

Inventoried Roadless Area Impact Evaluation

Pahvant Interagency Fuels Reduction Project

4/30/03

Project Description

The proposed action is to reduce hazardous fuels by reducing fuel height and fuel loads within the project area. Treatments would occur in seven treatment units, ranging from approximately 490 to 4,929 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; 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 is typically 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. Approximately 0.12-0.84 mile of handline would be created in each of these four units.
2. Firelines would be water barred frequently to prevent erosion 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. For prescribed burns in the Grabalt, Horse Hollow and Meadow treatment units, the soil moisture content would be at least 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 of upper Maple Hollow within the Swain's wildfire area (Soil Resource Management Report, pg. 33 and Hydrology Report, pg. 33).
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 of Pioneer, Chalk and Meadow creeks, in order to avoid potential negative affects to riparian resources.
8. An average of two trees per acre would be retained for wildlife habitat in pinyon-juniper targeted for cutting. 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. Only noxious weed-free seed mixes would be used.

Table 1. Proposed Treatment Unit Locations, Unit Acreages, Vegetation Type, 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 ignition device
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 ignition device*
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 ignition device
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 ignition device*

* 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: Approximately 40-80% of the vegetation would be cut and/or burned in each treatment unit.

Pahvant Interagency Fuels Reduction Project Inventoried Roadless Areas & Recreation Sites

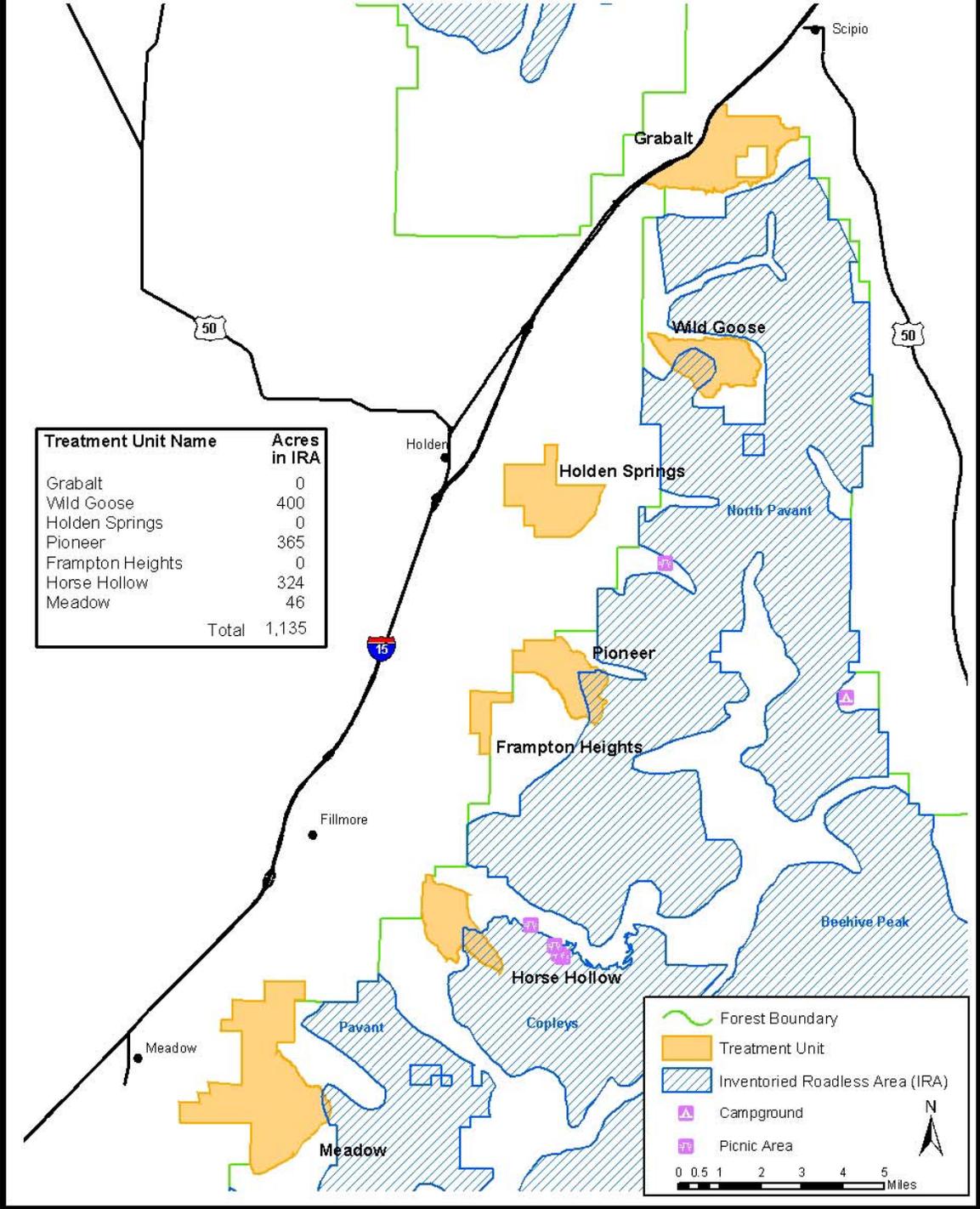


Table 2. Inventoried Roadless Area (IRA) Acreages and Maximum Amount of Handline to be Constructed Within Treatment Units Containing Inventoried Roadless Areas

Treatment Unit	IRA Affected and total size of IRA*	Acreage of IRA within Treatment Unit	Percentage of IRA within Treatment Unit	Maximum Handline Construction
Grabalt	N/A	0	0	0
Wild Goose	North Pahvant 49,306 acres	400 acres	0.8%	4450 feet (0.84 mile)
Holden Springs	N/A	0	0	0
Pioneer	North Pahvant 49,306 acres	365 acres	0.7%	1590 feet (0.30 mile)
Frampton Heights	N/A	0	0	0
Horse Hollow	Copleys 12,026 acres	324 acres	2.7%	1940 feet (0.37 mile)
Meadow	Pahvant 43,898 acres	46 acres	0.1%	650 feet (0.12 mile)
TOTAL	105,230 acres total size of I	1,135 acres	4.3%	8630 feet (1.63 miles)

* Acreages based on RARE II inventory

The Wild Goose, Pioneer, Horse Hollow and Meadow treatment units contain portions of roadless areas. There are approximately 105,230 acres of inventoried roadless areas within the analysis area, of which 1,135 occurs within prescribed burn treatment units. The total acreage of roadless area within all treatment units is approximately 4.3 percent.

The roadless areas within the treatment units would be treated through prescribe burning only. No new roads would be constructed and no fuels cutting is proposed in roadless areas; the only cutting that is anticipated on National Forest Service System lands is in the Grabalt treatment unit, which does not contain any roadless area.

Approximately 0.12-0.84 mile of handline may be created in each of the prescribe burn units in order to contain prescribed fire and prevent it from moving outside of the unit boundaries (see Project Design Specification #1 above). Handline would only be created in areas where vegetation and topography require a holding action and where it would not be practical or feasible to use less labor-intensive methods of containing the prescribed fire within the unit. Handline is typically 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.

Roadless Area Characteristics and Potential Effects

Potential effects are described for each of the nine resources or features that characterize roadless areas.

- (1). *Soil, water, and air – These three key resources are the foundation upon which other resource values and outputs depend. Healthy watersheds provide clean water for domestic, agricultural, and industrial uses; help maintain abundant and healthy fish and wildlife populations; and are the basis for many forms of outdoor recreation.*

Prescribed fire would impart a charred appearance on the land and would result slightly higher peak flows and sediment yields. All known domestic and industrial water sources within the analysis area are derived from springs or groundwater sources. Vegetation treatments would not occur within a minimum 100-foot buffer of Pioneer, Chalk and Meadow creeks. Burning would occur when soils are moist enough so that impacts to soils would be minimized. Impacts to fish and macroinvertebrates would be minimal because most of the eroded sediment would be trapped before reaching the streams. The impacts on agricultural uses of water would be minimal because sedimentation that could block diversion structures is not likely to occur.

- (2). *Sources of public drinking water – NFS lands contain watersheds that are important sources of public drinking water. Careful management of these watersheds is crucial in maintaining the flow of clean water to a growing population.*

All known domestic and industrial water sources within the analysis area are derived from springs or groundwater sources. Concern for water quality for this type of use is not as great on National Forest System (NFS) lands within the analysis area as it might be in areas where surface waters are the primary source of drinking water. Watersheds on NFS lands are an indirect source of drinking water for the communities along the Pahvant Front; the waters that come from these watersheds infiltrate and move through the aquifers to the spring and well sites before becoming a source of drinking water.

- (3). *Diversity of plant and animal communities – Unroaded areas are more likely than roaded areas to support greater ecosystem health, including the diversity of native and desired nonnative plant and animal communities, due to the absence of disturbances caused by roads and accompanying activities. Inventoried roadless areas also conserve native biodiversity, by providing areas where nonnative invasive species are rare, uncommon, or absent.*

The prescribed burn treatments would create areas of early seral plant species that would increase plant size, age, and species diversity thereby improving animal diversity as well. Approximately 4.3% acres of total roadless area would be treated. The proposed project would have little effect on plants or animal communities at the landscape level.

- (4). *Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land – Inventoried roadless areas function as biological strongholds and refuges for many species. Of the nation's species currently listed as threatened, endangered, or proposed for listing under the Endangered Species Act, approximately 25% of animal species and 15% of plant species are likely to have habitat within inventoried roadless areas on NFS lands.*

Implementation of the proposed action would retain large undisturbed areas of land for wildlife species. Approximately 4.3% acres of total roadless area would be treated. The prescribed burns

would be completed in a patchwork burn pattern of burned and unburned vegetation, which would create areas of early seral plant species that would improve plant size, age, and species diversity important in maintaining a functioning ecosystem.

A Biological Assessment (BA) was prepared for the project, which analyzed the effects of the proposed action to threatened, endangered, candidate, and proposed plant and animal species. The BA determined that the proposed action may affect, but is not likely to adversely affect bald eagle and western yellow-billed cuckoo (BA pages 12-13)

A Biological Evaluation (BE) was prepared for the project, which analyzed the impacts of the proposed action to sensitive plant and animal species. No suitable sensitive plant habitat occurs in the project area. Regarding sensitive wildlife species, the BE determined that the proposed action 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 for spotted bat, peregrine falcon, western big-eared bat, northern goshawk, flammulated owl, and three-toed woodpecker (BE pages 18-22).

(5) *Primitive, semi-primitive non-motorized, and semi-primitive motorized classes of recreation opportunities – These areas often provide outstanding recreation opportunities such as hiking, camping, pick-nicking, wildlife viewing, hunting, fishing, cross-country skiing, and canoeing. While they may have many Wilderness-like attributes; unlike Wilderness, the use of mountain bikes, and other mechanized means of travel is often allowed.*

The IRAs associated with this proposed action provide limited opportunities for primitive, semi-primitive non-motorized, and semi-primitive motorized dispersed recreation. There is 0.25 mile of trail in the Horse Hollow unit, which receives minimal horse and foot use. The eastern boundary of the Horse Hollow Unit is a low use horse and foot trail. The Chalk Creek Canyon road is adjacent to the Horse Hollow burn unit. It is one of the higher use recreation roads in the area. A burn would temporary detract from visuals along the road. Regrowing vegetation would eliminate the negative visual effects in two to five years. There are no motorized or developed trails in the IRA portions of Wild Goose, Pioneer and Meadow treatment units.

(6) *Reference landscapes – The body of knowledge about the effects of management activities over long periods of time and on large landscapes is very limited. Reference landscapes can provide comparison areas for evaluation and monitoring. These areas provide a natural setting that may be useful as a comparison to study the effects of more intensely managed areas.*

The portions of the IRAs associated with this proposed action are suited as reference landscapes; however, there are many other areas on the Fillmore Ranger District that would be better suited as reference landscapes. Proposed activities in roadless areas would not appreciably affect the opportunity to establish reference areas on the Fillmore Ranger District.

(7) *Landscape character and scenic integrity – High quality scenery, especially scenery with natural-appearing landscapes, is primary reason that people choose to recreate. In addition, quality scenery contributes directly to real estate values in neighboring communities and residential areas.*

The portion of the IRA that is proposed for burning adjacent to the Chalk Creek Canyon road is foreground scenery to users of this road. A burn in this area would temporarily detract from the scenic values of the area. Regrowing vegetation would eliminate these this effect in two to five years. The areas of higher scenic value up the canyon near campgrounds would not be affected.

The Wild Goose, Pioneer, Horse Hollow and Meadow treatment units may require 0.1 to 0.8 mile of handline construction to serve as boundaries to contain prescribed burn treatments. Regrowing vegetation would eliminate the negative visual effects of handlines in two to five years.

- (8) *Traditional cultural properties and sacred sites – Traditional cultural properties are places, sites, structures, art. Or objects that have played an important role in the cultural history of a group. Sacred sites are places that have special religious significance to a group. Traditional cultural properties and sacred sites may be eligible for protection under the National Historic Preservation Act. However, many of them have not yet been inventoried, especially those that occur in inventoried roadless areas.*

The IRAs associated with this proposed action potentially contain a number of heritage resources and sacred sites. Some cultural resource surveys have been conducted within the proposed treatment units. Utah State Historic Preservation Office (SHPO) has concurred with the results of those surveys. Cultural resources surveys would be completed for the remainder of the treatment units. Concurrence from SHPO would be obtained prior to implementation of the proposed action on those units.

Any identified Traditional Cultural Properties (TCP) that are currently used by local Native Americans would require protection, if so desired by the people. Tribal consultation has been initiated by the BLM and Forest Service and would be ongoing throughout project planning and implementation.

Mitigation measures to protect cultural resource sites would be employed during project implementation. Mitigation measures would prevent adverse effects to heritage resources eligible to the National Register of Historic Places, as described in the Heritage Resources Protection Plan (Project Planning Record).

- (9) *Other locally identified unique characteristics – Inventoried roadless areas may offer unique characteristics and values that are not covered by the other characteristics. Examples include uncommon geological formations, which are valued for their scientific and scenic qualities, or unique wetland complexes. Unique social, cultural, or historical characteristics may also be dependent on the roadless character of the landscape. Examples include ceremonial sites, places for local events, area prized for collection of non-timber forest products, or exceptional hunting and fishing opportunities.*

No additional unique characteristics have been identified in roadless areas associated with this proposed action.

Wilderness Consideration

Effects to roadless areas as a result of prescribed burns would be similar to effects of wildfire, but lesser in magnitude and duration than the uncharacteristically intense and severe wildfires that have occurred in the recent past. Although wildfire is a natural dynamic upon the ecosystem, uncharacteristically intense and severe wildfires often require suppression actions that could result in long-term negative effects to roadless characteristics. The proposed action is designed to reduce the risk of these types of wildfires. Effects of the proposed action would be short-term in duration, lasting two to five years, until vegetation regrows. Roadless area characteristics would be maintained over the long-term. The fuels reduction activities are not expected to affect roadless characteristics beyond acceptable ranges for wilderness consideration.

Analysis prepared by:

Diane Freeman, Project Leader

Adam Solt, Hydrologist

Bill Wright, Recreation Specialist

Bob Leonard, Archaeologist

Linda Chappell, Fuels Specialist

Mike Smith, Soil Scientist

Stan Andersen, Biologist

Steve Zieroth, Fire Ecologist