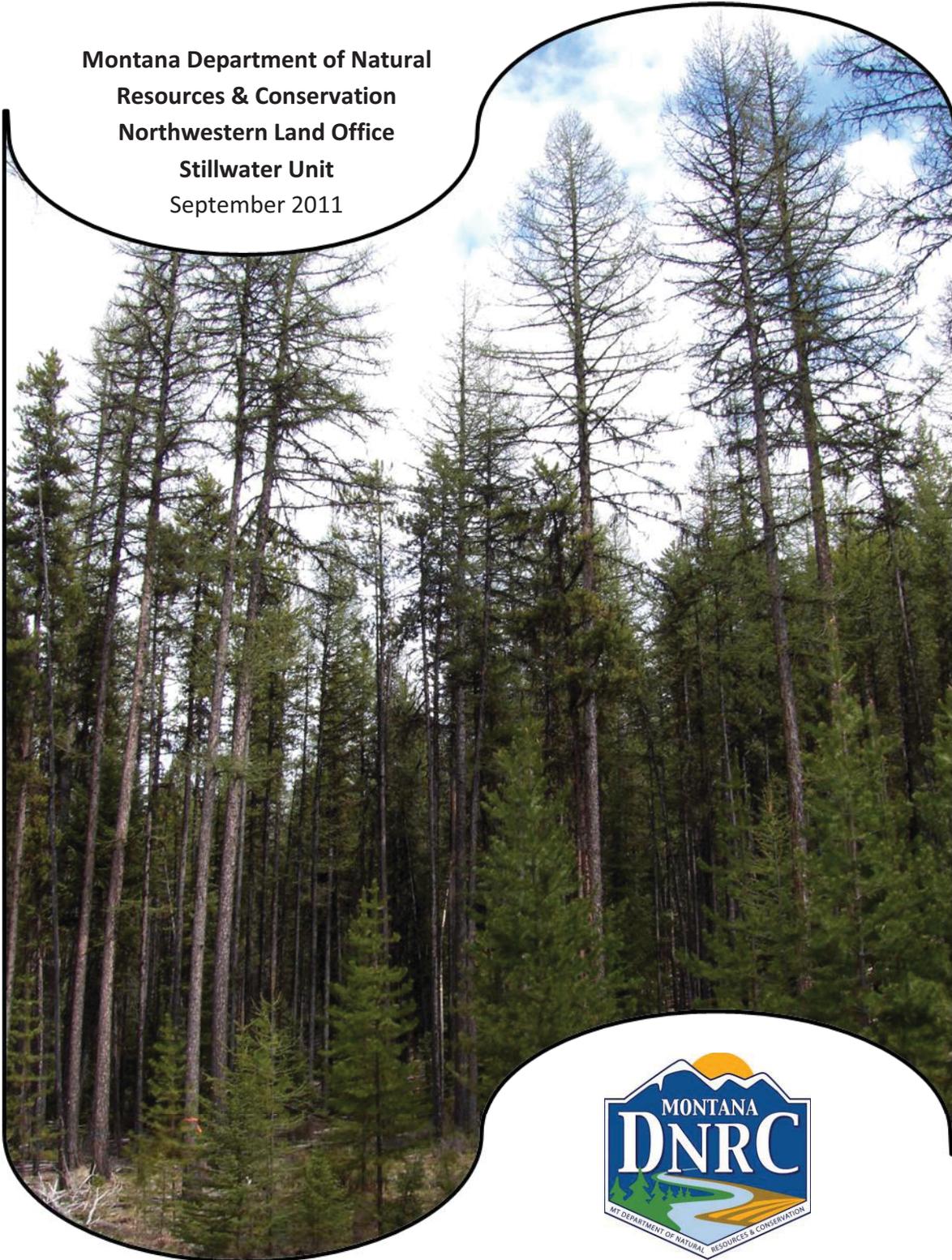


BUTCHER STEWART TIMBER SALE PROJECT

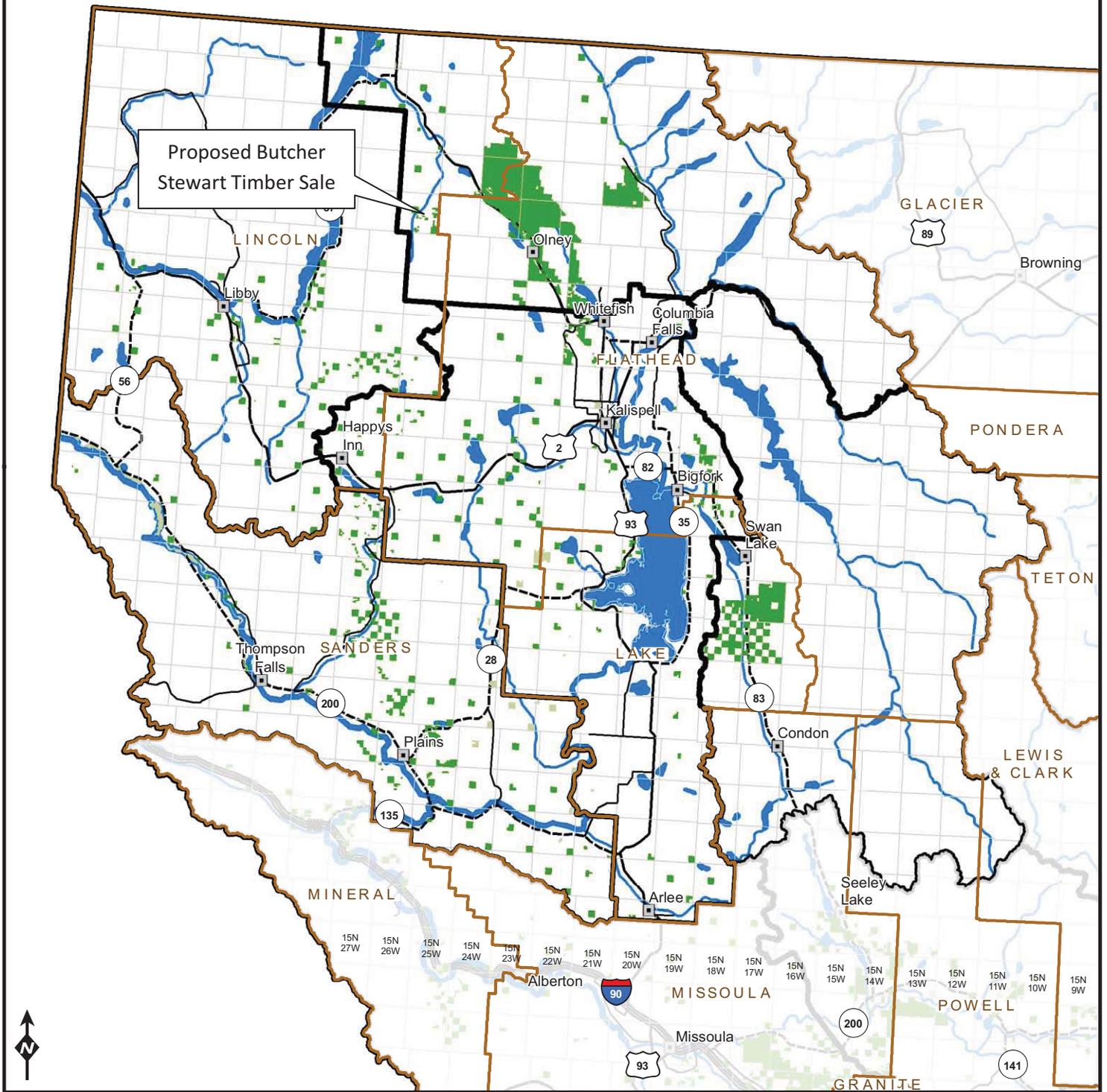
CHECKLIST ENVIRONMENTAL ASSESSMENT

Montana Department of Natural
Resources & Conservation
Northwestern Land Office
Stillwater Unit
September 2011



Butcher Stewart Timber Sale Vicinity Map

Sections 13, 21, 22, 23, & 24 T33N R26W



	Interstate Highway		County		City
	U.S. Route		DNRC other		Township/Range
	State Highway		DNRC managed for timber		Management Unit
	Secondary Roads				

6 December 2010
 Montana DNRC
 Technical Services Section/dr

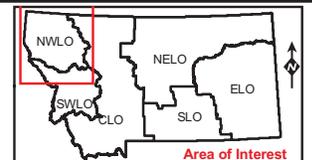


TABLE OF CONTENTS

Vicinity Map (<i>inside front cover</i>)	2
Chapter I – Type and Purpose of Action	4
Chapter II – Project Development	5
Public Involvement, Agencies, Groups, or Individuals Contacted.....	5
Other Governmental Agencies with Jurisdiction, List of Permits Needed.....	5
Alternative Development.....	5
Chapter III – Impacts on the Physical Environment	6
Geology and Soil Quality, Stability, and Moisture.....	6
Water Quality, Quantity, and Distribution.....	7
Air Quality.....	9
Vegetation Cover, Quantity and Quality.....	9
Terrestrial, Avian, and Aquatic Life and Habitats.....	10
Unique, Endangered, Fragile, or Limited Environmental Resources.....	13
Historical and Archaeological Sites.....	14
Aesthetics.....	14
Demands on Environmental Resources of Land, Water, Air, or Energy.....	14
Other Environmental Documents Pertinent to the Area.....	15
Chapter IV – Impacts on the Human Population	15
Human Health and Safety.....	15
Industrial, Commercial, and Agricultural Activities and Production.....	15
Quantity and Distribution of Employment.....	15
Local and State Tax Base and Tax Revenues.....	15
Demand for Government Services.....	16
Locally Adopted Environmental Plans and Goals.....	16
Access to and Quality of Recreational and Wilderness Activities.....	16
Density and Distribution of Population and Housing.....	16
Social Structures and Mores.....	16
Cultural Uniqueness and Diversity.....	16
Other Appropriate Social and Economic Circumstances.....	17
Chapter V – Finding	17
Attachment I – References	18
Attachment II – Map	19
Attachment III – Stipulations & Specifications	20
Attachment IV – Preparers	21

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Butcher Stewart Timber Sale
Proposed Implementation Date:	Fall 2011
Proponent:	Montana Department of Natural Resources and Conservation (DNRC), Northwestern Land Office, Stillwater Unit.
Location:	Sections 13, 21, 22, 23, and 24, Township 33 north, Range 26 west
County:	Lincoln

I. TYPE AND PURPOSE OF ACTION

Montana Department of Natural Resources and Conservation (DNRC), Stillwater Unit, proposes to harvest approximately 750 thousand board feet of timber from portions of Sections 13, 21, 22, 23, and 24 in Township 33 north, Range 26 west, located south of Trego (see *Vicinity Map*). The proposed activities would regenerate new stands of healthy trees while improving the vigor and growth of trees remaining in the forest for the purpose of benefiting future trust actions. This project would produce an estimated \$104,000 in revenue for the Public Buildings trust.

A total of 168 acres would be harvested within 17 harvest units.

Proposed silviculture treatments:

- 32 acres would be regenerated using seed tree or shelterwood prescriptions;
- 39 acres would receive an overstory removal prescription;
- 73 acres would receive an intermediate treatment such as group selection, single tree selection, or commercial thinning; and
- 24 acres would receive an old-growth maintenance prescription.

The entire project would be harvested using conventional ground-based harvesting equipment.

Seasonal timing of activities:

- 5 units (46 acres) would be harvested during winter and would require frozen and/or snow covered conditions.
- 12 units (122 acres) would be harvested under summer or winter conditions.

Approximately 2,400 feet (0.5 miles) of road easement is planned to be acquired through a Temporary Road Use Permit and/or a Federal Road Cost-Share Agreement from the Kootenai National Forest; at this time the roads to be constructed would be temporary and would be reclaimed following use. Additionally, road maintenance and Best Management Practices (BMP) improvements would occur on 6.6 miles of road.

The lands involved in the proposed project are held in trust by the State of Montana for the support of specific beneficiary institutions, such as public schools, state colleges and 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 (Land Board) and DNRC are legally required to administer these trust lands to produce the largest measure of reasonable and legitimate long-term return for these beneficiary institutions (*Section 77—1-202, Montana Codes Annotated [MCA]*). On May 30, 1996, DNRC released the *Record of Decision on the State Forest Land Management Plan (SFLMP)*. The Land Board approved the implementation of the *SFLMP DS-252 Version 6-2003 2* on June 17, 1996. On March 13, 2003, the Department adopted Administrative Rules (Forest Management Rules) (*Administrative Rules of Montana [ARM] 36.11.401 through 456*). The SFLMP outlines the management philosophy, and this proposal will be implemented according to the Rules.

II. PROJECT DEVELOPMENT

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

Provide a brief chronology of the scoping and ongoing involvement for this project. List number of individuals contacted, number of responses received, and newspapers in which notices were placed and for how long. Briefly summarize issues received from the public.

In December 2010, DNRC solicited public participation on the Butcher Stewart Timber Sale Project. Scoping notices were advertised in the Tobacco Valley News and Trego Post Office and by sending the Initial Proposal with maps to neighboring landowners, individuals, agencies, industry representatives, and other organizations that have expressed interest in DNRC's management activities. The mailing list of parties receiving the Initial Proposal, and the comments received, are located in the project file at the Stillwater Unit Headquarters.

The public comment period for the Initial Proposal was open for 30 days. DNRC received two letters and three emails with comments. Five parties returned a form stating they did not have any concerns or comments at this time but would like to stay involved. The DNRC fisheries biologist and the DNRC archeologist each submitted internal comments.

In February 2011, the Interdisciplinary (ID) Team began to compile issues based on the comments received and to gather information related to current conditions. Soils, wildlife, vegetative, hydrological, and visual concerns were identified by DNRC resource specialists and field foresters as elements to be addressed on this project. The ID Team determined that the issues directly related to the proposed actions could be addressed in one action alternative through project design and/or mitigation measures.

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

Examples: cost-share agreement with U.S. Forest Service, 124 Permit, 3A Authorization, Air Quality Major Open Burning Permit.

United States Forest Service (USFS)

DNRC has existing agreements for easements and access across National Forest System (NFSL) lands. Portions of roads 36, 48, 3606, 3730, 3732, and 3762 are included in the following agreements:

- *Stewart/Butcher Federal Road and Trail Act (FRTA) Agreement*
- *Barnaby/Jim Creek Cost-Share Agreement*
- *Temporary Road Use Permits (TRUPs)*
 - DNRC has requested TRUPs on proposed temporary roads off the West Jim (#2762) and Little Beaver (#14260) roads and approximately 1000 feet of the Portal Road (#36).

Montana Department of Environmental Quality (DEQ)

DNRC, classified as a major open burner by DEQ, is issued a permit from DEQ to conduct burning activities on state lands managed by DNRC. As a major open-burning permit holder, DNRC agrees to comply with the limitations and conditions of the permit.

Montana/Idaho Airshed Group

DNRC is a member of the Montana/Idaho Airshed Group, which regulates prescribed burning, including both slash and broadcast burning, related to forest-management activities performed by DNRC. As a member of the Airshed Group, DNRC agrees to only burn on days approved for good smoke dispersion as determined by the Smoke Management Unit in Missoula, Montana.

3. ALTERNATIVE DEVELOPMENT:

Describe alternatives considered and, if applicable, provide brief description of how the alternatives were developed. List alternatives that were considered but eliminated from further analysis and why.

The No-Action and Action Alternatives are described in this section. The decisionmaker may select a modification or combination of these alternatives.

- *No-Action Alternative*

The No-Action Alternative is used as a baseline for comparing the effects that the Action Alternative would have on the environment and is considered a possible alternative for selection. Under this alternative, no timber would be harvested and therefore no revenue would be generated for the Public Building trust at this time. Salvage logging, firewood gathering, recreational use, fire suppression, noxious-weed control, additional requests for permits and easements, and ongoing management requests may still occur. Natural events, such as plant succession, tree mortality due to insects and diseases, windthrow, down fuel accumulation, in-growth of ladder fuels, and wildfires, would continue to occur.

- *Action Alternative*

Development of the Action Alternative is based on analyses of current forest conditions within the project area and cumulative effects areas. Such conditions include connectivity of mature timber stands, timber stand health, fuel load levels, old-growth, continuation of silvicultural systems implemented previously, and viability of access. Reconnaissance of the project area highlighted the following issues: Douglas-fir bark beetle has caused, and would likely continue to cause, mortality and loss of timber value; current cover type has departed from historic conditions; and, ladder fuels have increased to hazardous levels. As a result, an Action Alternative and mitigation measures were developed which, if implemented, would improve timber stand health. A more detailed description of mitigation measures can be found in *Attachment III - Stipulations and Specifications*.

Under this alternative, the DNRC would commercially harvest approximately 750 thousand board feet of timber from approximately 168 acres. Road maintenance and BMP improvements would occur on 6.6 miles of road. A Temporary Road Use Permit and/or a new Cost-Share access agreement would be acquired from the Kootenai National Forest to temporarily construct two roads to access DNRC lands totaling 2,400 feet (0.5 miles).

DNRC has been developing a Habitat Conservation Plan (HCP) under Section 10 of the Endangered Species Act. If successful, the process will culminate with issuance of an Incidental Take Permit (Permit) by the United States Fish and Wildlife Service (USFWS). The Draft Environmental Impact Statement (EIS)/HCP was distributed for public review in June, 2009. The Final EIS / HCP was distributed for public review in September 2010. The HCP identifies specific mitigation requirements for managing the habitats of grizzly bear, Canada lynx, and three fish species; bull trout, westslope cutthroat trout, and Columbia redband trout. As part of a phased-in approach to prepare for HCP compliance, DNRC planned this project to be in compliance with: (1) the current Forest Management Rules that govern the forest management program; and, (2) all applicable conservation commitments contained in the Preferred Alternative in the Final EIS/HCP. Should a different alternative from the Final EIS/HCP be selected, revisions to the project may be made to comply with the selected alternative.

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 direct, indirect, and cumulative effects to soils.

Existing Conditions

The erosion risk on existing landtypes ranges from low to moderate and no chronic upland sources of sediment were identified. Average impacts due to displacement, erosion, or severe compaction from DNRC timber harvests on similar soils is 12.5 percent (DNRC, 2005). Adverse impacts—severe compaction, displacement or erosion—from past skid trails and landings, and current activities, are estimated at less than five percent of the harvest units.

Coarse woody debris >3" in diameter was inventoried. The average for the 14 transects is 6.7 tons per acre. The recommended level of coarse woody debris is in the range of 12.3 to 24.5 tons per acre (*Brown 1974*).

Environmental Effects

- *Direct, Indirect and Cumulative Effects of the No-Action Alternative*

Skid trails from past harvesting would continue to recover from compaction as freeze-thaw cycles continue and vegetation root mass increases. No additional adverse cumulative effects would be expected from the implementation of the No-Action Alternative. Coarse woody debris levels and nutrient cycling would continue without anthropogenic alteration.

- *Direct, Indirect, and Cumulative Effects of the Action Alternative*

An estimated 22 acres (13.1 percent) of the 168 harvest acres would see moderate or higher soil impacts due to severe compaction, displacement or erosion. In addition to the potential impacts from harvesting, approximately 0.9 acres would be impacted by new roads. While the use of these roads would be temporary, the road prism would remain for future management opportunities. Approximately 0.4 acres of road prism would be removed from forest production.

As required in the DNRC Timber Sale Contract, both fine and coarse woody debris would be retained to reduce potential impacts to forest productivity. Cumulative effects would be controlled by limiting the area of adverse soil impacts to less than 15 percent of the harvest units (as recommended by the SFLMP) through implementation of BMPs, skid trail planning on tractor units, and limiting operations to dry or frozen conditions. Both fine and large woody debris would be retained for nutrient cycling to support long-term soil productivity. By designing the proposed harvesting operations with soil-moisture restrictions, season of use, and method of harvesting, the risk of unacceptable long-term impacts to soil productivity from compaction and displacement and nutrient pool losses would be low.

Additional information can be found in the Project File: Soils Analysis

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 direct, indirect, and cumulative effects to water resources.

Existing Conditions

The project is entirely within the Middle Fortine watershed—specifically in the Stewart and Jim Creek drainages which are tributary to Fortine Creek. Neither Stewart Creek nor Jim Creek are listed as a water-quality-limited waterbody in the 2010 303(d) list. However, Fortine Creek, which is the receiving waters from both streams, is listed on the 2010 303(d) list for partial support of aquatic life, cold-water fishery, and primary contact recreation due to sedimentation/siltation, flow alterations, algal growth, and water temperature. Forest roads and silvicultural activities are listed as probable sources sedimentation/siltation. Surface water rights exist within 3 miles downstream of the project area for irrigation, stock watering, and domestic use.

Sediment Delivery

During field review, sediment sources were identified on haul roads in the Stewart Creek (including Jim Creek) watershed within and below the DNRC-managed parcel. An estimated 0.43 tons of sediment is currently being delivered annually at a crossing on Jim Creek (Jim Creek Road #3730) located on USFS land. Other crossings on the creek—primarily on private land—may contribute sediment to the stream; however, these sites were not reviewed due to lack of access. Sediment from in-channel sources is present throughout the Stewart and Jim Creek area. Much of the sediment generated from the channel adjustments is stored behind large woody debris deposits and existing dams. While in-stream sources of sediment (bank erosion) were found, no mass-wasting sites were identified. During field review, sediment sources due to sanding and plowing operations were identified on haul roads—generally county roads. During the winter months, these operations contribute direct

sediment to the Fortine Creek and its tributaries due to close proximity to the stream. Approximately 200 feet of the access road is located within the Streamside Management Zone (SMZ) of Fortine Creek.

Stream Temperature

No long-term temperature monitoring by DNRC has occurred in any of the streams in the project area. Fortine Creek is listed on the 2010 303(d) list for temperature impairment. The elevated water temperature has been attributed to a variety of possible causes including, "local climate, geology, elevated levels of fines, channel modification, reduction of riparian vegetation cover and channel widening." (DEQ 2010).

Water Yield and Cumulative Effects

A recent analysis of water yield was conducted by the Kootenai National Forest for the Trego Project (USFS 2007). The Stewart Creek (including Jim Creek) peak-flow increase was estimated to be 12 percent over a fully forested condition. In the Trego area, modeled annual water yield increases are generally lower than modeled peak flow increases (Kindel 2011). Therefore, it is reasonable to assume the annual water yield increase for the Stewart Creek watershed is less than the recommended threshold of 13 percent. These threshold values represent a low to moderate degree of risk of adverse impacts to beneficial uses due to water-yield increases as described in ARM 36.11.423(f)(iv).

Environmental Effects

- *Direct, Indirect and Cumulative Effects of the No-Action Alternative*

The existing direct sediment-delivery sources would continue until repaired by another project or funding source. In-channel sources of sediment would continue to exist and erode as natural events dictate. No increases in stream temperature from a reduction in-stream shading would be expected under this alternative. Therefore, no additional cumulative effects would directly result from this alternative.

- *Direct, Indirect, and Cumulative Effects of the Action Alternative*

Sediment Delivery

All new and temporary road construction would occur well away from streams on soils that are suitable for road construction (Kuennen and Nielsen-Gerhardt, 1995). Because revegetation may be difficult to achieve on the road fill, erosion may occur, but due to the distance from streams, sediment delivery and subsequent water-quality impacts would not likely occur (Raskin et al. 2006). Because post-harvest water-yield levels under this alternative would remain below the threshold at which adverse impacts would be expected, only a low risk of increased in-channel sediment would result from this alternative. In-channel sources of sediment would be expected to continue to contribute sediment at the current rate because the water-yield increase would remain below the recommended threshold.

Because DNRC would incorporate BMPs into the project design as required by ARM 36.11.422 (2,) and all laws pertaining to SMZs would be followed, a low risk of sediment from timber-harvesting activities would result from the implementation of this alternative. Therefore, the risk of long-term adverse direct or indirect effects to water quality or beneficial uses would be low.

Stream Temperature

The Riparian Management Zone (RMZ) buffers proposed under this alternative are equal to the site-potential tree height (SPTH); the SPTH for Stewart Creek is 90 feet and for Jim Creek it is 105 feet. This proposal would maintain all of the trees within 50 feet of the streams and remove a maximum of 50 percent of the merchantable trees in the remaining 40 feet along Stewart Creek and 55 feet along Jim Creek. Approximately 12 to 15 trees would be harvested in the area between 50 and 105 feet from Fortine Creek. Therefore, stream shading post project would be sufficient to maintain a low risk of increasing stream temperatures due to timber harvesting.

Water Yield and Cumulative Effects

The cumulative water-yield increase in the Stewart Creek watershed would be below the recommended threshold of 13 percent if this alternative were selected. The cumulative annual water yield would increase less than 1 percent—which would likely be immeasurable—and would be expected to remain below the threshold set in accordance with *ARM 36.11.425(g)*; therefore a low degree of risk to water quality would result from the implementation of this alternative.

Because all timber-harvesting activities would follow BMPs as required by *ARM 36.11.422* and the direct and indirect effects would have a low risk of impacts, a low risk of additional adverse cumulative effects would be expected to occur under this alternative. This expectation includes the results of a slight decrease in the recruitable large woody debris in the RMZ along fish-bearing streams, and a minor increase in modeled annual water-yield estimates. Furthermore, conditions would be expected to continue to support fish-habitat parameters and provide adequate levels of shade and large woody debris to maintain fisheries habitat conditions with a low degree of risk (*DNRC 2010*). Proposed harvest levels would not be expected to result in a detectable increase in water temperature. Under this alternative, fisheries habitat quality would also be expected to be maintained at its current level, with a low degree of risk of change due to anthropogenic sources. *A discussion of coarse woody debris can be found in Section 8 below, however this topic is taken into consideration in the collective, cumulative effects analysis here.*

Because the annual water-yield increases would remain below the thresholds of concern and BMPs would be implemented during timber-harvesting and road-construction operations, the risk of adverse cumulative impacts to water quality and beneficial uses beyond the existing condition would be low. This risk assessment is supported by the limited RMZ harvest as described in Section 8 below.

Additional information can be found in the Project File: Water Resources Analysis

6. AIR QUALITY:

What pollutants or particulate would be produced (i.e. particulate matter from road use or harvesting, slash pile burning, prescribed burning, etc)? Identify the Airshed and Impact Zone (if any) according to the Montana/Idaho Airshed Group. Identify direct, indirect, and cumulative effects to air quality.

- *Direct, Indirect and Cumulative Effects of the No-Action Alternative*

Under this alternative, no timber harvest or related activities would occur. No log hauling traffic and no burning of slash piles would occur.

- *Direct, Indirect, and Cumulative Effects of the Action Alternative*

During dry periods of the year, road dust may be created on gravel and dirt (native-surfaced) roads, relative to the amount of use. The log-hauling traffic from this proposed sale may increase by 6 to 12 truckloads per day. Depending on the season of harvest and the weather conditions, road dust may increase. In cases where the Forest Officer believes the dust level is unacceptable, the application of dust abatement, such as magnesium chloride, may be required.

The project is located in Airshed 1. Some particulate matter may be introduced into the airshed from the burning of logging slash. Slash burning would be conducted when conditions favor good-to-excellent smoke dispersion, and according to existing rules and regulations; therefore, impacts are expected to be minor and temporary. Thus, direct, indirect, and cumulative effects to air quality are expected to be minimal.

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 direct, indirect, and cumulative effects to vegetation.

Existing Conditions

Based on Desired Future Conditions (DFC), western larch/Douglas-fir and western white pine cover types are currently underrepresented and subalpine fir and mixed conifer cover types are currently overrepresented on the Stillwater Unit analysis area (Losensky, 1997). Based on historical data for the Upper Flathead Valley, the 0-to-39 and 100-to-150 year age classes are underrepresented and the 40-to-99 and 150+ year age classes are currently overrepresented on the Stillwater Unit analysis area (Losensky, 1997).

Based on Stand Level Inventory (SLI) data and field surveys across the Stillwater Unit, approximately 10.8 percent (12,726 acres) of the Stillwater Unit analysis area can be classified as old growth using definitions by Green et al. (*Old-Growth Forest Types of the Northern Region*, 1992). There are 80 acres of old growth within the project area.

Douglas-fir beetle and mountain pine beetle are present and have contributed to minor amounts of mortality in portions of the project area, mainly in units 1, 2, 6a, 6b, 7, 9, and 11a-c. The root diseases *Armillaria* and *Schweinitzii* root and butt rot have contributed to loss of timber value in the project area, especially in units 1 through 5, and 7.

An average of 6.7 tons per acre of coarse woody debris greater than 3" diameter was inventoried, which is somewhat low for the Fire Groups occurring in the project area (Graham et al., 1994). Fire Group 6 comprises approximately 80% of the project area. Fire Group 6 fire history studies indicate frequent, low to moderate severity fires with stand replacement fires occurring infrequently, usually when excessive fuel loads were present (Fischer and Bradley, 1987). Fire Group 9 comprises approximately 20% Fire Group 9 fire history studies are limited but generally indicate infrequent, mixed severity fires (Fischer and Bradley, 1987). There are also considerable ladder fuels present, in the form of clumps of Douglas-fir regeneration, especially in units 1-5.

Noxious weeds are present in the project area, mainly located along roads; these include spotted knapweed, oxeye daisy, and houndstongue.

Environmental Effects

- *Direct, Indirect and Cumulative Effects of the No-Action Alternative*

No effects to the amount and distribution of cover type, age classes, and old growth would occur in the short term. Over time, mortality from insects and diseases would lead to a loss in timber value, influence amounts of snags and down woody debris, and could increase the risk and intensity of a severe or stand-replacing wildfire. Over time, increased fuel loading would be expected to increase the risk and intensity of a severe or stand-replacing fire. The risk of additional establishment of weed populations would not increase. Cooperation with the USFS and county weed departments has improved over time and weed control would continue.

- *Direct, Indirect, and Cumulative Effects of the Action Alternative*

Under the Proposed Action, an additional 32 acres would meet DNRCs DFC related to cover type and no changes would occur to age classes. Of the 80 acres of old growth in the project area, 24 acres would receive an old-growth maintenance treatment that maintains the stand as old growth as defined by DNRC and the other 56 acres would not be treated at this time. Cumulatively, no changes would occur to old growth amounts or distributions on the Stillwater Unit analysis area. Mortality from insects and diseases would decrease as susceptible tree species are removed from the stand and as more resistant tree species are regenerated. The proposed prescriptions would emulate natural fires that historically occurred. Ladder fuels to crowns would be removed in the proposed harvest units. The spread of noxious weeds from the use of mechanized equipment and ground disturbance would be minimized, but not completely eliminated, by the washing of equipment before

entering the site, sowing grass seed on roads after harvesting, and applying herbicide along roadsides and on spots of weed outbreaks.

Additional information can be found in the Project File: Vegetation

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

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

Terrestrial and Avian Life and Habitats

Effects of the proposed action alternative on terrestrial and avian life and habitats were analyzed on two spatial scales: 1) the project area, consisting of five DNRC-administered parcels totaling 810 acres, and 2) a cumulative effects area, selected to approximate the annual home range of a specific animal species or group of species that utilize a particular habitat/resource of concern. For this proposed project, cumulative effects analysis areas ranged from 23,546 to 52,993 acres, depending on the species or habitat resource. The following species were considered but eliminated from detailed study due to lack of habitat present within the proposed project area: Bald Eagle, Peregrine Falcon, Black-backed Woodpecker, Common Loon, Harlequin Duck, Columbian Sharp-tailed Grouse, Townsend's Big-eared Bat, Coeur d'Alene Salamander, and Northern Bog Lemming.

Old Growth Associated Species

A variety of wildlife species utilize mature to old-growth stands to meet their life history requirements. Approximately 80 acres of old-growth forest, using DNRCs definitions based on Green et al. (*Old-Growth Forest Types of the Northern Region*, 1992), have been identified within the project area. The Action Alternative proposes to implement an old-growth maintenance harvest on a single stand of 24 acres (30% of the old growth within the project area). Proposed harvesting treatments would not remove this stand from meeting old-growth standards or appreciably alter connectivity with adjacent old-growth forest post-harvest. Because old growth maintenance harvest would remove some understory and mid-story trees, as well as create scattered small openings within the stand, habitat quality for species preferring dense, closed-canopy forest would decrease. Those species preferring more open stands of mature trees would see an increase in habitat quality. Roads, railroads, and past forest management activities have adversely influenced the abundance and connectivity of old forests on surrounding ownerships, however adequate connectivity of mature forests exists to facilitate wildlife use and movement at a broader spatial scale. Mature, closed-canopy forest on adjacent private and USDA Forest Service parcels may have old growth characteristics and offer additional habitat connectivity. Thus, minor direct, indirect, and cumulative effects to old-growth associated species would be anticipated under the Action Alternative.

Gray Wolf

Wolves are opportunistic, cooperative-hunting carnivores recently delisted from the Endangered Species Act. In northwest Montana, wolf population levels and habitat use generally track that of their ungulate prey; primarily white-tailed deer, moose, and elk. Wolves are believed to be most sensitive to human disturbance at denning and rendezvous sites. The annual home range of the Murphy Lake wolf pack has often included the proposed project area over the last 10 years. No denning or rendezvous sites were ever recorded in the project area. In late 2010, five out of the six known members of the Murphy Lake pack were destroyed by federal officials due to livestock depredations (*Sime et. al, 2011*). Location and status of any remaining individuals is unknown (*Kent Laudon, Montana Fish, Wildlife, and Parks (MDFWP), personal comm. February 28, 2011*). However, given the area's long-term history of wolf use, current or future wolf presence is likely. Wolves would most likely be adversely affected by the Action Alternative through short-term displacement due to increased human access and because of possible changes in ungulate use of the project area (see — ~~Bi~~ *Game Winter Range*" below). Shifts in prey availability associated with reductions in winter range quality could result in slight decreased wolf use of the proposed project area, however overall patterns of use within the cumulative area is not anticipated to change. Appreciable changes in landscape-scale patterns of habitat use would not be expected given the proposed project's small size and abundant winter range in the surrounding area. Private land development,

combined with associated pets and livestock, likely remain the greatest risks to wolves within the cumulative area. Thus, minor direct, indirect, or cumulative effects to gray wolves would be anticipated under the Action Alternative.

Pileated Woodpecker

Pileated woodpeckers are typically linked with mature forest conditions containing large diameter snags and down woody debris. The proposed project area contains approximately 449 acres of potential pileated woodpecker habitat. Harvesting under the action alternative would occur on 61 acres (14%) of this potential habitat. Expected habitat suitability for pileated woodpeckers would be reduced on these acres due to the removal of dead or dying wood, although harvesting treatments would be carried out to meet guidelines in ARM 36.11.411. Under ARM 36.11.411, snags (2 per acre minimum, >21 in. dbh or next largest size), snag recruit trees (2 per acre minimum, >21 in. dbh or next largest size) and coarse woody debris (10-20 tons/acre) would be retained. These forest resources are important to pileated woodpeckers and would be available in proposed harvest units after the completion of logging. Silvicultural treatments proposed by the action alternative would favor retention and regeneration of ponderosa pine, western larch, and Douglas-fir, providing preferred foraging and nesting sites for pileated woodpeckers in the future. Ongoing timber harvesting, as well as legal and illegal firewood cutting on surrounding private, DNRC, and USFS lands will continue to reduce suitable pileated habitat under both Action and No-Action alternatives. With the reduction of a small amount of suitable habitat and implementation of accompanying mitigation measures, there would likely be minor risk of direct, indirect, and cumulative effects to pileated woodpeckers from the proposed action.

Flammulated Owl

Flammulated owls are small, migratory, insectivorous forest owls that inhabit old, open stands of warm-dry ponderosa pine and cool-dry Douglas-fir forests in the western United States. Within the proposed project area, there are approximately 393 acres of potential flammulated owl habitat. The action alternative proposes harvesting on 62 acres (16%) of this potential habitat. Current forest conditions on most of these potential acres are denser than the open stands preferred by flammulated owls. Past surveys for flammulated owls in the vicinity of the project area have not resulted in the detection of any individuals or breeding pairs (USFS, 2006). Proposed harvesting would open up forest structural conditions, potentially creating more favorable habitat conditions for flammulated owls. As a secondary cavity-nesting species, flammulated owls prefer forest stands with an abundance of large-diameter snags. Harvesting would likely remove some snags, however prescriptions under DNRC guidelines attempt to retain 1-2 snags and snag recruits >21 inches dbh (or next largest size) per acre. These larger-diameter snags could serve as potential nesting substrates for owls in the present and future. In the broader landscape, past/ongoing timber harvesting and firewood collecting has likely decreased snag levels, particularly along open roads. Depending on tree and snag retention harvest prescriptions, ponderosa pine and Douglas-fir stands on surrounding private and Forest Service lands may be providing preferred habitat for flammulated owls. Flammulated owls in the project area could be temporarily displaced by logging activities in the short term; however long-term (10-15 years) minor beneficial direct, indirect, or cumulative effects due to favorable changes in forest structure would be anticipated under the Action Alternative.

Fisher

Fishers are mid-sized carnivores typically associated with mature closed-canopy forest, particularly areas within close proximity to water (Jones 1991). The proposed project area contains roughly 362 acres of potential fisher habitat, of which 35 acres are within 100 feet of Class 1 streams and 1 acre within 50 feet of Class 2 streams. Due to generally low habitat quality, low elevation, prevalence of private land and open roads along streams, and lack of historical or present fisher sightings, the USFS has characterized the habitat surrounding the project area as primarily used for fisher travel (USFS, 2006). Connectivity of closed-canopy riparian forest within and adjacent to DNRC lands is generally good, facilitating fisher movement through the area. Activities associated with the Action Alternative would reduce forest cover on approximately 97 acres of upland fisher habitat and render it too open for fishers for the next 30 years, however riparian forest cover adjacent to Class 1 and 2 streams would remain suitable for fisher use. Minor adverse direct, indirect, or cumulative effects to fishers would be anticipated as a result of the Action Alternative.

Big Game Winter Range

Year-round use of the proposed project area by deer, elk, and moose is possible. Winter range habitat is particularly valuable to wild ungulate populations by facilitating higher survival during severe winter conditions. MDFWP personnel have identified the entire proposed project area to be within elk and white-tailed deer winter ranges. Within the project area, approximately 687 acres currently contain sufficient crown closure and understory vegetation to provide thermal cover and snow intercept for wintering ungulates. Harvesting planned under the Action Alternative would reduce these habitat features on about 129 acres (19%) of the proposed project area and be additive to reductions in winter range quality on surrounding ownerships. Despite home sites and past timber harvesting on lands surrounding the project area, a large portion of elk and deer winter range remains in mature, closed-canopy forest within the cumulative effects area. Many of these acres are likely providing thermal cover and snow intercept. Habitat connectivity within the larger winter range would not be appreciably altered with the proposed harvesting. Due to the size, location, and habitat conditions in the project area and larger winter range, direct, indirect, and cumulative effects to big game winter range are expected to be minor.

Additional information can be found in the Project File: Wildlife Analysis

Existing Conditions (Aquatic Life and Habitats)

A data search indicates that westslope cutthroat trout, eastern brook trout, and rainbow trout inhabit Stewart Creek and Jim Creek. Data from the Montana Fisheries Information System indicates that several species of fish inhabit this portion of Fortine Creek between Swamp Creek and Stewart Creek. This area of the creek includes native species such as westslope cutthroat trout, torrent sculpin, mountain whitefish, longnose dace, largescale sucker, and longnose sucker, as well as non-native species including eastern brook trout, and rainbow trout.

Environmental Effects

- *Direct, Indirect and Cumulative Effects of the No-Action Alternative*

No reduction in recruitable large woody debris would result from the implementation of this alternative. No changes to fish passage would occur.

- *Direct, Indirect, and Cumulative Effects of the Action Alternative*

Along Stewart Creek, the RMZ width is 90 feet from the stream. While no harvest would occur in the 50 feet nearest the stream, approximately 30 percent of the merchantable trees in the outer 40 feet of the RMZ would be harvested. Approximately 0.5 acres of RMZ (0.6% of total RMZ for Stewart Creek) would have reduced recruitable woody debris and stream shading.

Along Jim Creek, the RMZ is 105 feet from the stream. While no harvest would occur in the 50 feet nearest the stream, approximately 50 percent of the merchantable trees in the outer 55 feet of the RMZ would be harvested. Approximately 2.8 acres of RMZ (2.3 percent of total RMZ for Jim Creek) would have reduced recruitable woody debris and stream shading.

Along Fortine Creek, the RMZ is 105 feet from the stream. While no harvest would occur in the 50 feet nearest the stream, approximately 12 to 15 individual trees in the outer 55 feet of the RMZ would be harvested. Approximately 0.8 acres of RMZ (0.3 percent of total RMZ for Middle Fortine Creek) would have reduced recruitable woody debris and stream shading.

The level of RMZ tree retention at each stream should, with a low degree of risk, adequately provide for future recruitment of woody debris into the channels to provide fisheries habitat complexity. Additionally, this level of tree retention would be expected to adequately provide shading and result in a low degree of risk for increased stream temperatures associated with timber harvest.

No changes to fish passage along the haul route are proposed. Therefore, no direct or indirect effects would result to fish passage or connectivity.

Because the annual water-yield increases would remain below the thresholds of concern and BMPs would be implemented during timber-harvesting and road-construction operations, the risk of adverse cumulative impacts to water quality and beneficial uses, including fisheries habitat, is expected to be low.

Additional information can be found in the Project File: Water Resources Analysis

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 direct, indirect, and cumulative effects to these species and their habitat.

Threatened and Endangered Species

Grizzly Bear

Grizzly bears are wide-ranging omnivores currently listed as “threatened” under the Endangered Species Act. The project area is within grizzly bear non-recovery “occupied habitat” as mapped by T. Wittinger (2002) and approximately 7 miles from the Northern Continental Divide Ecosystem grizzly bear recovery area. Grizzly bear use of the proposed project area is possible at any time. Grizzly bear hiding cover would be reduced for 20-30 years on approximately 168 acres under the Action Alternative. No new open roads would be built. Harvesting activities associated with the action alternative could temporarily disturb or displace bears, although winter logging timing restriction on many proposed units would limit these potential short-term effects. Mitigations under the action alternative would largely reduce the possibility of long-term adverse effects. Home sites, open roads, and the active Burlington-Northern Santa Fe railway are within close proximity to the project area and make extensive use by bears less likely than on more remote USFS lands in the broader area. Timber harvesting and private land development will continue to reduce hiding cover in the surrounding area, however the majority of this area is still providing adequate hiding cover for bears. Minor adverse direct, indirect, or cumulative effects to grizzly bears would be anticipated as a result of the Action Alternative.

Canada Lynx

Based on habitat type and existing lynx habitat definitions under the Forest Management Rules, there are currently no lynx habitats within the project area (DNRC Stand Level Inventory data). As a result, there would likely be very low risk of direct, indirect, or cumulative effects to lynx from the proposed action.

Westslope Cutthroat Trout

DNRC has also identified westslope cutthroat trout as a sensitive species (*Administrative Rule of Montana (ARM) 36.11.436*). Fisheries habitat for westslope cutthroat trout is discussed in sections 5 and 8 above.

Additional information can be found in the Project File: Wildlife Analysis

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

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

A query of DNRC’s inventory of cultural resources identified two sites. One site includes remnants of a railroad bridge on Fortine Creek and remnants of the railroad grade used for early day logging in the area. The other site includes numerous pieces of fire cracked rock and pieces of bone presumably associated with past Native American occupants of the region. The first site is mostly located within the SMZ and is outside of a proposed harvest unit, however, the railroad grade does bisect Unit 10. In order to mitigate impacts to the site, winter logging would be required and no excavation of the area would be allowed. Landings and skid trails would avoid the site. The second site is located outside of the harvest units on USFS lands to the west. For these reasons, no direct, indirect, or cumulative impacts would likely occur under either alternative.

Additional information can be found in the Project File: Archaeology/Cultural Resources

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 direct, indirect, and cumulative effects to aesthetics.

- *Direct, Indirect and Cumulative Effects of the No-Action Alternative*

Under this alternative, no timber harvesting or related activities would occur. No short-term changes in views would occur.

- *Direct, Indirect and Cumulative Effects of the Action Alternative*

Portions of the project would be visible from open roads within the project area. The project area is not located on a prominent topographic area or visible from a densely populated area. Timber sale design would minimize visual impacts by randomly spacing retention trees in the units and leaving additional trees along unit boundaries and open roads. Thus, direct, indirect, and cumulative effects to aesthetics are expected to be minimal.

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 direct, indirect, and cumulative effects to environmental resources.

No demand for limited environmental resources or other activities demanding limited environmental resources were identified; therefore the project would affect, therefore, no direct, indirect, or cumulative impacts would occur under either alternative.

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.

- Trego Environmental Assessment (USFS, 2007)
- Jim Beaver Checklist Environmental Assessment (CEA) (December 2009)
- Swedish Chicken Environmental Assessment (EA) (February 2011)
- Coal Ridge Environmental Assessment (EA) (April 2011)
- Final HCP/EIS (USFWS/DNRC) (September 2011)

IV. IMPACTS ON THE HUMAN POPULATION
<ul style="list-style-type: none">• <i>RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.</i>• <i>Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.</i>• <i>Enter -NONE- if no impacts are identified or the resource is not present.</i>

14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

No unusual safety considerations are associated with the proposed timber sale.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

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

The proposed timber harvest would provide continued industrial production in the region.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

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

People are employed in the wood-products industry in the region. Due to the relatively small size of the proposed timber sale, no measurable direct, indirect, or cumulative effects to the employment market would be likely.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

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

Due to the relatively small size of the proposed timber sale, no measurable direct, indirect, or cumulative impacts to the tax base or tax revenue would be likely from either alternative.

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 direct, indirect, and cumulative effects of this and other projects on government services

Log trucks hauling to the purchasing mill would result in temporary increases in traffic on U.S. Highway 93 and USFS Road 36 (Fortine Creek Road). This increase is a normal contributor to the activities of the local community and would not be considered a new or increased source of traffic.

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.

On May 30, 1996, DNRC released the Record of Decision on the State Forest Land Management Plan (SFLMP). The Land Board approved the implementation of the SFLMP on June 17, 1996. On March 13, 2003, the Department adopted Administrative Rules (Rules) (Administrative Rules of Montana [ARM] 36.11.401 through 450). The SFLMP outlines the management philosophy, and the proposal will be implemented according to the Rules. The philosophy is:

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

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 direct, indirect, and cumulative effects to recreational and wilderness activities.

Hunting and other forest recreation activities are common in the area. The proposed Cost-Share road access through the Kootenai National Forest would be closed to public use. Existing road restrictions would remain the

same under either alternative. Illegal off-road vehicle use would be expected to decrease, while legal use would be expected to remain the same with the Action Alternative. Recreational activities are expected to continue under either alternative.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

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

No measurable direct, indirect, and cumulative impacts related to population and housing would be expected due to the relatively small size of the proposed timber sale project. \

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

No direct, indirect, and cumulative impacts related to social structures and mores would be expected under either alternative.

23. CULTURAL UNIQUENESS AND DIVERSITY:

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

No direct, indirect, and cumulative impacts related to cultural uniqueness and diversity would be expected under either alternative.

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 direct, indirect, and cumulative economic and social effects likely to occur as a result of the proposed action.

- *Direct, Indirect and Cumulative Effects of the No-Action Alternative*

No revenue would be generated for the Public Buildings Trust at this time. Small timber permits could yield some additional revenue.

- *Direct, Indirect and Cumulative Effects of the Action Alternative*

The timber harvest would generate approximately \$104,000 for the Public Buildings Trust and approximately \$27,000 in Forest Improvement (FI) fees would be collected for FI projects. This is based on a stumpage rate of \$23.60 per ton, multiplied by the estimated volume of tons. This stumpage rate was derived by comparing attributes of the proposed timber sale with the attributes and results of other DNRC timber sales recently advertised for bid. Costs related to the administration of the timber sale program are only tracked at the Land Office and Statewide level. DNRC does not track project-level costs for individual timber sales. An annual cash flow analysis is conducted on the DNRC forest product sales program. Revenue and costs are calculated Statewide and by Land Office. From 2006 through 2010, revenue-to-cost ratio of the Northwestern Land Office was 2.51. This means that, on average, for every \$1.00 spent in costs, \$2.51 in revenue was generated. Costs, revenues, and estimates of return are estimates intended for relative comparison of alternatives. They are not intended to be used as absolute estimates of return.

EA Checklist Prepared By:	Name: Marc Vessar, Chris Forristal, R. Jason Parke	Date: August 18, 2011
	Title: Hydrologist, Wildlife Biologist, Management Forester	

V. FINDING

25. ALTERNATIVE SELECTED:

Upon Review of the Checklist EA and attachments, I find the Action Alternative, as proposed, meets the intent of the project objectives as stated in Section I – *Type and Purpose of Action*. The lands involved in this project are held by the State of Montana in trust for the support of specific beneficiary institutions and DNRC is required by law to administer these trust lands to produce the largest measure of reasonable and legitimate return over the long run (*Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X Section 11; and, 77-1-212 MCA*). The Action Alternative complies with all pertinent environmental laws, the DNRC SFLMP, and a consensus of professional opinion on limits of acceptable environmental impact. For these reasons, I have selected the Action Alternative to be implemented on this project.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

After a review of the scoping documents, project file, Forest Management Rules, SFLMP, and Department policies, standards, and guidelines, I find that all of the identified resource management concerns have been fully addressed in this Checklist EA and its attachments. Specific project design features and various recommendations by the resource management specialists have been implemented to ensure that this project will fall within the limits of environmental change. Taken individually and cumulatively, the proposed activities are common practices, and no project activities are being conducted on important fragile or unique sites. I find there will be no significant impacts to the human environments as a result of implementing the Action Alternative. In summary, I find that the identified adverse impacts will be controlled, mitigated, or avoided by the design of the project to the extent that the impacts are not significant.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

EIS

More Detailed EA

No Further Analysis

EA Checklist Approved By:	Name:
	Title:
Signature:	Date:

ATTACHMENT I - REFERENCES

- Brown, J.K. 1974. Handbook for inventorying downed woody material. In: USDA and Forest Service (Editors). Ogden, Utah: Intermountain Forest and Range Experiment Station.
- DNRC, 2005. DNRC Compiled Soils Monitoring Report on Timber Harvest Projects, 1988-2004. Prepared by J. Collins, Forest Management Bureau. Missoula, MT.
- DNRC. 1996. State Forest Land Management Plan. Montana DNRC. Missoula, MT
- Edward B. Raskin, Casey J. Clishe, Andrew T. Loch, Johanna M. Bell (2006). Effectiveness of timber harvest practices for controlling sediment related water quality impacts. *Journal of the American Water Resources Association* 42 (5), 1307–1327.
- Fisher, W.C., and A.F. Bradley. 1987. Fire Ecology of Western Montana Forest Habitat Types. USFS General Technical Report INT-223.
- Graham, R.T., A.E. Harvey, M.F. Jurgensen, T.B. Jain, J.R. Tonn, and D. S. Page-Dumroese. 1994. *Managing Coarse Woody Debris in Forest of the Rocky Mountains*. USDA Forest Service Research Paper. INT-RP-447. 13 pp.
- Green, P., J. Joy, D. Sirucek, W. Hann, A. Zack, and B. Naumann. 1992. Old-Growth Forests Types of the Northern Region. USDA, Forest Service, Northern Region, Region 1, Missoula, MT
- Jones, J.L. 1991. Habitat use of fisher in north-central Idaho. M.S. Thesis, University of Idaho, Moscow, Idaho. 147 pp.
- Kindel, K. 2011. Personal Communication with Kootenai National Forest Hydrologist. July 21, 2011.
- Losensky, B.J. 1997. Historical Vegetation of Montana. Montana Department of Natural Resources and Conservation. Missoula, MT
- Sime, Carolyn A., V. Asher, L. Bradley, N. Lance, K. Laudon, M. Ross, A. Nelson, and J. Steuber. 2011. Montana gray wolf conservation and management 2010 annual report. Montana Fish, Wildlife & Parks. Helena, Montana. 168 pp.
- USFS, 2007. Trego Project Environmental Assessment. Kootenai National Forest, Fortine Ranger District.
- Wittinger, W.T. 2002. Grizzly bear distribution outside of recovery zones. Unpublished memorandum on file at USDA Forest Service, Region 1. Missoula, Montana. 2pp.

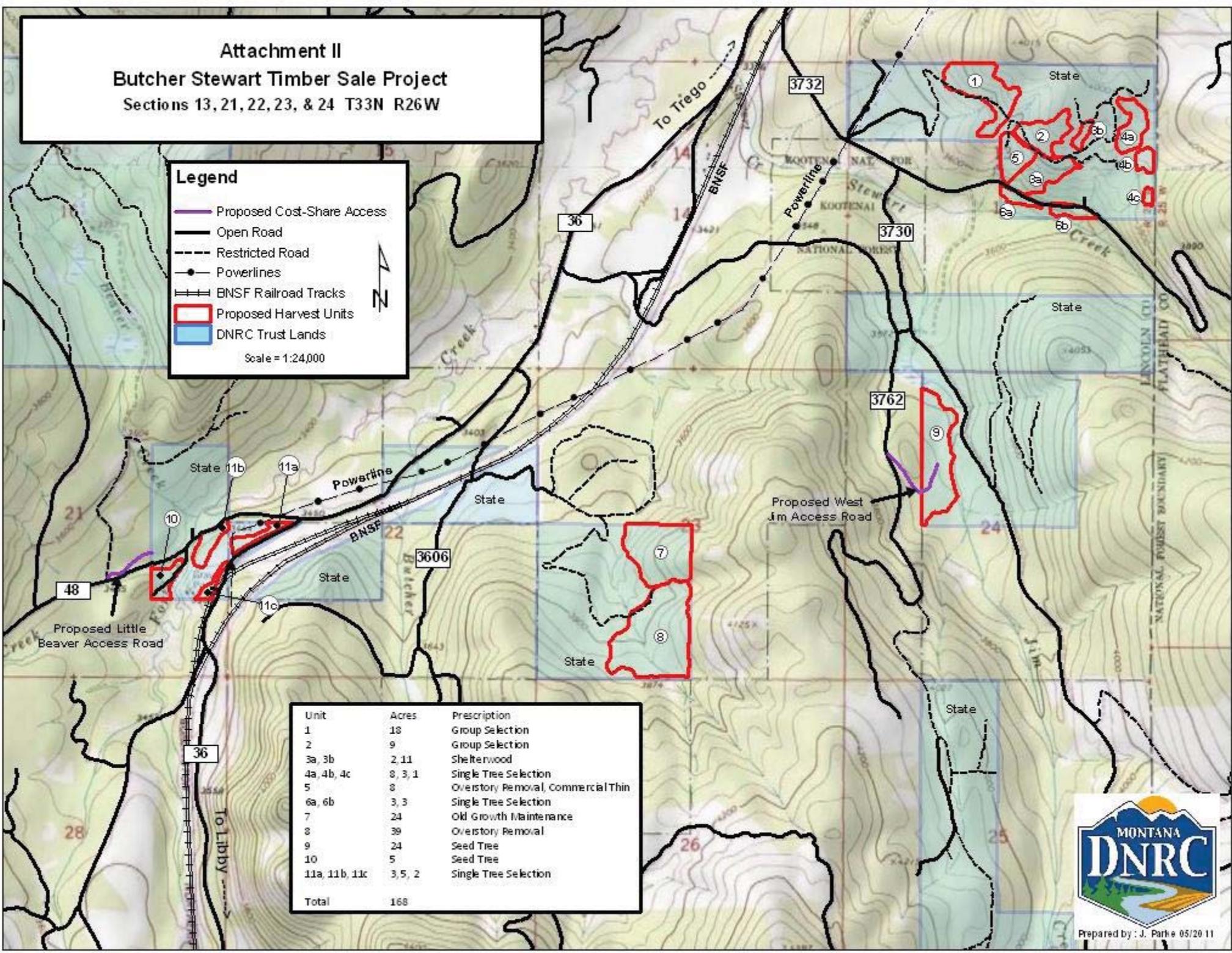
Attachment II
Butcher Stewart Timber Sale Project
 Sections 13, 21, 22, 23, & 24 T33N R26W

Legend

-  Proposed Cost-Share Access
-  Open Road
-  Restricted Road
-  Powerlines
-  BNSF Railroad Tracks
-  Proposed Harvest Units
-  DNRC Trust Lands

Scale = 1:24,000

Unit	Acres	Prescription
1	18	Group Selection
2	9	Group Selection
3a, 3b	2, 11	Shelterwood
4a, 4b, 4c	8, 3, 1	Single Tree Selection
5	8	Overstory Removal, Commercial Thin
6a, 6b	3, 3	Single Tree Selection
7	24	Old Growth Maintenance
8	39	Overstory Removal
9	24	Seed Tree
10	5	Seed Tree
11a, 11b, 11c	3, 5, 2	Single Tree Selection
Total	168	



ATTACHMENT III STIPULATIONS AND SPECIFICATIONS

AESTHETICS

- Logging-damaged residual vegetation visible from open roads will be slashed.
- Landings will be limited in size and number and be located away from main roads when possible.
- Some harvest areas will include designated 'uncut' areas, and most areas will have trees remaining in clumps or groups. This, along with leaving strips of small trees along roads will help reduce sight distance into these harvest areas.

ARCHAEOLOGY

- A contract clause provides for suspending operations if cultural resources were discovered. A DNRC archeologist would be consulted and operations may only resume as directed by the Forest Officer.

SOILS

- Equipment operations will be limited to periods when soils are relatively dry, (less than 20 percent moisture), frozen, or snow-covered to minimize soil compaction and rutting and maintain drainage features. Soil moisture conditions will be checked prior to equipment start-up.
- On ground-based units, the logger and sale administrator will agree to a general skidding plan prior to equipment operations. The skid-trail planning process will identify which main trails to use and how many additional trails are needed. Trails that do not comply with BMPs (i.e. trails in draw bottoms) will not be used and may be closed with additional drainage installed where needed or grass seed will be planted to stabilize the site and control erosion.
- Tractor skidding will be limited to slopes of less than 40 percent unless the operation can be completed without causing excessive erosion. Based on site review, short, steep slopes above incised draws may require a combination of mitigation measures, such as adverse skidding to a ridge or winchline skidding from more moderate slopes of less than 40 percent.
- Skid trails will be kept to 20 percent or less of the harvest unit acreage. Drainage will be provided in skid trails and roads concurrently with operations.
- Slash disposal - The combination of disturbance and scarification will be limited to 30 to 40 percent of the harvest units. No dozer piling will be done on slopes over 35 percent; no excavator piling will be done on slopes over 40 percent unless the operation can be completed without causing excessive erosion. Lopping and scattering or jackpot burning will be considered on the steeper slopes. Disturbance incurred during skidding operations will be accepted to provide adequate scarification for regeneration.
- Ten to fifteen tons of large woody debris and a majority of all fine litter feasible will be retained following harvesting. On units where whole tree harvesting is used, one of the following mitigations for nutrient cycling will be implemented: 1) use in-woods processing equipment that leaves slash on site; 2) for whole-tree harvesting, return-skid slash and evenly distribute within the harvest area; or 3) cut tops from every third bundle of logs so that tops are dispersed as skidding progresses.

VEGETATION

NOXIOUS WEED MANAGEMENT

- All tracked and wheeled equipment will be cleaned of noxious weeds prior to beginning project operations. The forest officer administering the contract will inspect equipment periodically during project implementation.
- Prompt vegetation seeding (with a native grass seed mix or an annual mix) of disturbed roadside sites will be required. Roads used and closed as part of this proposal will be reshaped and reseeded.
- Herbicide weed spraying may be implemented on roads that are abandoned following the timber sale project.
- Herbicide weed spraying will be implemented on closed roads used in the timber sale project before roadwork takes place and the next spraying season after the roadwork is done.

FUELS MANAGEMENT

- Ten to 15 tons of large woody debris will be retained on the forest floor following site preparation.

WILDLIFE

- Consult a DNRC biologist if a threatened or endangered species is encountered to determine if additional mitigations that are consistent with the administrative rules for managing Threatened and Endangered Species (*ARM 36.11.428* through *36.11.435*) are needed.
- On restricted roads that have been opened for this timber sale project, restrict public access at all times by using signs during active periods and a physical closure (gate, barriers, equipment, etc.) during inactive periods (nights, weekends, etc.).
- Reclose roads and skid trails that have been opened for this timber sale project to reduce the potential for unauthorized motor vehicle use.
- Reduce views into harvest units along open roads by using a combination of topography, group retention, and roadside vegetation.
- Manage for snags, snag recruits, and coarse woody debris according to *ARMs 36.11.411* through *36.11.414* by particularly favoring western larch and western white pine.
- Contractors and purchasers conducting contract operations are prohibited from carrying firearms while operating on restricted roads.

**ATTACHMENT IV
PREPARERS AND CONTRIBUTORS**

DECISION MAKER

McMahon, Mike Forest Management Specialist, DNRC, Stillwater Unit, Olney, MT

ID TEAM MEMBERS

Forristal, Chris Wildlife Biologist, DNRC, Northwest Land Office, Kalispell, MT

Parke, Jason Management Forester, DNRC, Stillwater Unit, Olney, MT

Vessar, Marc Hydrologist, DNRC, Northwest Land Office, Kalispell, MT

TECHNICAL SUPPORT

Carbery, Michele Graphics/Publications Specialist, former DNRC employee, Stillwater State Forest, Olney, MT

Spoelma, Tim Silviculturist, DNRC, Forest Management Bureau, Missoula, MT