section lines, but should reflect a natural pattern.

Lands – continued from “Fillmore Field Office Interdisciplinary Team Review Checklist”, “Lands.”

Scipio Basin

T. 18 S., R. 2 W., Sec. 30
U-14023 Power Transmission Line
T. 18 S., R. 3 W., Sec. 25
U-27726 (44LD513) R/W Access Road
T. 18 S., R. 3 W., Sec. 26
U-033540D Power Line
SL-064179 R/W Highway
U-31381 R/W Telephone Cable
U-048046 R/W Transmission Line
U-21216 R/W Highway

Scipio Summit Thinning

T. 18 S., R. 3 W., Sec. 34-35
U-041404 Comm. Site
U-009721 Comm. Site
U-071208 Comm. Site
U-27726 (44LD513) R/W Access Road
U-073134 R/W Transmission Line
U-048046 R/W Transmission Line
U-092143 R/W Transmission Line

The other areas have already been covered by other EAs.

THREATENED ENDANGERED AND SENSITIVE ANIMAL SPECIES

Date: March 20, 2003

Examiner: Mark Pierce

Project Name: Pahvant Fuels Reduction Project

Project Location: Pahvant Mountain Range

Elevation: Varies

Vegetative Type: Varies

Description of Field Work: None

Reference Sources: House Range ROD October 1987
Warm Springs ROD April 1987

General Comments: None

Endangered or Sensitive Species: Yes No X None in Area

(List if Yes)

Species Collected on Site

Species Observed on Site

Potential Impacts on Species From the Project:

Signature of Inspector



**Threatened, Endangered & Sensitive Plant Clearance
Fillmore Field Office**

DATE: March 12, 2003 **EXAMINER:** David Whitaker

PROJECT NAME: Pahvant Fuels Project

PROJECT LOCATION: Western slope of the Pahvant Range between Kanosh, Utah and Scipio, Utah.

RESOURCE AREA: Fillmore Field Office

VEGETATION TYPE: Sagebrush grassland, Pinyon/Juniper, mountain brush.

Description of Field Work: Literature search of the Fillmore BLM library and Richfield Field Office information.

Reference Sources: -Utah's Rare Plants Revisited (Great Basin Naturalist Vol.45, No.2)
 -Plants From Millard County (BYU 1980)
 -MX Final Report 1980
 -1991 Habitat Survey, House Range R.A.
 -1991 Habitat Survey, Warm Springs R.A.
 -others

General Comments:

BLM land within the Fillmore Field Office contains no plant species that are federally listed as Threatened, Endangered, or Proposed as such. Therefore, there is **no effect** on any threatened or endangered plant population.

There are several plants designated as BLM sensitive species in the Fillmore Field Office area. However, none of these species are known to occur in the proposed project area.

If any sensitive species are discovered during fuels project activities which may be affected or disturbed, all activities that may affect this resource will cease and notification will be made to the TES plants specialist in the field office.

Threatened, Endangered, or Sensitive Plants Yes ___ No X

(List if Yes):

DMW

APPENDIX C

Interdisciplinary Team Members and Resource Reports in Project Planning Record

Interdisciplinary Team Members

Archaeologists – **Joelle McCarthy**, BLM and **Bob Leonard**, USFS

Botanist – **Dave Whitaker**, BLM

Fire Ecologist and Vegetation Specialist – **Steve Zieroth**, USFS

Fuels and Prescribed Fire Specialist – **Linda Chappell**, USFS

Hydrologist – **Adam Solt**, USFS

Interdisciplinary Team Leader – **Diane Freeman**, USFS

Public Affairs Officer – **Bert Hart**, BLM

Soils Scientist – **Mike Smith**, USFS

Wildlife Biologist – **Stan Andersen**, USFS and **Mark Pierce**, BLM

Writer/Editor – **Diane Freeman**, USFS

Resource Reports

Air Quality Report, April 30, 2003 – **Linda Chappell**, USFS

Biological Assessment, April 10, 2003 – **Stan Andersen**, USFS

Biological Evaluation, April 10, 2003 – **Stan Andersen**, USFS

Fire and Fuels Specialist Report, April 30, 2003 – **Linda Chappell**, USFS

Heritage Resource Protection Plan, April, 2003 – **Joelle McCarthy**, BLM

Hydrology Report, April 21, 2003 – **Adam Solt**, USFS

Inventoried Roadless Area Impact Evaluation, April 30, 2003 – **Diane Freeman**, Interdisciplinary Team Leader; **Adam Solt**, Hydrologist; **Bill Wright**, Recreation Specialist; **Bob Leonard**, Archaeologist; **Linda Chappell**, Fuels and Prescribed Fire Specialist; **Mike Smith**, Soil Scientist; **Stan Andersen**, Wildlife Biologist; **Steve Zieroth**, Fire Ecologist and Vegetation Specialist

Range Report, February 20, 2003 – **Del Barnhurst**, USFS and **Dave Whitaker**, BLM

Recreation Report, February 20, 2003 – **Bill Wright**, USFS

Soil Resource Management Report, April 11, 2003 – **Mike Smith**, USFS

Vegetation Report, March 24, 2003 – **Steve Zieroth**, USFS

Wildlife Report, March 24, 2003 – **Stan Andersen**, USFS