

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Beyond Bent
Proposed Implementation Date:	Beginning July 2012
Proponent:	Clearwater Unit, Montana DNRC
Location:	North Fork of Elk Creek, SE 1/4 Section 16 T13N R14W
County:	Missoula

I. TYPE AND PURPOSE OF ACTION

This project analyzes the impact of a timber permit on State owned land in the Elk Creek drainage. The timber permit would salvage lodgepole pine and ponderosa pine that are either infested with mountain pine beetle (*Dendroctonus ponderosae*) or are likely to be attacked, and will open up some pockets of Douglas-fir to reduce stresses upon the stand. Over the past several years, the beetle infestation has increased in the area. Many areas within the general area have been attacked on both Montana DNRC and Lubrecht Experimental Forest (University of Montana) land. There are also large patches of smaller (pulp sized) ponderosa pine that have been hit and killed by this pine beetle and older lodgepole pine that would be removed to reduce the potential fire hazard. This project will treat a majority of the slash produced in many places by piling.

Lubrecht Experimental Forest also would like to relocate the existing North Fork of Elk Creek Road uphill to increase buffer distance and reduce potential for sediment delivery on the adjacent creek. A portion of this road would be relocated across the DNRC section 16 after harvest is completed.

The Montana DNRC is proposing to harvest up to 400 thousand board feet of trees from this section. Harvesting would primarily involve removal of lodgepole and ponderosa pine trees. Harvesting and removal of pulp sized material would also take place providing there is an economic market. If there is not a viable pulp market, this material would be piled and burned. The objectives of the proposed action would be to: 1) restore the forest to its income-generating potential; 2) capture value of dead and dying trees and prevent future value loss; 3) reduce understory trees and their stocking to promote health and vigor; 4) help reduce available wildland fuels especially in areas that see higher public use; 5) generate revenue for the trust beneficiary; and 6) the relocation of the North Fork of Elk Creek Road by Lubrecht Experimental Forest across the DNRC section 16. If necessary, some mountain pine beetle populations might be missed under this original timber permit. Any follow-up actions would be minor and will be under the permit volume total. This would be done after the beetle flight within the next few years if needed. All revenue would go to the Common Schools Trust and would be generated through the implementation of the proposed action.

The land involved in this proposed project is held by the State of Montana in trust for the Public Buildings (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 measure of reasonable and legitimate return over the long run for the beneficiary institutions (Section 77-1-202, MCA). The DNRC would manage lands involved in this project in accordance with the State Forest Land Management Plan (DNRC 1996), the Administrative Rules for Forest Management (ARM 36.11.401 through 450), the recently adopted Habitat Conservation Plan, as well as other applicable state and federal laws. The DNRC, in coordination with the USFWS, has developed a Habitat Conservation Plan (HCP) for grizzly bear, lynx, bull trout, westlope cutthroat trout, and Columbia redband trout. The HCP is a required component of the application for an Incidental Take Permit.

II. PROJECT DEVELOPMENT

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

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

DNRC specialists were consulted, including: Garrett Schairer, Wildlife Biologist; Jeff Collins, Hydrologist. Frank Maus of the University of Montana, Lubrecht Experimental Forest was also scoped for this project.

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

Montana Department of Environmental Quality (DEQ): Slash burning would be done in compliance with air quality rules and regulations through compliance with statewide cooperative smoke management agreements.

- All prescribed burning must also be approved by Missoula County Airshed Desk prior to ignition.

Department of Natural Resources and Conservation (DNRC): Harvesting adjacent to streams would be done in compliance with the state streamside management zone (SMZ) law.

3. ALTERNATIVES CONSIDERED:

No Action

None of the proposed harvest or road relocation would occur at this time. Other current land use activities and the recreational use would continue. No salvage of trees affected by mountain pine beetle would take place.

Action Alternative

Under the Action Alternative, the DNRC would continue current land use activities. Salvage harvest of mountain pine beetle infested timber (please see attached map) would be allowed as would the area needed for the road relocation.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT
<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>

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.

Soils within the project area are primarily Ambrandt gravelly sandy loams. Other areas within the proposed timber permit may include Ambrandt – Rochester, warm – rock outcrops..

The Ambrant Series consists of very deep, somewhat excessively drained soils that formed in colluvium derived from granite. The average annual precipitation ranges from 17-25 inches. These soils have a surface layer of 0-4 inches consisting of gravelly sandy loam and a very gravelly coarse sand subsoil > 40 inches.

Ambrant Rochester, warm-rock outcrop complex 30-60% slopes has a high erosion hazard due to its granitic composition and high sand content. The sandy, shallow soils can be easily displaced. Soil displacement and erosion risk increases as slope increases. Because these soils are excessively drained and contain low clay content, compaction hazard is considered low and displacement is considered high. The primary concern for soil productivity on these soils is maintaining the shallow topsoils by avoiding excessive disturbance. Soils are shallow on the ridges (Ambrant) and deeper in the draws (Rochester). There are a few old trails in the areas from previous selective harvest, and impacts are minor and less than 5% of the units.

Alternative A No Action Alternative:

The effects of No-Action would be the same as those described under the existing conditions and are not expected to cause direct, indirect and cumulative impacts to soils.

Alternative B Action Alternative:

The proposed harvest would use ground-based harvest methods. Ground-based yarding can affect soil productivity through soil displacement and erosion of productive surface layers of soil, mainly on heavily used trails. Erosion and displacement of surface soils is the primary concern for granitics. Soil productivity can be reduced with displacement of surface soils.

To minimize soil displacement and erosion, skidding would be restricted to slopes of 45% or less and additional drainage installed where necessary to prevent or limit erosion. Skid trail planning would reduce the overall impacted surface area (displacement, compaction), by using suitable existing trails (to avoid additive impacts), avoiding draws and locating trails on appropriate spacing. To minimize compaction the combination of skid trail planning to limit area disturbed and limit the season of use to dry conditions and would be implemented consistent with BMP's. Soil moisture would be monitored and approved by the Forest Officer prior to harvest activities. Operations would cease if rain events occur that increases soil moisture above acceptable levels. . To control erosion on bare skid trails over 10% slope, a combination of waterbars and return skidding slash would be implanted. Slash would be placed on trails to provide energy dissipation for surface runoff, increases sediment filtration and woody debris for nutrient decomposition for soils.

Road construction would be accomplished using standard equipment and would be within the standard right-of-way for the newly constructed road. The old road would be allowed to revert to a native state.

The proposed harvest operations are expected to maintain soil properties important to plant growth and hydrologic function and present low to moderate risk of direct, indirect and cumulative impacts to soils based on implementation of BMP's and mitigations.

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.

North Fork of Elk Creek

Ownership in this drainage is a mixture of State, Lubrecht Experimental Forest, Private and BLM. Minimal harvest has occurred on State and Lubrecht, the majority of harvest occurring on BLM. The North Fork Elk Creek is a Class 1 Perennial Tributary to Elk Creek. North Fork Elk Creek has a drainage area of approximately 4,717 acres. Most of the terrain in this watershed consists of moderate to steep slopes between 35- 70%. It is drained by Class1, Class 2 and Class 3 stream channels as well as ephemeral draws and draws with no discernable stream channel. Most of the riparian areas in the project area are in good health, with sufficient bank vegetation for stability and thermal protection. Riparian health in the lower portion of the drainage has been impacted in some reaches by historic cattle grazing, where willow communities are not as vigorous and some bank trampling has occurred.

Previous historic effects in the 1800 & 1900's have included mining exploration, roads, timber harvest, grazing and fire. The primary risk to water quality is sediment delivery from roads, especially at road crossing or roads that are poorly located. The risk of erosion or sediment delivery is highest when roads are constructed with insufficient buffers for filtration, inadequate drainage features, erosive soils or unstable slopes. Risks to water quality may increase when road drainage is not maintained or season of use restrictions are not implemented.

Alternative A No Action Alternative:

There is approximately 1.25 miles of existing road on the ridge in the upper north east portion of section 16, but outside the North Fork Elk Creek drainage boundary. A gated road, parallels the North Fork Elk Creek and receives very limited administrative use. This road is well vegetated in most sections, but is located close to the North Fork of Elk Creek. The road is only passable for about a mile by vehicle and then turns into a "trail-like" feature. Some sections of the road are well vegetated, but offer minimal buffer. Other sections are directly adjacent to the stream channel and direct sediment delivery was noted at two site-specific locations, but is minimal. Currently there is a small salvage operation on Lubrecht Experimental Forest Lands and road drainage will be installed and a short segment of road is planned to be relocated to reduce sediment. Limited use minimizes the amount of direct sediment delivery. There is a minor direct impact of sediment from the access road. Although some direct sediment delivery is occurring, Due to the short segment of road, the risk of indirect and cumulative impacts of the existing conditions is low.

Alternative B Action Alternative:

All harvest and road use would be done in a manner to reduce potential sediment delivery to the North Fork of Elk Creek. The access road would be required to meet BMP standards and will have straw waddles to control sediment in sensitive areas prior to harvest on DNRC land. The proposed road drainage improvements are

expected to control potential sedimentation from the access road. Skidding trails would be stabilized by slashing and installing drainage where needed to prevent erosion. All disturbed roads and landings would be stabilized and grass seeded where needed to control erosion. There are no stream crossings on the North Fork Elk Creek access road, and no new crossings are proposed.

The proposed salvage is located over 100 feet from the stream and exceeds the SMZ law and buffer zone required under the HCP. All harvest activities will be uphill of the existing road and has very low potential for sediment delivery across the grass meadow to the stream.

Although timber harvesting can affect the timing and amount of runoff, this harvest would be done to remove trees that are either dead or most likely become dead within a short period of time. The proposed salvage would remove up to 400 thousand board feet of dead and dying trees and less than 100 thousand board feet of thinning of green trees. The small scale of this project would not have measurable effects to water yield or sediments. As a result of the project design, and based on implementation of BMP's, Forest Management Rules and mitigation measures, there is low risk of direct, in-direct or cumulative effects to water quality or water resources above existing conditions.

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.

The DNRC is a member of the Montana/Idaho Airshed Group which was formed to minimize or prevent smoke impacts while using fire to accomplish land management objectives and/or fuel hazard reduction (Montana/Idaho Airshed Group 2006). The Group determines the delineation of airsheds and impact zones throughout Idaho and Montana. Airsheds describe those geographical areas that have similar atmospheric conditions, while impact zones describe any area in Montana or Idaho that the Group deems smoke sensitive and/or having an existing air quality problem (Montana/Idaho Airshed Group 2006).

The project area is in Airshed 3b which encompasses much of eastern Missoula County. Currently, this airshed includes an impact zone near Seeley Lake. This project is located approximately 3 miles southeast of Greenough, Montana and 10 miles east of Potomac, Montana. The Bob Marshall Wilderness area lies approximately 18 miles north of the project area. This wilderness area exceeds 5,000 acres and as such, is considered a Federal Class I Area that ultimately receives protection under the Federal Clean Air Act of 1977.

No Action: Under the No Action Alternative slash piles would not be created or burned. Thus, there would be no effects to air quality within the local vicinity and throughout Airshed 3b.

Action: Under the Action Alternative, slash piles consisting of tree limbs and tops and other vegetative debris would be created throughout the project area during harvesting. These slash piles would ultimately be burned after harvesting operations have been completed. Burning would introduce particulate matter into the local airshed, temporarily affecting local air quality. Over 70% of emissions emitted from prescribed burning is less than 2.5 microns (National Ambient Air Quality PM 2.5). High, short-term levels of PM 2.5 may be hazardous. Within the typical column of biomass burning, the chemical toxics are: Formaldehyde, Acrolein, Acetaldehyde, 1,4 Butadiene, and Polycyclic Organic Matter.

Burning within the project area would be short in duration and would be conducted when conditions favored good to excellent ventilation and smoke dispersion as determined by the Montana Department of Environmental Quality and the Montana/Idaho Airshed Group. Prior to burning a "Prescribed Fire Burn Plan" would be done for the area. The DNRC, as a member of the Montana/Idaho Airshed Group, would burn only on approved days. Thus, direct and indirect effects to air quality due to slash pile burning associated with the proposed action would be minimal.

Burning that may occur on adjacent properties in combination with the proposed action could potentially increase cumulative effects to the local airshed and the Class I Areas. The United States Forest Service and large scale industrial forestry operations in the area participate as airshed cooperators and operate under the same Airshed Group guidelines as the DNRC. Non-industrial timberland operators are regulated by the Montana Department of Environmental Quality and burning is only allowed during seasons that provide good ventilation

and smoke dispersion. Thus, cumulative effects to air quality due to slash pile burning associated with the proposed action would also be expected to be minimal.

Harvesting and log hauling could create dust which may affect local air quality. Harvesting operations would be short in duration and could occur during the winter months which would minimize dust dispersal. Thus, direct, indirect, and cumulative effects to air quality due to harvesting and hauling associated with the proposed action would 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 cumulative effects to vegetation.

RARE PLANTS AND WEEDS

No rare plants have been identified in the project area. Weeds that are common to the area, such as knapweed, houndstongue, and thistle occur along the roads and open areas found on this section.

STANDARD VEGETATIVE COMMUNITY

The project area consists primarily of the ponderosa pine and Douglas-fir cover types. Most of the project area is in the sawtimber size class and has low to high total stocking. Stands within the project area currently have a high susceptibility and risk of mountain pine beetle damage, based on the species, age, stand density, elevation, and existing mountain pine beetle presence. Areas of smaller (pulp-sized) ponderosa pine within the project area also are dead, infested, or at risk from attack by mountain pine beetle.

At the larger scale, DNRC lands managed by the Clearwater Unit are approximately 85% forested, mostly in the ponderosa pine and western larch/Douglas-fir cover types. Compared to the desired future condition at this scale, Douglas-fir, subalpine fir, and mixed-conifer cover types are slightly over-represented while ponderosa pine and western larch/Douglas-fir are slightly under-represented. Overall, however, about 84% of these lands do have a cover type that matches the desired future condition. This area falls within climatic section 332B, which was historically about 79% forested. Within the climatic section, the historically dominant cover type was Douglas-fir and ponderosa pine on lower slopes (Losensky, 1997).

Stand structure characterizes stand development, disturbances, and how a stand may continue to develop. Stand structure found on this section is primarily multi-storied with the exception of older plantations where it is more single storied. Much of this structure is the result of past harvesting. With regard to Clearwater Unit, there is a more even distribution of the various stand structure types.

DNRC has adopted old-growth definitions based on Green et al. (1992). The stands proposed for harvest are between 40 and 120 years of age. None of these stands meet the age requirement for old growth specified by Green et al (1992).

No Action

No harvest or road re-location would occur at this time. Compared to the existing condition, no immediate changes would be expected. Mountain pine beetle would likely continue to infest and kill ponderosa and lodgepole pine within the DRNC ownership and surrounding area. The increased fuel loading within these stands could become a concern as these trees die. With the existing rate of infestation, and the likelihood that dead trees will be blown down, openings would occur within the stands regardless of harvest. As the attack of these beetles is a natural event, it is conceivable that the sale area has experienced it in the past. Over time, some natural conifer regeneration would probably establish in areas with a seed source and favorable microclimate. Weed treatment could occur as funding allows.

Action

The silvicultural plan is to remove recently killed, green infested, and potentially affected green ponderosa pine and occasional lodgepole pine. Some areas would also include the removal of Douglas-fir that increase the stocking within these stands. This high stocking makes areas more attractive to the mountain pine beetle. The basic silvicultural plan would remove trees that are being, or have been attacked by the mountain pine beetle, and trees within an area that are highly susceptible to the beetle attack. These areas will be more open than they are currently. Much of the overstocked understory and pole sized may be cut and could potentially be harvested. These stands are currently overstocked and are also a fuel source in the event of a wildfire.

Changes to the vegetation would include an immediate reduction in numbers of live and dead pine trees. The remaining trees would have increased growth as more resources would be available per tree.

Fuel loading within these stands would decrease. Reduction of the standing stems by the harvest of trees would reduce standing fuels. Piling of logging and pre-commercial slash created by these projects at the landing or within the stand would reduce slash fuel concerns. This piling “consolidates” slash that would be at the harvest landing or still within the logging or pre-commercial thinning unit into smaller piles throughout the stand. This creates a situation where the DNRC is able to burn the fuel created, do it safely with fewer people, and it will create small openings that can support future seedlings in harvest areas.

The road re-location would be across open ground and would be uphill from the existing road. Total length across the DNRC would be less than 350 feet.

To prevent introduction of new weeds, off-road equipment would be cleaned and inspected prior to entry into harvest areas. Newly disturbed roads and landing would be seeded to grass. Roadsides with existing weeds would be treated with herbicide. The proposed action of salvage harvest and the road re-location would be expected to result in no measurable direct, indirect, and cumulative impacts on forest vegetation.

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.

No impact to streams supporting fish occur within the proposed harvest area. The access road is adjacent to the North Fork of Elk Creek and any area that would produce sediment will be protected by straw waddles. The likelihood of sediment delivery is minimized by this action. The North Fork Elk Creek provides habitat for Westslope cutthroat trout. There is low risk of direct, in-direct or cumulative effects to fish habitat or aquatic life with the proposed action.

Elk , White-tailed Deer, & Mule Deer- The proposed action would treat ponderosa pine and lodgepole pine that have been affected by mountain pine beetles and a minimal amount of Douglas-fir. As such, under baseline conditions the snow intercept cover that these tree species provide would be lost due to the effects of the mountain pine beetle infestation. This could show a minor increase in effect to winter range for these species. Removal of these small beetle pockets is fairly minimal in size. As such, there would likely be only a minimal increase in direct, indirect, or cumulative effects to big game winter range beyond what would be expected under the no action 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.

DNRC is managing the habitats of threatened and endangered species on this project by implementing the Montana DNRC Forested Trust Lands Habitat Conservation Plan (HCP) and the associated Incidental Take Permit (Permit) that was issued by the United States Fish & Wildlife Service (USFWS) in February of 2012 under Section 10 of the Endangered Species Act. The HCP identifies specific conservation strategies for managing the habitats of grizzly bear, Canada lynx, and three fish species: bull trout, westslope cutthroat trout, and Columbia redband trout. Only westslope cutthroat trout is known to occur in the North Fork Elk Creek. This project complies with the HCP. The HCP can be found at www.dnrc.mt.gov/HCP.

Fisheries- No streams supporting fish or stream segments with connectivity to down slope fisheries occur within the proposed harvest area. The North Fork of Elk Creek provides habitat for the Westslope cutthroat trout. The haul route will be adjacent to the North Fork of Elk Creek, but road drainage will be maintained during use and straw waddles will be used to control sediment contribution to the creek. All SMZ Law and Rules would be implemented. The proposed salvage is located over 100 feet from the stream and exceeds the SMZ law and buffer zone required under the. All harvest activities will be uphill of the existing road and has very low potential for sediment delivery across the grass meadow to the stream (refer to Water Quality Section). All harvest activities will be uphill and away from the edge of the buffer. As a result of implemented mitigation measures, there is low risk of direct, in-direct or cumulative effects to fish habitat or aquatic life with the proposed action.

The following species were considered but eliminated from detailed study due to lack of habitat present: Peregrine Falcon, Common Loon, Harlequin Duck, Townsend's Big-eared Bat, Coeur d'Alene Salamander, Northern Bog Lemming, Mountain Plover, Fisher, and Columbian Sharp-tailed Grouse.

Grizzly Bear- The proposed harvest would reduce vegetative screening. The proposed action would make use of topographic features, overstory trees not infested with mountain pine beetle, and existing regeneration for screening cover post-harvest. The risk of direct, indirect, and cumulative effects to grizzly bears would be low.

Gray Wolf- Two or more groups of wolves inhabit the area near Greenough: the 9-member Belmont Creek pack north of the project area and four wolves that have appeared in the Union Peak area. The proposed action would further reduce screening cover, which could temporarily increase wolf vulnerability in this parcel. The proposed action would make use of topographic features, overstory trees not infested with mountain pine beetle, and existing regeneration for screening cover post-harvest. As a result, there would likely be low potential for direct, indirect, and cumulative effects to wolves from the proposed action

Lynx- Currently, the DNRC uses the Forest Management Administrative Rules (MCA 36.11.104 and MCA 36.11.435) and the HCP to manage lynx. This parcel is part of the federally designated critical lynx habitat although it does not contain lynx habitat as part of the DNRC SLI database. Due to the fact that stands on this site are not likely to be lynx habitat, there would be minor risk of direct, indirect, or cumulative effects to lynx with the proposed action.

Bald Eagle—The proposed action and associated hauling route would be located >3 miles from the nearest active bald eagle nest, with topographic relief between the known nest site and project area. As a result, there would likely be low risk of direct, indirect, or cumulative effects to bald eagles as a result of the proposed action.

Pileated Woodpecker- The proposed action would remove some overstory trees and stems up to 24 inches in diameter which are preferred by pileated woodpeckers. Some trees of this size range would likely not be harvested (ponderosa pine that have not been attacked by beetles, western larch, and Douglas-fir). Currently the stand has regeneration over most height classes. Given the small amount of harvest area proposed and the existing stand levels, there would likely be low risk of direct, indirect, or cumulative effects to pileated woodpeckers as a result of the proposed action.

Black-backed Woodpecker- In 2003, a University of Montana study inspected the general area and included several DNRC sections. They investigated the use of commercial thinning, fire, and the occurrence of black-backed woodpecker habitat. More than a half dozen nests were found within the area. Black-backed woodpecker habitat tends to be very fleeting and only lasts approximately 5 years. Given the time period, we are beyond that possible window. Within an approximately 32 mile radius, approximately 76,684 acres of forest burned in 2007 on four large fires. Due to the abundance of recently burned habitat, and this species' affinity for recently burned areas, the proposed harvest would likely have low risk of direct, indirect, or cumulative effects to black-backed woodpeckers.

Flammulated Owl- The proposed action would remove affected lodgepole and ponderosa pine within the proposed harvest units and affect some of habitat types preferred by this species. Through the proposed harvest, group selections would likely occur, creating small openings in the forest that would be conducive to regenerating small pockets of forest. Such conditions could create suitable habitat for this species in approximately 20 years. The proposed harvesting could improve flammulated owl foraging habitats by reducing stem density in the stands. As a result, there would likely be low risk of direct, indirect, or cumulative effects as a result of the proposed action.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

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

No archaeological sites are known to exist within the general area of this timber permit. Some test areas within this section, performed by Lubrecht Experimental Forest and other groups exist. These sites will be discussed by the DNRC and the University of Montana to determine their future use.

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.

Any change to the scenery in the area from these alternatives would be in addition to past timber harvests, road building, vegetation management (grazing, pre-commercial thinning, etc.) and future fire activity within the project area. This analysis includes all past and present effects.

No Action

If the no action alternative is selected, patches created by dead trees will exist. Potentially these openings will likely be more given the currently seen mountain pine beetle outbreak timeline. The trees that would be killed by the beetle attack would lose all foliage, and eventually branches (over several years). Although the tree bole would still be in existence, this would not be very apparent in the distance, but would be more easily seen within the middleground viewshed. The color would be lighter than the current view after the attacked trees die. Thus, direct, indirect, and cumulative effects to aesthetics would be minimal.

Action

The proposed sale would not be visible from Elk Creek Road in the Greenough area. Large portions of the proposed harvest units would be blocked from view by topography or by vegetation. The removal of bark beetle attacked trees could change the stocking within the area. Over the long term, these areas would be noticed by the absence of tree crowns, occurrence of regeneration, and potential change in species present.

Through the proposed sale area, slash from the harvest would be noticeable yet temporary. Generally slash disappears from the site within five years, and is often covered by other vegetation within three years. Again, sites would be generally lighter in color than can be seen currently.

Harvest systems and activities would be ground-based and could be done during the winter. Harvest activities would be quite audible, and, depending upon air conditions, equipment could be heard many miles from their location. The proposed harvest of this volume would most likely be done within a month and would occur during the general "work week". Direct, indirect, and cumulative effects to aesthetics due to harvesting and hauling associated with the proposed action would 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 cumulative effects to environmental resources.

No impacts are likely to 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.

Elk 36 T.S. (TS-1445), Haywire Wallace T.S. (TS-1535) and Elk Wall T.S. (TS-1680) and the non-metalliferous lease for barite (NM-1975-07) are recent or current agreements on or near this parcel.

No effects (cumulative or immediate) are expected from these actions regarding the Action or No-Action and past uses. No other uses are planned for this section currently.

IV. IMPACTS ON THE HUMAN POPULATION
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| <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> |
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14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

Log truck traffic would increase slightly on area roads for the duration of the proposed action. Signs at the North Fork access or the Elk Creek Road would be used to warn motorists and local residents.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

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

The proposed action would lead to a minor temporary increase in activity during implementation. The proposed action would include timber harvesting and log hauling.

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.

A few short-term jobs in the local area would be created for the duration of the proposed action.

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.

The proposed action has only indirect, limited implications for tax collections.

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

Aside from contract administration, the impact on government services should be minimal due to the temporary nature of the proposed action.

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.

The DNRC has adopted the HCP for several terrestrial and aquatic species and continues to use the State Forest Land Management Rules.

DNRC and Lubrecht have developed a Memorandum- Of- Understanding (MOU) outlining procedures to be used in the management of lands within the boundaries of the Lubrecht Experimental Forest.

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.

The project area receives use by walk-in recreationists. Recreation opportunities would continue under the proposed action

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.

The project has no direct implications for density and distribution of population and housing.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

The proposed action has no direct implications for social structures and mores.

23. CULTURAL UNIQUENESS AND DIVERSITY:

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

The proposed project has no direct implications for cultural uniqueness and diversity.

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.

No Action: The existing non-metalliferous lease on this DNRC parcel would continue. Other activities would be looked at again in the future. The mountain pine beetle population is expected to spread to additional trees, infested timber would rot or check making it unusable for most wood products. Smaller stems would continue to grow.

Action: This project should return to the Common Schools trust approximately \$12,000.00 in stumpage. The total amount of forest improvement money that is projected should be \$9,096.00. This number is calculated by

multiplying the expected sawlog volume 2,400 tons or 400 mbf. (approximately 6 tons per thousand), and the amount paid to the DNRC (including forest improvement fees and stumpage for non sawlog material). For sawlog, an estimated price of \$5.00/ ton (\$30.00 / mbf.) will be paid and the money collected for forest improvement projects will be \$3.79 / ton (\$22.72 / mbf.). Stumpage payments for non-sawlog material will be \$100.00 paid lump sum. The overall total should be around \$21,196.00

Costs related to the administration of the timber sale program are only tracked at the Land Office and Statewide level. DNRC doesn't 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 by land office and statewide. These revenue-to-cost ratios are a measure of economic efficiency. The most recent revenue-to-cost ratio of the Southwestern Land Office was 1.16. This means that, on average, for every \$1.00 spent in costs, \$1.16 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: Craig V. Nelson	Date: July 12, 2012
	Title: Supervisory Forester, Clearwater Unit	

V. FINDING

25. ALTERNATIVE SELECTED:

Action Alternative

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

Significant impacts are not expected as a result of implementing the proposed activity. There are no unique resources or habitats associated with the project area which would indicate anything but short term or minor impacts would occur as a result of the harvest actions. There are hundreds of thousands of forested acres affected by the mountain pine beetle epidemic and even with aggressive salvage of beetle killed timber, only a very small percentage of the infested timber is being harvested. The project area is appropriate for timber harvest and normal, regularly applied mitigation measures (BMPS) will be effective in minimizing impacts

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

EIS
 More Detailed EA
 No Further Analysis

EA Checklist Approved By:	Name: Dave Poukish	
	Title: Unit Manager, Clearwater Unit	
Signature: /s/ David M. Poukish		Date: July 17, 2012

Beyond Bent Timber Permit

