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Environmental Assessment

Bartholomew Canyon Vegetation Treatment

Spanish Fork Ranger District
Uinta-Wasatch-Cache National Forest
Utah County, Utah

Township 6 South Range 3 East Section 36; Township 6 South
Range 4 East Section 31; Township 7 South Range 3 East
Sections 1 and 2; and Township 7 South Range 4 East Sections
5, 6, 7, 8, 17, and 18.

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SUMMARY

The Uinta-Wasatch-Cache National Forest proposes to mechanically treat oak/maple, treat oak/maple with a prescribed fire, reclaim user created roads, maintain roads and create defensible space around Springville City infrastructure located on Forest System lands. The project area is located in the Bartholomew Canyon area of the Left Fork of Hobbie Creek and is within the Spanish Fork Ranger District, Uinta-Wasatch-Cache National Forest, Utah. This action is needed because vegetation is old, decadent and in need of rejuvenation, wildlife habitat is in need of improvement, and structures need to be protected from the possibility of a wildfire.

The proposed action may change the age structure and species diversity in the oak/maple community, reduce the risks associated with a wildfire, decrease soil erosion from user created trails, and improve big game winter range and habitat for other wildlife species.

In addition to the proposed action, the Forest Service also evaluated the following alternatives:

- *No Action: No treatment would be performed and the area would remain the same.*
- *Mechanical Treatment Only: mechanically treat oak/maple, reclaim user created roads, maintain roads and create defensible space around Springville City infrastructure located on Forest System Lands.*

Based upon the effects of the alternatives, the responsible official will decide which alternative will best accomplish the desired conditions for the project area while meeting the Forest Plan Goals and Objectives.

CHAPTER 1 INTRODUCTION

Document Structure ---

The Forest Service has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four parts:

- *Introduction:* The section includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.
- *Comparison of Alternatives, including the Proposed Action:* This section provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on issues raised by the public and other agencies. This discussion also includes possible mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.
- *Environmental Consequences:* This section describes the environmental effects of implementing the proposed action and other alternatives. This analysis is organized by issues to be analyzed in depth. Within each section, the affected environment is described first, followed by the effects of the No Action Alternative that provides a baseline for evaluation and comparison of the other alternatives that follow.
- *Agencies and Persons Consulted:* This section provides a list of preparers and agencies consulted during the development of the environmental assessment.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Spanish Fork Ranger District Office in Spanish Fork, Utah.

Background ---

The Uinta-Wasatch-Cache National Forest was looking for opportunities to do project work that would benefit wildlife, improve watershed condition and modify fuels within the wildland urban interface (WUI). This area was selected due to Springville City infrastructure, adjacent private land, and that the area is winter range for multiple big game species.

Purpose and Need for Action ---

The purpose of this proposal is to restore/maintain the oak/maple community, improve wildlife habitat, maintain desired seral stage diversity and improve firefighter access along the Bartholomew Canyon Road in the Bartholomew Canyon Area of Hobbie Creek Canyon.

This action is needed because the oak/maple community in the Bartholomew Canyon consists of large continuous canopies of mature/decadent oak and maple. Thick continuous canopy discourages use by many wildlife species because of the lack of herbaceous understory forage production and seed production. Decadent oak produce fewer acorns, which are used by a variety of wildlife species. Wildlife species benefit from openings in the shrub/tree canopy and from a diversity of age and structural classes of shrubs/trees. These treatments would enhance critical habitat for moose, elk, mountain goats and turkeys. While this area is not critical habitat for mule deer it is summer range habitat.

The project area is also big game winter range. As development of houses in the area (on private land) increases, the big game winter range decreases and the more critical it will be to have a properly functioning big game winter range on National Forest lands. Winters with abundant snowfall increase the need for proper functioning winter range.

User created roads and ATV trails, as well as illegal ATV use, are fragmenting wildlife habitat and disturbing the animals. ATV use is not authorized on the Forest within this project area. Forest Service roads in the area are open to public travel during the fall hunting season only. Otherwise, Forest Service roads remain closed to public access and are open for administrative use only because access is through private land and is gated most of the year. However, adjacent land owners are illegally gaining access to these roads because their properties are behind the existing gate.

Forest Service Road 755 currently is shown as maintenance level 2 in the Forest Service records as an unimproved road not suitable for passenger cars. However, since Springville City has no need for the road, the road has not been maintained for years and it has become grown in with vegetation to where it is difficult to determine the road exists. Currently, no motorized traffic is using the road.

Fuels have been building up over the years on Forest System lands due to human cultural practices and changing climatic conditions. There are no recorded large fires (>100 acres) from 1960s to present within the project area (Forest Service fire history data). There have been a couple of large fires in areas not too far removed from the project area, including the Cherry Creek II wildfire of 2003 that burned over 5,000 acres. Hobble Creek is federally listed as one of Utah's Communities at Risk for Wildfire. The 2006 Northern Utah Regional Wildfire Protection Plan (RWPP) designates Hobble Creek as a high risk area for wildfire. Risk of wildfire is a safety concern for private land owners in the Left Fork of Hobble Creek. Fuels need to be treated along the Forest System/private boundaries to reduce the potential impact of a wildfire on the Hobble Creek community. Hazardous fuels reduction treatments would help minimize the risks to private land, structures, and natural resources from potential wildland fires. Access to the area is risky for firefighters; the roads are narrow and thick with brush, providing for low visibility and lack of turn around space. If a wildfire was to occur and the public evacuated from the area, the narrow roads thick with brush would be a hindrance. Springville City has public works infrastructure in the area that would be at risk if a wildfire occurred. Powerlines have a lot of brush and small trees growing under and adjacent to them. Loss

of the infrastructure, such as the water supply lines and water tank due to a large wildfire event, would decrease the available water to the residents of Springville City.

This action responds to the goals and objectives outlined in the Uinta National Forest 2003 Land and Resource Management Plan, and helps move the project area towards desired conditions described in that plan.

Current Management Direction

This project is located in the Hobble Creek Management Area. Most of the project area falls within the South Fork of the Provo River Roadless Area. The management prescriptions for this area are 2.6 Undeveloped (prescribed fire area). The mechanical area is 3.1 Aquatic, Terrestrial & Hydrologic Resources. The Recreation Opportunity Spectrum for the area is Semi-Primitive Motorized and Semi-Primitive Non-Motorized. The Desired Future Conditions (DFC) for the area are: 1) Fuels Treatments and natural fires are managed to protect or enhance important sensitive watersheds throughout the management area. 2) The Bartholomew Watershed continues to provide municipal water for Springville City and is protected from impacts that could result in compromising the integrity of the water collection and delivery systems located within the management area.

Forest-wide Goals and Objectives that are applicable to this project are: FW-Goal-2 Biologically diverse, sustainable ecosystems maintain or enhance habitats for native flora and fauna, forest and rangeland health, and watershed health; Sub-goal-2-1 The fuel management aspect of the fire management program is emphasized through application of hazard reduction activities; Sub-goal-2-3 Fire is reintroduced as an ecosystem function to move landscapes toward desired conditions; Sub-goal-2-8 Ecosystem resilience is maintained by providing for a full range of seral stages and age classes that achieve a mosaic of habitat conditions and diversity to meet a variety of desired resource management objectives. Recruitment and sustainability of early seral species and vegetation communities in the landscape are necessary to maintain ecosystem resilience to perturbations.

Proposed Action

The action proposed by the Forest Service, in cooperation with Springville City and the Utah Department of Natural Resources, is to treat up to 1,200 acres within the oak/maple community using mechanical treatment and prescribed fire, place a gate on Forest Service Road 570 just above Springville City's water tank, change the objective and operation maintenance level of Forest Service Road 747 from a 2 to a 1 (high clearance road to an administrative use only road); reclaim user-created roads (~5 miles), maintain remaining existing Forest System roads, and create defensible space around Springville City infrastructure located on Forest System lands (see proposed action in Chapter 2 for a detailed description).

Decision Framework

Given the purpose and need, the deciding official reviews the proposed action and the other alternatives in order to make the following decision:

- Whether to implement the proposed action as is;
- Whether to implement an alternative to the proposed action; or
- Whether to take no action.

Public Involvement

The proposal was listed in the Schedule of Proposed Actions in April 2008 and July 2008. The proposal was provided to the public and other agencies for comment during scoping/request for comment initiated on May 9, 2008. In addition, as part of the public involvement process, the agency presented the proposal at a Springville City Council Meeting on May 13, 2008. A legal notice was published in the Provo Daily Herald on May 15, 2008. In response, eight letters, phone calls or emails were received from private citizens and environmental groups. These responses can be found in the project record. Based upon public comment and additional analysis of the proposal, the proposed action was modified as follows: only includes spring burns; the target ignition area was reduced to show the actual area to be burned; Forest Service Road 747 will go from maintenance level 2 to a 1; and placing a seasonal closure gate on FSR 570.

Using the comments from the public, other agencies, and environmental groups (see *Issues* section), the interdisciplinary team developed a list of issues to address.

Issues

The Forest Service separated the issues into two groups: Issues to be analyzed in depth and issues not to be analyzed in depth. Issues identified to be analyzed in depth were defined as those directly or indirectly caused by implementing the proposed action. Issues not to be analyzed in depth were identified as those: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made, as they can be mitigated; or 4) conjectural and not supported by scientific or factual evidence. The Council on Environmental Quality (CEQ) NEPA regulations require this delineation in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not cause-effect or which have been covered by prior environmental review (Sec. 1506.3)..." A list of issues not analyzed in depth and reasons regarding their categorization as not analyzed in depth may be found following the issues to be analyzed in depth in this document.

The following issues were identified to be analyzed in depth pursuant to 40 CFR 1501.7 based upon internal and public scoping:

Issue # 1 Impacts to a Sensitive Watershed: The proposed action may promote a loss of soil productivity. The project area is within Springville City's municipal watershed, which includes wells and water developments.

Indicators: change in ground cover after implementation.

Issue # 2 Impacts to Air Quality: Temporary impacts to air quality could occur from smoke emission from the prescribed fire. While the Forest Service has an excellent record in managing prescribed fires, concerns have been raised as to

the escape of the Cascade Springs prescribe burn in 2003. Air quality as a result of this escaped prescribed burn was an issue while the fire was being suppressed along the Wasatch front.

Indicator: PM-10 ($\mu\text{g}/\text{m}^3$) emissions within 24 hrs of prescribed fire.

Issue # 3 Potential of Prescribed Fire to Escape: Prescribed Fire could have the potential to escape designated area. While the Forest Service has an excellent record in managing prescribed fires, concerns have been raised as to the escape of the Cascade Springs prescribe burn in 2003.

Indicator: Risk (Low, Moderate, High)

Issue # 4 Impacts to the South Fork of the Provo River Inventoried Roadless Area: The proposed action may impact the roadless area qualities.

Indicator: Changes to wilderness attributes or roadless character.

Issues considered, but eliminated from detailed analysis are as follows:

Water quality: Concern was expressed that prescribed fire would impact water quality. The water quality is currently not impaired. There is a vegetative and a physical barrier between the prescribed fire ignition area and the Bartholomew Stream channel, which would prevent sediment from reaching the stream. Most of the water in the watershed is pulled from underground and put into pipelines for Springville City water supply. Thus, the risk of contamination is even further reduced because the water is in the pipeline. See hydrology specialist report within the project record.

Avalanches: Concern was expressed that prescribed burning could increase the probability of avalanches and adversely impact Springville City's water improvements. The proposed action was modified in order to insure this was not an issue by proposing a spring burn that would not include north slopes above the City's structures.

Management Indicator Species: There are no management indicator species (MIS) found within the project area (See Bartholomew Canyon MIS & wildlife specialist report within project record).

Threatened, Endangered, and Forest Service Sensitive Species: There are no threatened, endangered or Forest Service sensitive species found within the project area or impacted by the proposed action. See fisheries specialist report, wildlife specialist report, wildlife BA and BE and plants BA/BE found within the project record.

Big-game habitat: Deer, elk, big horn sheep, mountain goats, and turkey are found within the project area. Any work manipulating the age class distribution of the habitat would enhance the habitat values for these species. See wildlife specialist report within the project record.

Migratory Birds: Although this project may result in an unintentional take if work is accomplished during the breeding season, this project complies with the Fish and Wildlife Service Director's Order #131 related to the applicability of the Migratory Bird

Treaty Act to federal agencies and requirements for permits for “take”. In addition, this project complies with Executive Order 13186 because the analysis meets agency obligations as defined under the January 16, 2001 Memorandum of Understanding between the Forest Service and Fish and Wildlife Service designed to complement Executive Order 13186. If new requirements or direction result from subsequent interagency memorandums of understanding pursuant to Executive Order 13186, this project will be evaluated to ensure it is consistent. See wildlife specialist report and Bird Report within the project record.

Noxious Weeds: Forest Plan standards and guidelines will be implemented to reduce the potential impacts of noxious weeds. The proposed treatment areas will be monitored for noxious weeds after implementation and treated if any are detected. See specialist reports in project record. See vegetation specialist report and fire/fuels specialist report within the project record.

Windy Pass Trail Head and Forest Service Trail 244: Concern was expressed that the proposed action could adversely impact this trail going through the project area. Mitigation/design features were incorporated by no treatment within 500 feet of the Hobble Creek Road. Consequently, there would be no treatment within 300 feet of the Windy Pass Trail Head. Along Trail 244, treatments may cross and be adjacent to the trail within the mechanical treatment area. The trail does not cross into the prescribed burn portion. Within the mechanical treatment area, impacts would be minimal as the oak would start growing back the following year and the amount of use is low. Primary users of the trail are hunters. After implementation, any debris left in the trail from the mechanical treatment would be cleared to ensure the location and integrity of the trail is maintained. Alternative 2 and 3 would impact approximately 2.5 miles of the trail. See recreation specialist report within the project record.

Cultural Resources/Heritage: No archeological sites of any kind were identified within the project area. No Historic Properties will be affected by this proposed action. See heritage report and concurrence by State Historic Preservation Office within the project record.

Range Management: There are no adverse impacts to range management. This proposed action is within the Hobble Creek Allotment. Following the prescribed fire, this unit of the allotment will need to be rested a minimum of two years prior to any permitted grazing. These cattle can graze other units of the allotment during this time. See range specialist report within the project record.

Fisheries: There are no fish found within the project area. See fisheries specialist report and Wildlife BA/BE within the project record.

Tiering

This project is tiered to the 2003 Uinta National Forest Land and Resource Management Plan.

CHAPTER 2 ALTERNATIVES, INCLUDING THE PROPOSED ACTION

This chapter describes and compares the alternatives considered for the Bartholomew Canyon Vegetation Treatment project. It includes a description and map of each alternative considered. This section also presents the alternatives in comparative form, sharply defining the differences between each alternative and providing a clear basis for choice among options by the decision maker and the public. Some of the information used to compare the alternatives is based upon the design of the alternative and some of the information is based upon the environmental, social and economic effects of implementing each alternative.

Alternatives ---

Alternative 1

No Action

Under the No Action alternative, current management plans would continue to guide management of the project area. No activities would be implemented to accomplish project goals.

Alternative 2

The Proposed Action

The proposed action was modified following scoping/request for comments based upon public comment and additional analysis of the proposal as follows: only includes spring prescribed fire; the target ignition area was reduced to show the actual area to be burned; changing Forest Service Road 747 from an objective maintenance and operation level 2 to a level 1; and placing a seasonal closure gate on FSR 570.

The proposed actions are:

- 1) Mechanically treat approximately 30-60 percent of oak/maple vegetation type within approximately 1,500 acres of National Forest System lands in the Bartholomew Canyon area adjacent to National Forest System/Private Land Boundary and along the Bartholomew Canyon roads. A four wheeler or pickup truck pulling a chipper/shredder, chainsaws, bullhog/masticator may be used in the project area. The proposed treatment location is in Utah County T7S R4E Sections 4, 5, 7, 8, 9, 10, 16 and 17. The mechanical treatment area ranges in elevation from 5,500 ft to 7,600 ft.
- 2) Use prescribed fire to treat 30-60 percent of the oak/maple vegetation type within the targeted area (382 acres) within approximately 3,030 acres prescribed fire project area of National Forest System lands in the Bartholomew Canyon Area. The proposed treatment location is in Utah

County T6S R3E Section 36, T6S R4E Section 31, T7S R3E Section 1 and 2, and T7S R4E Sections 5, 6, 7, 8, 17, and 18. The prescribed fire area ranges in elevation from 6,100 ft to 11,068 ft.

- 3) Obliterate, close and reseed ~5 miles of user created roads and ATV trails.
- 4) Improve defensible space (30-60 feet) around Springville City infrastructure under special use permit on National Forest System lands by removing shrubs and trees.
- 5) Create three turnouts and parking along Road 755 for emergency vehicles and other equipment. Areas would be cleared and graveled. Maintain Forest Service Road 570 by clearing vegetation along road, adding water bars, and spot gravelling road as necessary. Seasonally gate and close Forest Service Road 570 above Springville City's water tank (road would still remain open for administrative use). Change the FSR 747 from an objective maintenance and operation level 2 to a level 1 (change the road from high clearance road to an administrative use only road).
- 6) Monitor and treat infestations of noxious weeds as per the current weed management program of the Forest.

Alternative 3

Mechanical Treatment Only

This alternative would involve implementing all of the proposed action except the prescribed fire portion of the project. This alternative was developed to address the issues of impacts to air quality and the potential of prescribed fire escaping, as local citizens are concerned about prescribed fire adjacent to the Wasatch front.

Alternatives Considered but Eliminated From Detailed Analysis

Prescribed Fire Only

This alternative is too risky considering that there are homes directly adjacent to the project area with no good defensible boundaries to stop fire from spreading to the private land. This alternative would also increase the quantity of smoke that would be emitted.

Herbicide Treatment

This alternative would allow for the increase in age class diversity in the oak/maple community. It would leave a lot of dead fuels that would create an unnecessary fire hazard. This could also cause unwanted loss of desirable species within the treatment area.

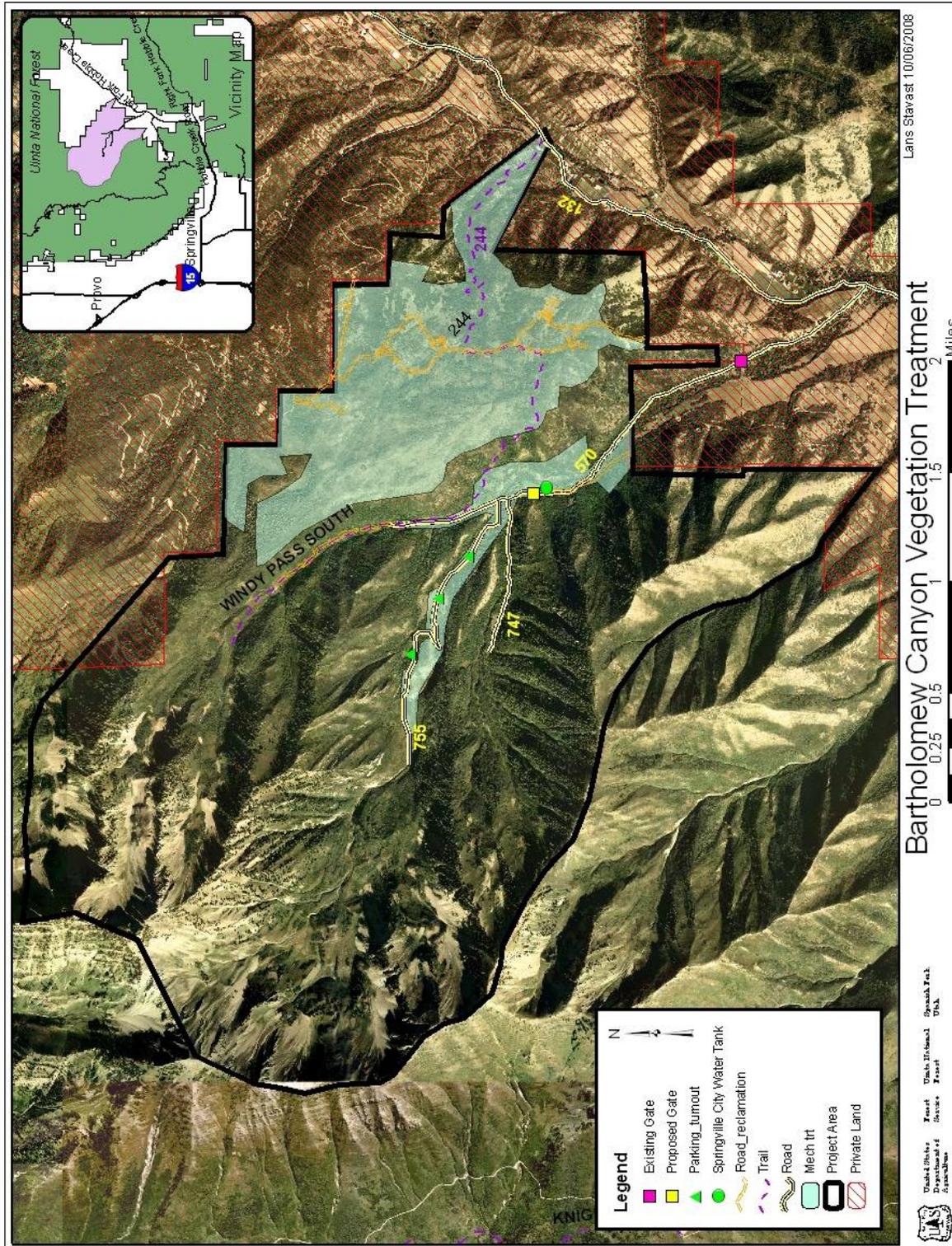


Figure 2. Map of Mechanical Only Alternative.

Mitigation/Design Features Common to Action Alternatives _____

In response to public comments internal analysis of the proposal, mitigation measures and design features were developed to reduce the potential impacts the various alternatives may cause. The mitigation measures may be applied to any of the action alternatives.

Mechanical Treatment

- Mosaic Pattern throughout the treatment area.
- Trees and brush will be chipped and scatter on site.
- No treatment on slopes greater than 30 percent.
- Mechanical treatment will not follow fence lines or trails.
- No Treatment will occur within 50 feet of Class III riparian habitat conservation areas (RHCA) or within 300 ft of Class I RHCA's.
- Stumps should be no higher than 6 inches.
- Areas that have potential to become user created trails will be blocked off.
- Mechanical treatment along Bartholomew Road will be within 60 feet of the road.
- All equipment coming in and out of the project area will be washed first to prevent the spread of weeds.
- No treatment should occur within a distance of 500 feet from the Left Fork Hobble Creek Road.

Prescribed Fire

- Will occur in the spring with snow on ridges/north facing slopes.
- Active ignitions will occur in Bartholomew Canyon on south facing slopes with in the targeted area.
- No ignitions within 300 ft of Class I RHCA's.
- Mechanical treatment must have occurred prior to burning.
- Recon flight will occur before ignitions begin.
- Ignitions will occur on the north side of the road.

Monitoring

- Monitoring for invasive weeds will take place following treatment
- Fuels Monitoring will continue post treatment
- Range readiness monitoring will occur prior to cattle being grazed following the prescribed fire.

Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table 1. Comparison of Alternatives for Bartholomew Canyon Vegetation Treatment.

	Alternative 1	Alternative 2	Alternative 3
Impacts to sensitive watershed	None	Temporary loss of ground cover in the prescribed fire area and an increase in ground cover in the mechanical treatment unit.	Ground cover will increase
Impacts to Air Quality	None	No exceedence of PM-10 standard	None
Prescribed Fire Escape	None	Low probability	None
Impacts to South Fork of Provo River Inventoried Roadless Area	User created roads and ATV trails would continue to detract from some of the wilderness attributes and degrade Landscape character and integrity, other roadless characteristics would not be impacted.	Most wilderness attributes would be improved over the long term. Some short term negative impacts to some wilderness attributes, would not last past project implementation. Short term negative impact to air resources during prescribed burn. Long term positive effects to other roadless area characteristics.	Most wilderness attributes would be improved over the long term. Some short term negative impacts to some wilderness attributes, would not last past project implementation. Long term positive effects to roadless area characteristics. No impact on air quality since this alternative does not include a prescribed burn

CHAPTER 3 ENVIRONMENTAL CONSEQUENCES

This section summarizes the physical, biological, social and economic environments of the affected project area and the potential changes to those environments due to implementation of the alternatives. It also presents the scientific and analytical basis for comparison of alternatives presented in the chart above.

Sensitive Watershed

The topography in the greater Bartholomew Canyon area consists of steep, narrow canyons that open up into glacially carved cirque headwaters. The elevation in the watershed area ranges between 11,608 feet at the summit of Provo Peak to 6,400 feet at the lowest elevation on the project boundary in the Bartholomew Canyon bottom.

Precipitation ranges from 15 to 20 inches at lower elevations and exceeds 30 inches in higher headwater areas. Most of this precipitation falls as snow during the winter. High intensity, short duration summer thunderstorms are common from July through September. The 60 minute storm precipitation total for the 5 year return interval for this project area is ~0.8 inches.

The sub-watersheds in this project area include Bartholomew Canyon and the tributaries to the Left Fork Hobble Creek and are in good condition based on a review of stream conditions in the field. The perennial stream channels in the main drainages of Bartholomew Canyon and the Unnamed Tributary (Right Fork) to Bartholomew Canyon are stable and vegetated. The slopes in the upper watershed have very steep headwalls with steep chute-like intermittent/ephemeral stream channels. These upper elevations near Provo Peak were carved by glaciers forming the mountain valleys of the tributary canyons to Left Fork Hobble Creek. Debris flows and avalanches are dominant geomorphic processes in steeper canyons throughout the Hobble Creek area and may occur in any rock type. This watershed is defined as a sensitive watershed (see Map 2) in the Forest Plan due to the steep terrain, soil instability (glacial till) and the inherit debris flow potential during spring runoff in high water years and in response to intense summer thunderstorms (Uinta National Forest Plan, 2003).

Soils are stable with overall soil conditions either stable or aggrading based on the USFS Region IV soil condition evaluation and qualitative soil management monitoring survey. The average annual erosion rate for all sample sites is either at or below the allowable soil loss ("T" value) for the soil type. There is no evidence of detrimental soil compaction.

The following analysis applies for the proposed action for mechanical treatment, prescribed fire treatment, reclaim user created roads and trails, construct emergency vehicle turnouts, and gravel roads.

Alternative 1 - No Action

- For the two areas sampled, current conditions meet the Forest Plan objectives, standards and guidelines. Soils are stable with soil conditions stable and aggrading based on the USFS Region IV soil condition evaluation and qualitative soil management monitoring survey.

Alternative 2 - Proposed Action

- The Mechanical vegetation treatment would temporarily reduce canopy cover by removing brush and small trees, but should not impact ground cover. Removal of canopy cover will temporarily increase ground cover because chipped material will be scattered on site. Therefore, this treatment will not reduce effective ground cover.
- The Prescribed Fire treatment should temporarily reduce both canopy and ground cover following treatment. However, since the burn will most likely be a spring burn, fast growing grasses and forbs will quickly provide ground. In addition, a Spring burn will not likely damage the surface soil. Oakbrush, maples and other shrub types will likely re-sprout quickly following the burn. Therefore, this treatment will not permanently reduce effective ground cover and/or create severely burned soil conditions.
- The removal/reclamation of user created roads and trails should reduce bare ground, increase vegetation and litter cover, and reduce overall soil erosion and sedimentation.

Alternative 3 - Mechanical Treatment

The following analysis applies for the mechanical only treatment action, reclaim user created roads and trails, construct emergency vehicle turnouts, and gravel roads.

- The Mechanical vegetation treatment would temporarily reduce canopy cover by removing brush and small trees, but should not impact ground cover. Removal of canopy cover should temporarily increase ground cover because chipped material will be scattered on site. Therefore, this treatment should not reduce effective ground cover.
- The removal and reclamation of user created roads and trails should reduce bare ground, increase vegetation and litter cover, and reduce overall soil erosion and sedimentation

Air Quality

The Bartholomew Canyon area is located within Utah County and has been designated as a non-attainment area for PM-10. Air quality has been improving over the past few years

and a request has been made that Utah County be re-designated with respect to PM-10 emissions as a maintenance area.

Alternative 1 - No Action

There would be no change in air quality due to smoke emissions.

Alternative 2 - Proposed Action

Smoke emissions would have a temporary impact on air quality, visibility and human health within the Hobble Creek Area. Smoke emissions would occur only during the prescribed fire portion of the proposed action. Using the Smoke Modeling software (SASEM4), the predicted smoke emissions (PM-10) would be 104 ug/m³, which does not exceed the EPA standard of 150 ug/m³. Smoke emissions would only have a temporary affect on visual quality in the area.

While preparing the burn plan, mitigation measures are put in place to limit the quantity of smoke emissions. Some of the mitigation measures are burning before new fuels appear (Smoke Management Guide for Prescribed and Wildland Fire (SMGPWF) 2001); this will be one of the mitigation measures since this burn will occur before new growth appears for the year. Another mitigation measure is to reduce the area burned (SMGPWF 2001); this will also be used since we will be doing a large quantity of mechanical treatment and we want to have a mosaic pattern in the burn area, not one large burned area. Also, aerial/mass ignition will shorten the duration of the smoldering phase, thus limiting the emissions (SMGPWF 2001). Inversions are not as common in the spring, which would help with smoke dispersal.

Alternative 3 - Mechanical Treatment

There would be no change in air quality due to smoke emissions.

Prescribed Fire Escape

The Forest Service has an excellent record of prescribed burning. However some concerns have been brought forward with respect to the escaped Cascade II prescribed fire in the fall of 2003. The Forest Service has been very successful with prescribed fires in the spring.

Alternative 1 - No Action

There would be no risk of a prescribed fire escaping with the no action alternative.

Alternative 2 - Proposed Action

The prescribed fire is planned as a spring fire. There should be snow on the tops of the ridges or on the north facing slopes to keep the prescribed fire from exceeding its desired perimeter. The cool night temperatures and higher Relative humidity will most likely keep the fire from burning after ignitions during the day. There should be higher soil moisture and fuel moisture early in spring which should also slow the spread of the fire.

The area has a lot of rocky slopes that would also impede fire spread. Firefighters (holding forces) and a helicopter with a water bucket, would be on scene and available to assist in suppression activities, if necessary. The mechanical treatment implemented before the prescribed fire would allow firefighters to better suppress the fire if necessary.

A burn plan would be prepared which sets the parameters in which a prescribed fire would be ignited. The parameters include temperature, RH, wind speed, wind direction, fuel moistures etc. A Go-No Go checklist is gone through prior to the ignition to ensure that the parameters are within the prescription specified for the fire.

Alternative 3 - Mechanical Treatment

There would be no risk of a prescribed fire escaping with the no action alternative.

Inventoried Roadless

The wilderness attributes and current condition in the South Fork of the Provo River Roadless Area within the project boundary are currently as follows:

- *Untrammeled*- Approximately 5 miles of user-created ATV trails/roads exist within the roadless area. These ATV trails/roads are creating erosion and decreasing vegetation potential within the area. The roads also increase access to the area, which negatively influences the natural processes of the area.
- *Natural* - The area appears natural with the exception of the view of the nearby residential development and Springville City infrastructure. Three cherry stem roads and user-created ATV trails/roads, which dissect the project area also detract from the natural appearance.
- *Undeveloped*- The area is surrounded by residential development on the north, east and south. There are pipelines, roads, buildings and user created ATV trails/roads located along the cherry stem roads in the project area. All of these features make human occupation apparent, and detract from the natural and undeveloped characteristics that are valued in roadless and wilderness areas.
- *Solitude*- The project is near residential development and is bounded on one side by a well traveled road. The farther west you go, the more opportunity for solitude. User-created ATV trails/roads decrease the opportunities for solitude since they facilitate motorized access.
- *Opportunity for Primitive Recreation*- There is a single track trail for hiking, backpacking and horseback riding. Opportunities for camping, fishing and mountain climbing are low. Opportunities are moderate for hunting and skiing.
- *Special Features (ecological, geological, scenic or historical)*- There are no special ecological, geological, scenic, cultural or historical features or values within the project area.
- *Manageability (as Wilderness)* – User-created roads and ATV trails, as well as human developments and infrastructure make managing the area as wilderness difficult. These factors also decrease the area’s wilderness potential.

Alternative 1 - No Action

The roadless area would continue to have user created roads/trails created off of the existing user-created roads/trails and existing cherry stem roads. Motorized access to the area would continue to increase. This increase in user created trails would continue to negatively affect the visual quality, naturalness, opportunities for solitude and primitive recreation. Mature oak/maple would continue to be dominant vegetation in the area.

Alternative 2 - Proposed Action

Fire, a natural process, would be reintroduced into the area. The prescribed fire portion of the treatment would have a short term impact to air quality due to smoke emissions during ignitions. There would be a temporary loss of vegetation, which would not detract from the natural appearance of the area. There would be temporary decreases in the opportunity to experience solitude while the treatments are being implemented (3-4 months). However, the opportunity to experience solitude could increase following treatment since ~5 miles (6 acres) of user-created ATV trails/roads would be reclaimed and blocked off. The road reclamation would curtail illegal motorized access into the area. Landscape character and integrity would improve in the long term.

The treatments would not look unnatural to the casual observer. There would be no effects to the opportunity for primitive recreation. No new facilities would be added or removed. The project would decrease development in the area by reclaiming the user-created ATV trails/roads. Civilization is apparent and would remain so after the project. The manageability as wilderness should increase by limiting the access as a result of reclaiming the user-created ATV trails/roads.

While there would be very minor effects to some wilderness qualities or attributes, the overall suitability for wilderness designation and viability for wilderness potential will not change.

Alternative 3 - Mechanical Treatment

No new roads would be created. Loss of vegetation would only be temporary. The mechanical treatment leaves debris on the ground, which increases ground cover. The oak/maple age class diversity would increase and plant species diversity would increase. There would be temporary decreases in the opportunity to experience solitude while the treatments are being implemented (3-4 months). However, the opportunity to experience solitude would increase following treatment since ~5 miles (6 acres) of user-created ATV trails/roads would be reclaimed and blocked off. The road reclamation would curtail illegal motorized access into the area. Landscape character and integrity would improve in the long term.

The treatments should not look unnatural to the casual observer. There should be no effects to the opportunity for primitive recreation. No new facilities would be added or removed. The project should decrease development in the area by reclaiming the user-created ATV trails/roads. Civilization is apparent and would remain so after the project. The manageability as wilderness should increase by limiting the access by reclaiming the user-created ATV trails/roads.

While there would be very minor effects to some wilderness qualities or attributes, the overall suitability for wilderness designation and viability for wilderness potential should not change.

Cummulative Impacts

There are no additional proposed projects within the analysis area. Existing conditions have been considered in the direct and indirect effects of the analysis.

CONSULTATION AND COORDINATION

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons during the development of this environmental assessment:

ID TEAM MEMBERS:

Jennifer A. Beard; Archaeologist; BA & MA Anthropology; 5 years experience

Renae Bragonje; Rangeland Management Specialist; BS Range Science; 33 years experience

Beth Corbin; Fire Ecology; BS Botany, MS Plant Ecology; 23 years experience

Paul Cowley; Fisheries; BS Fish & Wildlife, MS Fisheries Management; 22 years experience

Robert Davidson; Soil Science, Chemistry; BS Chemistry, MS Soil Science; 29 years experience.

Mike Duncan; Botanist; BS Botany; 11 years experience

Molly Hanson; Hydrologist; BS Environmental and Resource Management, MS Geography; 5 yrs experience

Karen Hartman; Wildlife Biologist, BA Biology, MS Biology-Wildlife Management; 20 years experience

David S. Hatch; Forest Landscape Architect, Scenery/Visual Management; BLA Landscape Architecture and Environmental Planning; 18 years experience

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FEDERAL, STATE, AND LOCAL AGENCIES:

Springville City, Utah County, Utah Department of Natural Resources Division of Wildlife Resources, and Northern Utah Fuels Committee, US Fish & Wildlife Service.

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