

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Lump Gulch II
Proposed Implementation Date:	December 15, 2004
Proponent:	DNRC, Helena Unit
Location:	NE1/4 Section 36, Township 9 North, Range 4 West
County:	Jefferson

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LEGISLATIVE ENVIRONMENTAL POLICY OFFICE

I. TYPE AND PURPOSE OF ACTION

A. Type of Action: Lump Gulch II Timber Sale

The Montana Department of Natural Resources and Conservation (DNRC) is proposing a timber harvest in the Lump Gulch area, west of Clancy, Montana. The proposed action could be implemented as early as December 15, 2004. The timber sale contract would be 6 months in length, ending June 15, 2005. Under this harvest alternative, the department plans to selectively cut approximately 100 MBF of timber from one unit totaling 14 acres. Noxious weed control and/or monitoring shall continue five years after harvesting has been completed.

B. Purpose of Action:

- The lands involved in this proposed project are held by the State of Montana in trust for the support of specific beneficiary institutions such as public schools, state colleges, universities and other specific state institutions such as the School for the Deaf and Blind (Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X, Section 11). The Board of Land Commissioners and the DNRC are required by law to administer these trust lands to produce the largest measures of reasonable and legitimate return over the long run for these beneficiary institutions (Section 77-1-202, MCA). On May 30th, 1996, the Department released the "Record of Decision" on the State Forest Lands Management Plan (SFLMP). The Land Board approved the SFLMP's implementation on June 17, 1996. The SFLMP outlines the philosophy the DNRC follows for management of state forested Trust Lands.

The Department shall manage lands involved in the project according to the philosophy in SFLMP, which states the following:

Our premise is that the best way to produce long-term income for the trust is to manage intensively for the healthy and biologically diverse forest. Our understanding is that a diverse forest is a dynamic forest that will produce the most reliable and highest long-term revenue stream. In the foreseeable future, timber management will continue to be the DNRC's primary source of revenue and primary tool for achieving biodiversity objectives.

- In order to meet the goals of the management philosophy adopted through programmatic review in the SFLMP, and to increase landscape ecosystem management by partnering with the Bureau of Land Managements Sheep Mountain project, the Department has set the following specific project objectives:
 - To provide for healthy native forest/grassland plant communities with a wide variety of native plants species, including trees of varying ages, species and sizes that is more sustainable and resilient.
 - To reduce the threat of large scale, catastrophic wildfire by reducing vertical continuity of fuel in the dry forest types.
 - To insure a variety of animal habitats to meet the needs of the area's animal species.
 - To produce an array of wood products, while maintaining a sustainable forest.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

1.1 History of Planning Process:

A scoping letter was sent out in September 2004 to interested parties listed on the DNRC, Helena Unit "Timber Sale Scoping List". The "Initial Proposal" letter briefly outlined project needs and objectives as well as existing landscape conditions.

A legal notice was published in the *Helena Independent Record*, September 22 & 25, 2004. Comments were encouraged and were to be directed to the DNRC Helena Unit office by October 18, 2004. No written and/or verbal comments were received.

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

The Lump Gulch Timber sale project must obtain and comply with the following road use agreement to proceed:

2.1 Temporary Road Use Agreement with BLM.

Under the proposed alternative, a temporary road use agreement, allowing use of Sheep Mountain Spur road "A" an existing BLM road segment (SW, Section 31, Township 9 North, Range 3 West) is necessary in order to access this sale.

3. ALTERNATIVES CONSIDERED:

3.1 Introduction

Alternatives including the proposed action are the heart of this "Checklist Environmental Assessment". The purpose of this section is to describe the alternatives, comparing them in terms of environmental impacts and achieved objectives. Alternatives were determined through scoping, identifying the issues of concern, input from Interdisciplinary Team (IDT) specialists, and guidance from resource management standards set forth in the "SFLMP" and "Administrative Rules".

3.2 Description of Alternatives

This section describes the activities of the No Action Alternative and all other Action Alternatives.

3.2.1 Alternative A: Deferred Harvest (No Action)

3.2.1.1 Principle Actions of Alternative A

Timber harvesting would be deferred until a later entry. However, ongoing State Trust Land permitted, licensed, and approved activities would continue as follows:

- **Livestock grazing** - Two existing grazing license for 32 AUM's (animal unit months) annually would continue on the project area at \$4.88/AUM.
- **Fire suppression** - human and natural caused fires would be suppressed by the DNRC, volunteer fire departments, and other government agencies.
- **Hunting** - deer, elk, bear, other big game hunting, as well as upland game hunting would continue according to the rules and regulations set forth by Montana Fish, Wildlife & Parks. Beginning in 2004, purchase of a conservation license will also authorize use of accessible trust lands for hunting and fishing.
- **Public vehicle access** - existing motorized access privileges, as well as limitations, would remain the same.

- **Hiking and other recreational uses** - persons having a valid State Trust Land Recreational Use Permit are welcome to hike, pick chokecherries, or perform other outdoor activities on this acreage.

3.2.1.2 Past Relevant Actions Not Part of the Proposed Action

In 1989, a contract was awarded for the 93 acre, 4-unit Lump Gulch Timber Sale. Estimated sawlog volume removed from this sale was 578 MBF. Topographical features limited access to managing timber on the now proposed Lump Gulch II timber sale.

3.2.1.3 Present Relevant Action Not Part of the Proposed Action

Current land uses as described above would continue on property owned by the State of Montana. Active timber harvesting is being done on BLM lands adjacent to State Trust property.

3.2.1.4 Reasonably Foreseeable Relevant Actions Not Part of the Proposed Action

U.S. Forest Service, BLM, and Private ownership would undoubtedly experience continual timber harvesting activities during the next several decades.

3.2.2 Alternative B: Lump Gulch Timber Harvest

If alternative B were selected for implementation, the following actions would occur:

- The proposed harvest would cut approximately 100 MBF of Douglas-fir and ponderosa pine sawtimber generating a net positive return to the State Trust.
- Shelterwood harvest, using a ground based harvesting operation would be conducted on roughly 14 acres. Current stocking levels would be reduced to approximately 50 ft² of basal area per acre. Emphasis will be to maintain well crown-formed ponderosa pine with a small component of Douglas-fir. This should increase the health and vigor of the residual stand, while minimizing the threat of large scale, catastrophic wildfire by reducing vertical continuity of fuel in the dry forest types.
- A small amount of logging slash will be retained to meet woody debris requirements. The remaining slash will be piled and burned to minimize potential wildland fire hazards.
- Post-harvest weed management would consist of monitoring for noxious weeds a minimum of five years after cutting has been completed and spot spraying if necessary.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

4.1 Lump Gulch as well as several others drainages in the area, flow into Prickly Pear Creek. These watersheds are dominated by granitic bedrock, although some small areas of volcanic rock may be included as well.

The natural processes of erosion at work in the drainages (water, wind, heat, cold) produce on average from 2.0 to 3.0 tons of sediment per square mile per year. Sediment surveys indicate that the major

sources of human-caused sediment contribute 44 tons per year from a number of watersheds in this area. Glaciers once covered the upper portions of Lump Gulch, Quartz Creek and Kady Gulch watersheds. The unglaciated soils occur on rolling uplands and mountain slopes.

The forested soils in this portion of the landscape support Douglas-fir and subalpine fir habitat types. The soils have sandy loam or gravelly sandy loam surfaces. The subsurface layers are gravelly sandy clay loam and sandy loam. These soils are 20 to over 60 inches deep to granitic bedrock. They have an estimated potential productivity of 40 to 60 cubic feet of wood biomass per acre per year except at high elevation rocky sites where productivity is lower. The sandy loam and sandy clay loam textures associated with these soils are vulnerable to packing or compaction, which significantly lowers their potential to produce healthy plants. The thin dark surface layers, or topsoil, in these forested areas can be easily displaced by mechanized tree harvesting equipment.

The forested soils where glaciers were present are susceptible to compaction and displacement. These soils tend to be deeper to granite bedrock and have more subsurface rock. They support mostly subalpine fir habitat types. Both the glaciated and unglaciated soils have scattered surface boulders in places. These soils range in productivity (estimated productivity potential of 20 to 70 cubic feet per acre per year depending on the specific habitat type and soil conditions). The granitic soils are severely or moderately subject to surface soil erosion. The volcanic areas affected by the proposed vegetation treatments occur on mountain ridges, and thus are less prone to erosion problems.

This information was obtained from the "Final Environmental Impact Statement" for the "Clancy -Unionville Vegetation Manipulation and Travel Management Project", February 2000.

Due to the potential for soil compaction and displacement the proposed season of harvest will be under snow-covered and/or frozen ground conditions. Road/trail construction will be kept to a minimum and reclaimed after use.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

- 5.1** Lump Gulch is identified by the State of Montana as a water quality limited segment in need of "total maximum daily load" development (State 303d list, 1996 and draft 1998). The probable causes of Lump Gulch's water quality problems were listed as metals and suspended solids. The probable sources of impairment to this drainage were listed as agriculture, resource extraction and range land.

Due to the amount of existing and proposed timber harvest on the National Forest in the Lump Gulch and Buffalo Creek drainages, a water yield analysis was completed. Due to the limited amount of water yield producing activities, either existing or proposed, water yield analyses were not completed on the other drainages. Current conditions suggest a 1.5% increase in water yield for Lump Gulch and a 1.4% increase in water yield for Buffalo Creek. Due to the nature of streams in this area, water yield increases of 8 to 10% are needed before noticeable morphological changes can be seen. Changes in stream morphology due to excessive water yield may include the streams becoming wider and shallower because of excessive lateral erosion, or stream downcutting resulting in unstable vertical banks and the stream unable to access its flood plain.

This information was obtained from the "Final Environmental Impact Statement" for the "Clancy -Unionville Vegetation Manipulation and Travel Management Project", February 2000.

Due to the relatively small size of the proposed project, and by maintaining a component of woody debris on the ground surface as well as the season of year in which the sale will be harvested, minimal impacts to water quality are expected.

6. AIR QUALITY:

What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

6.1 General Information:

The Helena area is located in west-central Montana on the eastern front of the Continental Divide of the Rocky Mountains. Two principle drainage basins congregate to form the Helena Valley; the Canyon Creek/Little Prickly Pear Creek basin to the west and the Missouri River basin to the southeast. The surrounding mountain ranges include the Big Belt Mountains to the east, Elkhorn Mountains to the south, and the Continental Divide to the west. The Helena Valley is approximately 25 miles wide from north to south and 35 miles long east to west. The surrounding mountains rise an average of approximately 3000 feet above the valley floor, which has an elevation around 3,700. The valley is broad and flat with limited topographic features.

The City of Helena is positioned at an elevation of 4,157 feet and the City of East Helena at 3,900 feet. The climate of the Helena area is best described as modified continental. Winter temperatures often reach well below zero degrees Fahrenheit while summers are moderate with maximum temperatures generally under 90 degrees Fahrenheit (average July temperature is 68 degrees F). The average annual precipitation is 11.6 inches with most precipitation falling between April and July. Snow often remains on the ground for several weeks in the spring. Strong and persistent temperature inversions are common in the Helena Valley. The surrounding mountains shelter the area from winds and at night, cold air drains into the valley from the surrounding mountain drainages.

The Helena area is surrounded by mountain ranges to form an airshed that affects two major population areas. These include the City of Helena with a 1996 population census estimate of 27,982 and the City of East Helena, with a 1996 population estimate of 1,720. Other critical receptors include the State Veterans Hospital located in the west valley and the Masonic Home located in the north valley. U.S. Highway 12, Interstate 15, and Montana Secondary 279 are major public roadways within and surrounding the Helena valley. The Canyon Ferry recreation area is a destination point for the public during all seasons. Additionally, over the past decades land use patterns have resulted in moderate density residential developments scattered throughout the area. The Gates of the Mountains Wilderness is a Class I airshed and is located 20 miles northeast of Helena and the north end of the project area.

In March of 1980 the Lewis and Clark City/County Health Department (LCCHD) began air quality monitoring for the protection of public health. Air quality monitors are currently located at Lincoln and Rossiter public schools in Helena. The pollutant of interest is PM-10 (particulate matter with an aerodynamic diameter of 10 microns and less). As a result of elevated particulate levels in the early 1980s, the LCCHD began a voluntary residential wood burning education and monitoring program. In 1986, the Lewis and Clark County Clean Air Ordinance was adopted and the Lewis and Clark Air Quality Protection District was formed to regulate residential wood burning. Over the past five years, the air quality in the Helena area has been good. The 24-hour PM-10 standard has only been exceeded once, on May 4th, 1998.

6.2 Wind Dispersion:

Wind dispersion is excellent most of the year. The prevailing winds are from the west, with a mean speed of 7.7 mph. Winter inversion conditions occasionally cause air quality problems in Helena and the Helena Valley. To avoid contributing to this problem, prescribed burning normally does not occur on the Helena Forest during the months of December, January, and February. The air pollution problems in Helena are primarily due to wood burning stoves and vehicle emissions.

6.3 Air Pollution Sources:

National Forest, BLM, and State Trust Land sources of air pollution include road dust, smoke from wildfires, engine exhaust, natural fuel burning, and slash burning. Off-Forest sources of smoke include slash burning, burning of agricultural fields and wildfires in Western Montana, Idaho, Washington and Canada. Local industry, vehicle emissions and heating systems also contribute air pollutants.

This information was obtained from the "Final Environmental Impact Statement" for the "Clancy -Unionville Vegetation Manipulation and Travel Management Project", February 2000.

7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

7.1 Forest Community Types:

The vegetation analysis that was conducted by the Forest Service for the analysis area is based on an aggregation of the firegroups into three types; the Warm and Dry Forest type, the Cool and Dry Forest type, and the Cool and Moist Forest type. The Cool and Dry Forest type represents the transition forests between the dry and moist types. This type is further categorized as to whether the Uneven-aged or Even-aged process tended to be dominant on a given site.

1. *Warm and Dry Forests* - Ponderosa pine, with a minor Douglas-fir component, dominate these sites. Uneven-aged (many tree ages present) forest succession processes tended to dominate in this forest type due to frequent low-moderate intensity fires. Forest patch size is generally not meaningful here because these stands were naturally open grown (savannah) with numerous age classes present, on any given acre. Forests were naturally maintained by either individual tree or group tree replacement, which are uneven-aged processes. Trees of all ages and sizes (seedlings, saplings, poles, mature, old forest) would generally be maintained on each acre, more or less. These forests typically had a high degree of vertical structural diversity. However, because larger trees tend to dominate the view, such a forest generally appears to be older. Canopy closures generally ranged between 10-30%.
2. *Cool and Dry Forests* - Ponderosa pine and Douglas-fir dominate these sites, either in pure or mixed species stands. Uneven-aged processes characteristic of the warm and dry forest type occur here (uneven-aged Cool-Dry Forests), as well as even-aged processes characteristic of the cool and moist forest type (even-aged Cool-Dry Forests). The dominant process depends primarily on aspect, elevation, temperature, moisture effects, or adjacency to warm-dry sites with shorter fire return intervals (which influenced fire intervals and behavior). In areas where even-aged processes tended to dominate, due to periodic stand replacement fires, they were more densely forested with canopy closures of 30-50% or greater.
3. *Cool and Moist Forests* - Lodgepole pine, Douglas-fir, spruce, subalpine fir, and whitebark pine dominate these sites. Aspen may also be a component in very moist areas (drainage bottoms, perched water tables and spring areas). Lodgepole pine can occur in pure stands or in mixed stands with other species present. Even-aged processes tended to dominate in this forest type due to infrequent stand replacement fires. Tree age distribution within given stands tended to be one or two-aged. Forests dominated by one or two age classes are classified as even-aged. The randomness of historic fire tended to develop a mosaic of even-aged stands of various acreage sizes (portions of hillsides to whole hillsides, portions of drainages to whole drainages in extent) and tree age/size classes across the landscape. Forested areas are thus characterized as having a high degree of horizontal structural diversity. This mosaic structure in many cases modified fire behavior (intensity and duration) in the cool and moist forests because fire behavior changes with a change in fuel type represented by diverse structural tree arrangements. Canopy closures are generally 50% and greater.

7.2 Land Classification Types:

The following table displays the existing number of acres and percent for each land classification type found within the Forest Service portion of the analysis area. Because the Forest Service has the largest land base within the analysis area it is a good reflection of classification types on the landscape.

Land Classification Type Distribution

LAND CLASSIFICATION TYPE	TOTAL ACRES IN ANALYSIS AREA (rounded)	PERCENT OF TOTAL ACRES (%)
Warm-Dry Forest	3,740	9
Cool-Dry (uneven-aged) Forest	2,600	7
Cool-Dry (even-aged) - • Forest	8,380	21
Cool-Moist Forest	13,080	33
Grasslands & Meadows	7,775	19
Rock & Water	325	1
Private	4,000	10
TOTAL	39,900	100

7.3 Forest Composition:

Overall, the forested area within the analysis area is about 41% Douglas-fir, 38% lodgepole pine, 20% ponderosa pine, and 1% subalpine fir/spruce/whitebark pine, based on forest cover type. This compares to the entire Divide Landscape Analysis area which is composed of about 65% lodgepole pine, 29% Douglas-fir, 5% subalpine fir/spruce/whitebark pine, and 1% ponderosa pine.

This information was obtained from the "Final Environmental Impact Statement" for the "Clancy -Unionville Vegetation Manipulation and Travel Management Project", February 2000.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

8.1 Fisheries:

There is no water within the proposed sale unit that would support a fishery. Ephemeral draws disperse surface runoff from rain and snow events down slope, saturating the ground surface before entering a major stream channel. Prickly Pear Creek is located over three mile to the southeast.

8.2 Birds:

Large sawlog-class Douglas-fir, and ponderosa pine will remain after harvest to provide nesting trees and future snag recruitment. Implementation of the proposed alternative should have minimal, if any, effect on avian species.

8.3 Animals

A variety of animals utilize the diverse habitat of the Prickly Pear watershed basin including: deer, black bear, small mammals, and elk. No direct or cumulative adverse effects are anticipated from the implementation of the proposed alternative.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

9.1 Issues Eliminated From Further Study:

Threatened, Endangered, and Sensitive Species outlined in the "Montana Administrative Rules" have been eliminated from further study for the following reasons:

9.1.1 Bald Eagle

Some potential transient use may occur due to the adjacent location of the Little Prickly Pear Creek some three miles to the southeast. Adverse impacts to the Bald Eagle or its habitat are not expected.

9.1.2 Gray Wolf

The Gray Wolf is a wide ranging species with known packs located in the Avon, Montana area. Potential transient use by this animal may occur within the proposed timber sale area. If den sites become established within the sale area, "Administrative Rules" and contractual requirements are in place to protect this species.

9.1.3 Grizzly Bear

The project area is not within Grizzly Bear recovery or occupied zones. Adverse impacts to this species are not expected.

9.1.4 Lynx

Suitable Canadian Lynx habitat is not found within the section in which the proposed project would occur.

9.1.5 Flammulated Owl

This species prefers seral ponderosa pine stands or secondarily Douglas-fir timber types where historical fire regimes occurred on the landscape. Favored stands are usually found on warm, dry slopes with basal areas of 35 to 80 ft.²/acre. Potential Flammulated owl habitat may exist within harvest unit, although on the outer edge of their home range. The increased average tree diameter and reduced basal area remaining after the proposed harvest would be more suitable owl habitat than what is currently growing in this stand.

9.1.6 Black-Backed Woodpecker

There have been no recent (<5 year old) burns within several miles of the project area to create suitable habitat for the Black-Backed Woodpeckers, therefore no adverse impacts are anticipated.

9.1.7 Pileated Woodpecker

Large diameter ponderosa pine, western larch, and black cottonwood are used for nesting cavities by the Pileated Woodpecker. Although large ponderosa pine is found growing within the harvest unit, nesting sites have not been identified and conflicts that would negatively impact this bird are not expected.

9.1.8 Fisher

Suitable Fisher habitat is not found within the project area.

9.1.9 Northern Bog Lemming

The project area contains no suitable Lemming habitat.

9.1.10 Peregrine Falcon

Nest sites or habitat suitable for the Peregrine Falcon are not found within the project area, therefore, negative effects are not expected.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine effects to historical, archaeological or paleontological resources.

10.1 Affective Environment:

The prehistory and history of the project area and the adjacent Helena Valley are described in detail in the Overview: Ecological and Cultural Prehistory (*G. Knight, 1989*), Historical Overview of the Helena and Deerlodge National Forests (*B. Beck, 1988*), Archaeological Overview of Butte District Prehistory (*Deaver and Beaver 1990*), Mining Districts in Montana (*Sahinen 1935*) and numerous other local historical sources. A brief summary of area prehistory and history is provided below.

10.2 Prehistoric Background:

Evidence from ancient archaeological sites in the vicinity of the Clancy-Unionville area indicate that prehistoric American Indian peoples inhabited the Helena Valley area for millennia. Unfortunately, extensive placer and hydraulic mining, minerals prospecting, road construction, urban development, recreation improvements and other human activities since the 1860's have seriously disturbed or obliterated whatever archaeological evidence may have once existed on the floodplain and creek terraces south of Helena. Due to the current lack of identified archaeological sites directly within the project area boundaries, the chronology and lifeways of these various prehistoric hunting-gathering cultures cannot be described. However, archeological sites here would mirror those found throughout southwestern Montana and include raw toolstone (chert) quarries and workshops, campsites characterized by discarded chipped stone tools and flakes, various rock features (hunting blinds, tipi rings, vision quests), and rockshelters and caves used as camps or temporary layovers. Archeological survey of the less disturbed forested terrain at higher elevations in the project area suggests that these areas were seasonally and lightly used in prehistory. However, some archaeological sites may lie hidden under the dense pine needle duff and grass cover.

Prior to the arrival of white trappers, prospectors, miners and settlers, three American Indian tribes—the Salish (Flathead), Shoshone, and Blackfeet—used, occupied, or traveled through the Helena Valley and probably the project area as well. At one time or another, each tribe lay some ancestral claim to the area which has perpetuated the misconception that the Helena Valley area was "common ground" among tribes and was primarily used as a travel corridor. The prehistoric (e.g., pre-1700 AD) peoples of the area are unknown but available evidence suggests that some were Salish. Facilitated by the acquisition of horses, the Shoshone expanded out of the northern Great Basin into southwestern Montana by the early 1700's. The remains of distinctive pottery found in local archaeological sites document Shoshone presence in the Helena Valley. Later, the powerful Blackfeet (Piegan), with the aid of both horse and gun, pushed the Shoshone, Salish and other Indian groups back into the mountain valleys of western Montana and controlled the area until the arrival of white miners in the 1860's. For mutual protection against the Blackfeet, the Salish, Shoshone and other Indian groups traveled over the Continental Divide, through the Helena Valley, and across the Big Belts Mountains in large, consolidated groups to the buffalo country of central Montana. In view of this recent American Indian history, Forest Service-Tribal consultation for the Clancy-Unionville project involved the Confederated Salish and Kootenai, Shoshone-Bannock, and Blackfeet.

10.3 Economic Development:

When the rich placer deposits played out in the early 1870's, quartz deposits were developed in the Park-Unionville area. The economic viability and relative stability of mining in the Helena area (*in contrast to the "boom and bust" cycle elsewhere*) was one reason for Helena's selection as Montana's State Capitol. This placer and lode mining legacy has left a diversity of mining-related historic sites and features, including placer tailings, ditches, roads, diversion gates and rock piles, mine shafts and adits, waste rock and mill tailings piles, cabins, load-outs and related features, and mill structures and equipment. Many are "contributing elements" to Helena Historic Mining Districts and are also potentially eligible for individual listing in the National Register of Historic Places. Similar to the prehistoric sites, these mining sites and features will be protected and monitored during implementation of the Clancy-Unionville project.

In recognition of the area's mining history, the BLM recently designated the area just north of Lump Gulch near Clancy as the Clancy Historic Mining District, or simply the Clancy HMD. The boundaries assigned to this district encompass about 90 square miles and closely follow those assigned in 1960 for the Clancy-Lump Gulch Mining District by the Montana Bureau of Mines and Geology. The district embraces the part of Jefferson County tributary to Lump Gulch and Clancy Creek. The District centers in T8N, R4W and R5W. The Butte-Havre branch of the Great Northern Railway, U.S. Highway 91, and Prickly Pear Creek traverse and border the district to the east, the Continental Divide on the west, Quartz Creek to the south, and Jack Mountain and the divide between Jackson Creek and Clark Gulch to the north. In consultation with the Montana SHPO, the BLM determined the Clancy HMD to be ineligible for listing in the National Register based on the scarcity and lack of integrity of existing historic mining remains within this district.

This information was obtained from the "Final Environmental Impact Statement" for the "Clancy -Unionville Vegetation Manipulation and Travel Management Project", February 2000.

11. AESTHETICS:

Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

11.1 Common Effects:

Disturbances caused by the construction of roads/trails and the harvest of trees may have an impact on the visual resource. This impact is caused by contrasts created between natural forest landscapes and managed landscapes. The extent to which these activities affect the visual resource varies with how much they contrast in form, line, color, and texture with natural patterns in the surrounding area.

In some cases, visual change may be considered a good thing for the overall scenery of a landscape. For example, a timber harvesting activity may be planned to soften unnatural appearing straight lines created by past management or to introduce or enhance natural vegetative patterns in an area.

Visual effects generated by vegetative management activities vary in duration and intensity according to the silvicultural treatment prescribed and the logging method used to accomplish it. For example: skid trails may expose soils making lines across the forest floor, and/or skyline corridors may create straight lines through a normally continuous canopy of forest.

The short-term visual effects of timber harvesting are often the most impactful (Short term for this discussion will refer to a 3-5 year period after all harvesting and burning activities in an area are complete). These short-term effects are especially impactful where the viewer has a close up look of the logged site (i.e. from a trail through an area). The remaining stumps, slash, and edge effects of freshly logged areas or units, depending upon the intensity of the treatment, can make the forest appear modified. The contrast between harvested and unharvested areas in the short term is often dramatic and quite noticeable.

The long-term visual effects of timber harvesting vary by silvicultural treatment and the logging method used.

Harvested and/or burned areas can also create new habitats for invasive weed species. In large numbers, these weeds can push out native vegetation and change the appearance of the forest floor over time.

Permanent road building can affect the visual resource for long periods of time. Cut and fill on slopes expose light colored soils, creating high color contrasts that can be seen for many miles and for many years. Road clearings may create unnatural straight lines seen as breaks in the tree canopy and/or contrasting vegetation color and texture. Temporary roads have many of the same effects as permanent roads initially but are generally recontoured and quickly revegetated, allowing affected areas to visually recover in a short time period.

This information was obtained from the "Final Environmental Impact Statement" for the "Clancy -Unionville Vegetation Manipulation and Travel Management Project", February 2000.

Long-term aesthetic impacts to the surrounding area are expected to be minimal with the implementation of this harvest alternative.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

12.1 Not Applicable.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

13.1 Plans/Current Projects on This Tract

The state tract includes an active grazing license producing 32 AUM's annually. This activity would remain unchanged under both alternatives. Implementation of the action alternative would initiate a noxious weed management program by the DNRC. This spot spaying would concentrate on noxious and nuisance weeds, controlling them after timber harvesting if need be.

13.2 Cumulative Impacts

Currently, the BLM is implementing the Sheep Mountain timber sale on their property to:

1. To provide for healthy native forest/grassland plant communities with a wide variety of native plants species, including trees of varying ages, species and sizes that is more sustainable and resilient.
2. To reduce the threat of large scale, catastrophic wildfire by reducing vertical continuity of fuel in the dry forest types.
3. To insure a variety of animal habitats to meet the needs of the area's animal species.
4. To produce an array of wood products, while maintaining a sustainable forest.

The proposed project on State Trust land should tie in with BLM goals, increasing its overall effectiveness on the landscape.

No other projects are under MEPA or permitting review by the State.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES* potentially impacted are listed on the form, followed by common issues that would be considered.
- Explain *POTENTIAL IMPACTS AND MITIGATIONS* following each resource heading.
- Enter "NONE" if no impacts are identified or the resource is not present.

14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

- 14.1 An increase in truck traffic may persist for a short duration on Lump Gulch Road as a result of this timber sale. Current harvesting activities, which are taking place on BLM lands, have already moved a considerable amount of rough forest products down this road. Harvesting on the BLM, Sheep Mountain timber sale should continue for a period following completion of the proposed State Sale. No added increased risk to human health and safety is expected.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

Identify how the project would add to or alter these activities.

- 15.1 Not Applicable.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

- 16.1 People are currently employed in the wood products industry in this region of Montana. No measurable cumulative impacts are expected on employment from the execution of this alternative action due to the relatively small DNRC timber sale program.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

- 17.1 People are currently paying taxes on monies generated from the wood products industry in this region of Montana. No measurable cumulative impacts are expected on tax revenues from the execution of this alternative action due to the relatively small DNRC timber sale program.

18. DEMAND FOR GOVERNMENT SERVICES:

Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services

- 18.1 There should be no measurable cumulative impacts related to demand for government services due to the relatively small DNRC timber sale program, short-term impacts to traffic, and possible temporary addition of a few people to the area.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

- 19.1.1 Refer to Section 1: "Type and Purpose of Action", Part-B, "Purpose of Action", of this document for reference to the "State Forest Land Management Plan".

- 19.1.2 This project should tie into current management objectives of the Helena National Forest Plan, the Headwaters Resource Management Plan (BLM), and complement the Integrated Desired Condition identified in the Divide Landscape Analysis.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

20.1 AFFECTED ENVIRONMENT:

The Clancy-Unionville analysis area is within the City of Helena's recreational backyard. The analysis area includes two nodes of recreation activity. The forest/city interface immediately south of Helena and the Park Lake vicinity are areas which receive relatively intensive use, while more dispersed motorized and non-motorized recreation is pursued throughout the remainder of the analysis area. The area is bounded on the west by the Mount Helena City Park, one of the largest municipal parks in the country. The Mount Helena National Recreation Trail is located immediately adjacent to the Mount Helena City Park. This popular non-motorized trail extends 5.7 miles from the city park south to Park City.

The National Forest land, BLM, State Trust, and Mount Helena City Park immediately adjacent to the City of Helena offer many opportunities for outdoor recreation. Non-motorized activities, including hiking, jogging, mountain biking, horseback riding, cross-country skiing, picnicking and sightseeing, are very popular. Historically, Helena residents have accessed the National Forest from what is known as the Waterline Trail. This trail followed the City of Helena's waterline from the city onto the Forest. Access across private lands along the Waterline Trail was prohibited several years ago by the landowners. However, in conjunction with several outdoor groups, two trailheads and trails were developed to re-establish public access to the trail. One of these trailheads was constructed on BLM lands in Dry Gulch, with a connecting trail across BLM to National Forest land. The second trailhead is on Prickly Pear Land Trust lands in Oro Fino Gulch with a trail to the Helena National Forest.

The Mount Helena Trail #375 (Forest Service) links directly into the Mount Helena City Park trail system. Because this non-motorized trail is adjacent to an urban population and provides spectacular views of the Helena Valley and surrounding mountain ranges, it is heavily used by local residents. Management of the trail and surrounding lands has been coordinated with the City of Helena. Sections of the trail need reconstruction or relocating due to channeling and erosion. Improved signing at the Park City Trailhead is also desirable. The Davis Gulch Trail (BLM) also provides hiking opportunities. It extends from a trailhead just south of Helena to the FS boundary in Dry Gulch. The trail was built and is maintained by interested Helena residents. The Park City Trailhead is located at the south end of the Mount Helena National Recreation Trail. It was improved in partnership with a private landowner. A post and rail fence surround a 10-vehicle parking area.

Mountain biking has become a popular activity in the northern half of the analysis area within and surrounding Mount Helena City Park. The Mount Helena National Recreation Trail and Brooklyn Bridge road are popular routes for people riding out of Helena. In addition, a series of unauthorized "user-built" trails connect Grizzly Gulch, Squaw Gulch, Oro Fino Gulch and Dry Gulch. These trails exhibit channeling and rutting because they were built without consideration for location, grade or trail width. In fact, over the last decade, local hikers and mountain bikers have created a maze of trails across private, public and Mount Helena City Park land. Some mountain biking occurs on BLM lands in the Sheep Mountain and Ohio Gulch areas. A local outfitter is permitted to provide 100 days of horseback outfitting and guiding in the Grizzly Gulch and Mount Helena area. This activity is authorized as a "Temporary Use" and must be approved on a yearly basis. No BLM permits for outfitting have been authorized in the project area.

County Routes 723 and 454, and Forest roads 4000 and 4009 extend south through the analysis area to Park Lake. Park Lake Campground is a 22 unit Forest Service site located adjacent to Park Lake. Originally built in the early 1960's, the campground, road and spurs were upgraded in 1993.

Campground capacity is 110 persons at one time. This destination fee campground is very popular with people from surrounding communities and Butte residents. It is usually at capacity on summer weekends from Memorial Day to Labor Day. Boating and fishing on the lake are popular activities. Park Lake to the high water mark is owned by the Montana Department of Fish, Wildlife and Parks. Negotiations are currently underway to enter a land exchange to bring the lake and lakeshore under Federal management.

Motorized travel to hunt, view scenery, and view wildlife is popular in the drainages south and east of Helena. Many types of off-highway vehicles (OHV) are used, including ATVs, trail bikes, snowmobiles and 4-wheel drive vehicles. Motorized recreation is less prevalent in the northern part of the analysis area (Mount Helena to Brooklyn Bridge) but Grizzly Gulch Road, Oro Fino Gulch Road, Travis Creek Road and the Corral Gulch Road are all passable roads for passenger cars during most of the year and for that reason are popular drives from Helena, Clancy and the surrounding area. The majority of OHV use takes place on the Lava Mountain Trail. As a consequence, the North and South Fork of Quartz Creek roads receive a low volume of recreational traffic.

Lava Mountain Trail #244 crosses 8 miles of National Forest land. Developed in partnership with the Rocky Mountain Trail Bike Riders and the Montana Department of Fish, Wildlife and Parks, the trail accesses the Deerlodge National Forest and OHV opportunities in Cataract Basin southwest of the analysis area. With the exception of several short re-routes, the trail follows old logging roads or previously established trails. Motorized use is unrestricted but there are a few places accessible only to vehicles 50 inches in width or less.

Snowmobile trails in the analysis area are not groomed but there are several marked trails including Corral Gulch Road to Park Lake and both North Fork and South Fork of Quartz Creek in the Lava Mountain area. There are no groomed snowmobile trails on BLM lands; snowmobile use is limited by low elevation terrain and thus inadequate snowfall during most years. The Elkhorn Search and Rescue Snowmobile Ride is authorized by the Forest Service under a 5-year Special Use Permit. It begins on private land in Quartz Creek and follows established routes through the project area. No permits for similar events have been sought or authorized for BLM lands.

Most of the OHV use on BLM lands occurs between Ohio Gulch and Jackson Creek from spring through early fall. The routes follow a combination of established old roads and narrow, interconnecting trails wide enough only for trail bikes and ATVs. Most of these trails have been created over the past 5-10 years by local trail bikers and ATV riders. Although unauthorized by the BLM, most of these trails are causing minimal resource damage and are frequently used and highly enjoyed by local riders. No maintenance occurs on these road segments and they are open to all types of OHVs. No special road safety considerations are given in the Clancy area by the BLM. Given few operators used the area at any one time, coupled with the low speeds necessary to negotiate these low standard roads, travel restrictions have been deemed unnecessary. These motorized trails include:

- Jack Mountain Area: Some 3.25 miles of trail extend from Jack Mountain to Clark Gulch in Sections 18, 19, 29 and 30, T9N, R3W.
- Sheep Mountain Area: Some 3 miles of trail are located between the Old Powerline and Jackson Creek in Sections 29, 30 and 32, T8N, R3W.
- Prickly Pear Creek Area: Some .75 miles of abandoned railroad bed between Interstate 15 and Highway 282 west of Montana City in Sections 23 and 26, T9N, R3W.
- Ohio Gulch Area: A dense 8 mile network of interconnecting trails around Ohio Gulch in Sections 32 and 33, T9N, R3W.

Under the BLM's existing travel plan direction, some 5,590 acres within the project area are "Open" to all motorized travel year-around. Within this area, 29 miles of BLM road and trail, and 4 miles of County road, are also open year-around. Motorized travel is allowed off trails and roads. No new route construction is permitted. The single exception is a year-long area motorized vehicle closure on the 20 acre Davis Gulch parcel between Oro Fino and Dry Gulches. BLM lands in the project area includes small, isolated parcels such as those between Lump Gulch Road and Clancy Creek. They are

intermingled with residential housing and private timber land and mining claims. Many roads which cross private property to reach public land lack formal easements or rights-of-way. Continued travel across these roads hinges on the goodwill of private landowners. Conversely, although the Federal government must provide reasonable access to private inholders, this situation may be in conflict with travel management objectives.

Violations of existing travel restrictions occur every year within the analysis area, especially during big game hunting season. Violations occur on National Forest land between Park City and Mount Helena, especially via private mining claims off Grizzly Gulch (the "sand dams") and along gated Forest roads #1816, 1878-B-I and 1814. These violations have disturbed soil and vegetation. OHV violations also conflict with Forest Service goal to provide semi-primitive, non-motorized recreation there.

With the exception of overnight camping at Park Lake, most recreational activity in the analysis area is classified as "dispersed", meaning it occurs outside of campgrounds and other substantial recreational facilities. Public use of the area primarily occurs from April through November. A large percentage of recreational activity takes place during evenings and on weekends, especially within the urban interface south of Helena. Most visitors are local or nearby residents. Average visits are relatively short, lasting two to four hours. Big game and upland bird hunting and OHV riding on trails are the predominant recreational activities in the analysis area. Hiking and mountain biking are a close second in the area around Mount Helena City Park but these activities decrease significantly in the southern part of the project area.

Firewood gathering, rock climbing, horseback riding, Christmas tree cutting and wildlife viewing are also common activities. Snowmobiling and cross-country skiing occur less frequently because little snow accumulates on the lower slopes in the project area, particularly around Mount Helena. The BLM Sheep Mountain area is used periodically by local climbers from the Helena area. Granitic faces within this Boulder Batholith formation provide opportunities for technical climbing and scrambling at variable difficulty levels. Several routes have permanent anchor points. Most routes are relatively short and are considered ideal for early season practice. Recreational activities and sports have grown steadily in Montana over the past decade, and the Clancy-Unionville analysis area is no exception. One of the fastest growing activities is motorized driving for pleasure in a wide range of 4-wheel drive, sport-utility and other vehicles. This recreational growth can be attributed to a variety of factors including, population increase and residential growth in the Helena and Clancy area, improvements in recreation technology and equipment (OHVs, hunting weapons, mountain bikes), a healthy national economy, civic and commercial promotion of Montana's outdoors, and growing interest in non-consumptive activities such as viewing wildlife, scenery and historical sites. This trend is expected to continue into the foreseeable future and the Clancy-Unionville area will continue to be under pressure to accommodate many recreational activities, particularly along the urban growth boundary of the City of Helena.

This information was obtained from the "Final Environmental Impact Statement" for the "Clancy -Unionville Vegetation Manipulation and Travel Management Project", February 2000.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

-
- 21.1 There will be no measurable, cumulative impacts related to population and housing due to the relatively small DNRC timber sale program and the required personnel are currently employed in this region of Montana.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

-
- 22.1 Not Applicable.

23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

23.1 Not Applicable.

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

24.1 Economic Cost/Return Associated With Project

The action being proposed not only takes into consideration silvicultural and biological characteristics of managing this forested stand, but the economic viability of implementing such a project as well. This project is expected to bring in a net return to the State Trust.

24.2 Current Activities

Grazing of State Trust Lands in this section currently brings in \$156.16/yr. (\$4.88/AUM X32). Some revenue percentage from the General Recreational Use License as well as the newly adopted Conservation License may also be attributed to this tract, although this revenue probably is quite small.

No negative, cumulative economic or social effects are anticipated as a result of the proposed action.

EA Checklist Prepared By:	Name: Shawn P. Morgan	Date: 11/8/04
	Title: Helena Unit Forester	

V. FINDING

25. ALTERNATIVE SELECTED:

I have selected Alternative B, the proposed harvesting alternative. An extensive landscape level analysis was completed jointly by the BLM and USFS for this project area, with the BLM portion currently being implemented. This EAC tiers to this existing landscape level analysis for most of the resource categories.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

The forest stand on the Trust land is a warm and dry Ponderosa Pine type, with intermixed Douglas-fir habitat types. The healthy historic condition for these types is a relatively open stand structure, canopy closures of 30-50%, with numerous age cohorts being represented. The planned treatments will reduce current overstocked conditions to this more natural level, which will increase stand vigor and overall stand health. The comprehensive changes to the forest canopy will reduce both ladder fuels and create canopy gaps. These treatments are very successful in reducing the threat of intensive crown fire. The location of the harvest unit will complete and connect treatments on the BLM land with previous (1990) harvests conducted on Trust land west of the drainage bottom. Designated winter operating restrictions will minimize soil disturbance, minimizing potentials for erosion or noxious weed establishment. The harvest will produce up to 100 MBF of forest products. Fair market value will be based upon the bids to be opened on 11/29/2004 for the Prickly Pear Timber Sale near Alhambra. A limited time access opportunity to this stand exists. The temporary road, which was installed for the BLM actions, will be obliterated when they are finished in this area. The purchaser of the state timber permit will be able to get a road use permit from the BLM.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

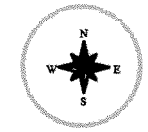
EIS

More Detailed EA

No Further Analysis



EA Checklist Approved By:	Name: D.J. Bakken	
	Title: Helena Unit Manager	
Signature: /S/ Darrel J. Bakken		Date: 11/9/2004

Lump Gulch II Timber Sale



Township: 9 North
Range: 4 West
Section: 36

LEGEND

-  Sale Area 1-T (14 Acres)
-  Ownership Boundary

