

## CHECKLIST ENVIRONMENTAL ASSESSMENT

<b>Project Name:</b>	The Stilt timber permit and pre-commercial thin
<b>Proposed Implementation Date:</b>	9/15/2011-12/31/2013
<b>Proponent:</b>	Montana DNRC, Clearwater Unit
<b>Location:</b>	Sections 2, 3, 4 & 11 T14N R13W
<b>County:</b>	Powell

### I. TYPE AND PURPOSE OF ACTION

The Clearwater Unit is proposing to harvest up to 100 thousand board feet of timber from approximately 102 acres. The proposed harvest area is located in the Chamberlain Creek drainage 8 miles east of Clearwater Junction in Greenough, Montana. Under the proposed action, DNRC would harvest overstory trees that contain one or more of the following: have been infested by mountain pine beetle, have forked tops, crook, sweep, bole damage or Douglas-fir that are encroaching on ponderosa and western larch overstory and understory trees. The intent of this treatment is to prep the area for a pre-commercial thin by removing substandard overstory trees that rob water, nutrients and sunlight from the understory stand. This understory stand will be vital in the future to serve as a timber source. A pre-commercial thinning treatment that will include the harvest area will be implemented within three years of the commercial harvest.

The lands involved in this proposed project are held by the State of Montana in trust for Common Schools (section 3, 4 & 11) and trust for Public Buildings (section 2) (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). Specific objectives of the project are to capture value of dead and dying trees, prep the stand for a pre-commercial thin, and promote appropriate forest types within the project area.

### 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: Jeff Collins, Hydrologist; Jon Hayes Southwest Land Office Silviculturist; Grant Bronk, Conservation Easement Land Steward Montana Fish Wildlife and Parks and Jay Kolbe, biologist with Montana Fish, Wildlife and Parks

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

Slash burning will be conducted in accordance with the rules and regulations outlined in statewide cooperative agreements as well as any local restrictions. Montana Fish Wildlife and Parks were sent a letter of notice containing the criteria set forth in the North Chamberlain Conservation Easement. The proposed treatment area lies entirely within this easement.

#### 3. ALTERNATIVES CONSIDERED:

**No Action Alternative:** The proposed harvest and pre-commercial thinning would not occur at this time. Current land use activities would continue.

**Action Alternative:** Under this alternative, DNRC would continue current uses, and also harvest overstory trees that contain one or more of the following: have been infested by mountain pine beetle, have forked tops, crook, sweep, bole damage or Douglas-fir that are encroaching on ponderosa and western larch overstory and understory trees. (Attachment A-1 Harvest Map) Following the commercial harvest a pre-commercial thinning

treatment will occur in the area (Attachment A-2). Timber would be harvested using ground based methods. A 100 foot limited harvest zone will be implemented along the Chamberlain road following mitigation measures outlined in the North Chamberlain Conservation Easement.

### III. IMPACTS ON THE PHYSICAL ENVIRONMENT

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

#### 4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

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

No unstable slopes or especially unique geology features are present. Soils are well drained and tend to be droughty with a long season of use. No high erosion potential soils were identified and there are minimal effects of disturbance from historic use.

All operations would be ground based and operations would not occur on slopes greater than 45% or when soils are conducive to erosion or rutting. Slash would be piled and burned, yet retain a component of fine litter and coarse woody debris on the ground. The stand has an overstocked understory so planting seedlings will not be necessary following the harvest.

Localized silty clay soil occurs along an existing access road and is prone to rutting if operated on when wet. Previous selection harvest was mainly on moderate slopes and skid trails have revegetated, yet there was considerable past disturbance and low cumulative effects. General skid trail planning is proposed to use suitable portions of existing skid trails to minimize cumulative effects. The harvest of overstocked trees will improve tree spacing and should reduce competition for limited soil moisture and nutrients and improve growth of retained trees. Planned ground skidding operations should have low to moderate risk of direct, in-direct and cumulative impacts based on implementing BMP's and mitigation measures. Mitigations include season of use limits, and retaining a portion of woody debris for nutrient cycling and moisture retention, while providing of hazardous fuel reduction and prompt re-vegetation as needed to protect soil resources.

#### 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.*

The proposed harvest unit is located in Sections 2, 3, 4 & 11 T14N R13W. There are no streams within or adjacent to the proposed harvest units and there would be no effects of the proposed harvest operations on water quality or riparian areas. No new roads are proposed. The haul route to section 2 would follow the River Junction road that crosses Pearson Creek. The current crossing will not safely allow hauling traffic and there is sediment entering the stream at the failing bridge site. The bridge is planned for replacement prior to use.

The proposed project has very low risk of direct, indirect or cumulative effects to water quality based on the following considerations. The salvage, thinning and improvement harvest is small scale project of about 102 acres mainly on gentle to moderate slopes and well drained soils. No streams occur within the harvest units and no SMZ harvest is proposed and operations are consistent with conservation easement requirements. No sites with high erosion risk or water quality impacts were identified that would be affected. The project is not in a Municipal watershed. Skid 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.

The harvest of mainly dead, dying and beetle infested pine and thinning of Douglas-fir is not expected to have a measurable influence on: water quality, the amount or timing of runoff (water yield), or stream stability from the proposed project area when compared to the effects anticipated under no action. In summary, the proposed harvest operations presents low risk of direct, in-direct and cumulative impacts based on implementing BMP's, Forest Management Rules and mitigation measures.

## 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 located within Montana Airshed 3B which encompasses portions of Missoula and Powell Counties. Currently, this Airshed does not contain any impact zones.

**No Action Alternative:** Under the No Action Alternative, no slash piles would be burned within the project areas. Thus, there would be no effects to air quality within the local vicinity and throughout Airshed 3B.

**Action Alternative:** 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 affects to the local airshed and the Class I Areas. Thus, cumulative effects to air quality due to slash pile burning associated with the proposed action would also be expected to be minimal.

Cumulative effects to air quality would not exceed the levels defined by State of Montana Cooperative Smoke Management Plan (1988) and managed by the Montana Airshed Group. Prescribed burning by other nearby airshed cooperators (for example the U.S. Forest Service) would have potential to affect air quality. All cooperators currently operate under the same Airshed Group guidelines. The State, as a member, would burn only on approved days. This should decrease the likelihood of additive cumulative effects.

Harvesting operations would be short in duration and will occur during the winter months. Thus, direct, indirect, and cumulative effects to air quality due to harvesting and hauling associated with the proposed action would be minimal.

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## 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.*

**No Action Alternative:** No harvest would occur at this time, poor quality Douglas-fir trees would continue to absorb nutrients that could be utilized by the desired understory. Mountain pine beetle would likely continue to infest and kill lodgepole pine and ponderosa pine within the DRNC ownership and surrounding area. Some of the dead trees would likely be blown down or cut for firewood, creating openings within the stands. Over time, some natural conifer regeneration would probably establish in areas with a seed source and favorable microclimate. It is likely that illegal firewood cutting would continue to take place within the proposed harvest area.

**Action Alternative:** DNRC would harvest overstory trees that contain one or more of the following: have been infested by mountain pine beetle, have forked tops, crook, sweep, bole damage or Douglas-fir that are encroaching on ponderosa and western larch overstory and understory trees from the 102 acre project area. A 100 foot limited harvest zone will be implemented along the Chamberlain road following mitigation measures outlined in the North Chamberlain Conservation Easement. The intent of this treatment is to prep the area for a pre-commercial thin by removing substandard overstory trees that rob water, nutrients and sunlight from the understory stand. This understory stand will be vital in the future to serve as a timber source. Pre-commercial thinning activities will be implemented following the harvest. This will require additional approval from Montana Fish Wildlife and Parks to ensure all requirements of the conservation easement are being met.

Multiple top ponderosa pine and snags will be retained for wildlife trees.

No Old Growth has been observed or identified in the project area.

No rare plants have been identified in the project area. Noxious weeds can be found along access roads and on open sites within the project area. Spot spraying these areas will occur following harvesting treatments. To limit the spread of weeds under the proposed action, all equipment would be clean of mud and weed seed to prevent the introduction of noxious weeds, and would be inspected by the DNRC. The project area would be monitored for new weed infestations following the proposed activities.

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## 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 harvest or road activities are planned near streams or in RMZ (Riparian Management Zone) adjacent to streams and there would be no proposed project related impacts to stream channel stability, sedimentation or habitat components of connectivity, large woody debris or water temperature. No new roads or stream crossing are proposed. There is very low risk of direct, in-direct or cumulative effects to threatened or sensitive fish or aquatic life with the proposed action as outlined in the hydrology and aquatic life sections.

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## 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.*

**Fisheries:** No threatened or endangered aquatic species habitat or wetlands would be affected. No harvest or road activities are planned near streams or in RMZ adjacent to streams and there would be no proposed project related impacts to stream channel stability, sedimentation or habitat components of connectivity, large woody debris or water temperature. There is very low risk of direct, indirect or cumulative effects to threatened or sensitive fish or aquatic life with the proposed action as outlined in the hydrology and aquatic life sections.

**Grizzly Bear (*Ursus arctos*):** The proposed action would maintain a 100 foot limited harvest buffer along open roads. This buffer (including overstory, understory and topography) will maintain hiding cover that will obstruct from view 90% of an adult grizzly bear. This mitigation will reduce the potential for grizzly bear-human

interactions. As a result there would likely be a low risk of direct, indirect, or cumulative effects to grizzly bears from the proposed action.

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## 10. HISTORICAL AND ARCHAEOLOGICAL SITES:

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

If any archaeological sites are found, they would be protected. No direct, indirect, or cumulative effects to cultural resources are expected as a result of the proposed action.

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## 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.*

**No Action Alternative:** If the no action alternative is selected, patches created by dead trees and illegal firewood cutting will exist. Overstory trees of poor quality would continue to exist on the landscape giving the area a "high graded" look. The understory would continue to grow in thick patches blocking the overall view of the area and choking out native grasses and shrubs.

**Action Alternative:** Portions of the proposed sale would be visible from the Chamberlain Creek Road. However a 100 foot limited harvest buffer along the main Chamberlain Creek Road will limit the visibility of the harvest activities. Following the commercial harvest and the pre-commercial thin areas beyond the buffer will display a variable spaced overstory with quality ponderosa pine, Douglas-fir and western larch existing in the overstory. Scattered wildlife trees will also exist. The understory will be spaced out with vigorous ponderosa pine and western larch.

Through the proposed sale area, slash from the harvest and pre-commercial thinning activities 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. 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 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.

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## 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.*

Minimal impacts are likely to occur under either alternative.

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## 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.*

***The following timber sale was completed in the general area recently:***

Pitch Tube Baby: Sec 16 T14N R14W  
Holy Beetles: Sec 2 T14N R14W.  
Rudge Ridge: Section 2T14N R14W.  
Cleared Up: Section 32 T15N R14W  
Ride the Pine: Section 16 T15N R12W

## IV. IMPACTS ON THE HUMAN POPULATION

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

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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 appropriate locations on access roads would be used to warn motorists and local residents. Harvesting along the open road may cause short traffic delays.

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### 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 small, temporary increase in industrial activity during implementation. The proposed action would include timber harvesting and log hauling.

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### 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 time jobs would be created for the duration of the proposed action.

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### 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.

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### 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.

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### 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 operates under the State Forest Land Management Plan (SFLMP, DNRC 1996) and Administrative Rules for Forest Management (ARM 36.11.401 through 450, DNRC 2003). The SFLMP established the agency's philosophy for management of forested trust lands. The Administrative Rules provide specific guidance for implementing forest management projects. The North Chamberlain Conservation Easement provides specific guidelines for timber management activities in the Chamberlain Creek drainage.

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### 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, snowmobiles and hunters and motorists. All current recreation opportunities would continue under the proposed action. Portions of the project area are along an open road that has made it easily accessible for illegal firewood cutting.

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**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.*

Direct implications for density and distribution of population and housing are unlikely.

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**22. SOCIAL STRUCTURES AND MORES:**

*Identify potential disruption of native or traditional lifestyles or communities.*

No measurable impacts related to social structures and mores would be expected.

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**23. CULTURAL UNIQUENESS AND DIVERSITY:**

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

No measurable impacts related to cultural uniqueness and diversity would be expected under either alternative.

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**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.*

Direct costs associated with this project are estimated to be \$20,400.00. This figure is achieved by multiplying the estimated number of acres 102 by estimated cost per acre \$200.00 This cost estimate is assumed from previous projects. The most recent pre-commercial thinning contract yielded a cost per of \$149.00 and required a higher amount of piling. The assumed cost should be recovered, by a net increase in growth, thus lessening rotation between harvests by up to thirty years.

This project should return to the trusts involved approximately \$1,278.20 in stumpage (\$2.61/ton appraised price) and \$2,190.00 (\$4.47/ton) in forest improvements. Stumpage payments for non-sawlog material would be charged \$100.00 to be paid lump sum if requested. The overall cash flow to the trust looks rather minimal but the intent of the project is to return the stand to a condition where the desired tree species dominate the overstory and understory.

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. A recent revenue-to-cost ratio of the Southwestern Land Office was 2.43. This means that, on average, for every \$1.00 spent in costs, \$2.43 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.

<b>EA Checklist Prepared By:</b>	<b>Name:</b> Amy Helena	<b>Date:</b> 9/6/11
	<b>Title:</b> Management Forester	

**V. FINDING**

**25. ALTERNATIVE SELECTED:**

Action Alternative

**26. SIGNIFICANCE OF POTENTIAL IMPACTS**

This Environmental Analysis has been completed for Stilt Timber Permit and pre-commercial thinning. After a thorough review of the EA, project file, Department policies, standards and guidelines, and the State Land Management Rules, I have taken the decision to choose the Action alternative. I have found that this EA and project will achieve the following:

This project will remove trees infested by mountain pine beetle, have forked tops, crook, sweep, bole damage or Douglas-fir that are encroaching on ponderosa and western larch overstory and understory trees. It will also begin to manage stands that were treated by the former owners a desired future condition that was different than the Montana DNRC. The pre-commercial thinning will reduce competition and will enhance the growth of the reserved trees. This is explained in EA 7. Vegetation Cover, Quantity and Quality, EA part 24 Other Appropriate Social and Economic Issues, and is required by law in MCA 77-5-207. The No Harvest Alternative that is discussed within part 3 of the EA will not achieve the law described within MCA 77-5-207 Salvage timber program.

**27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:**

EIS

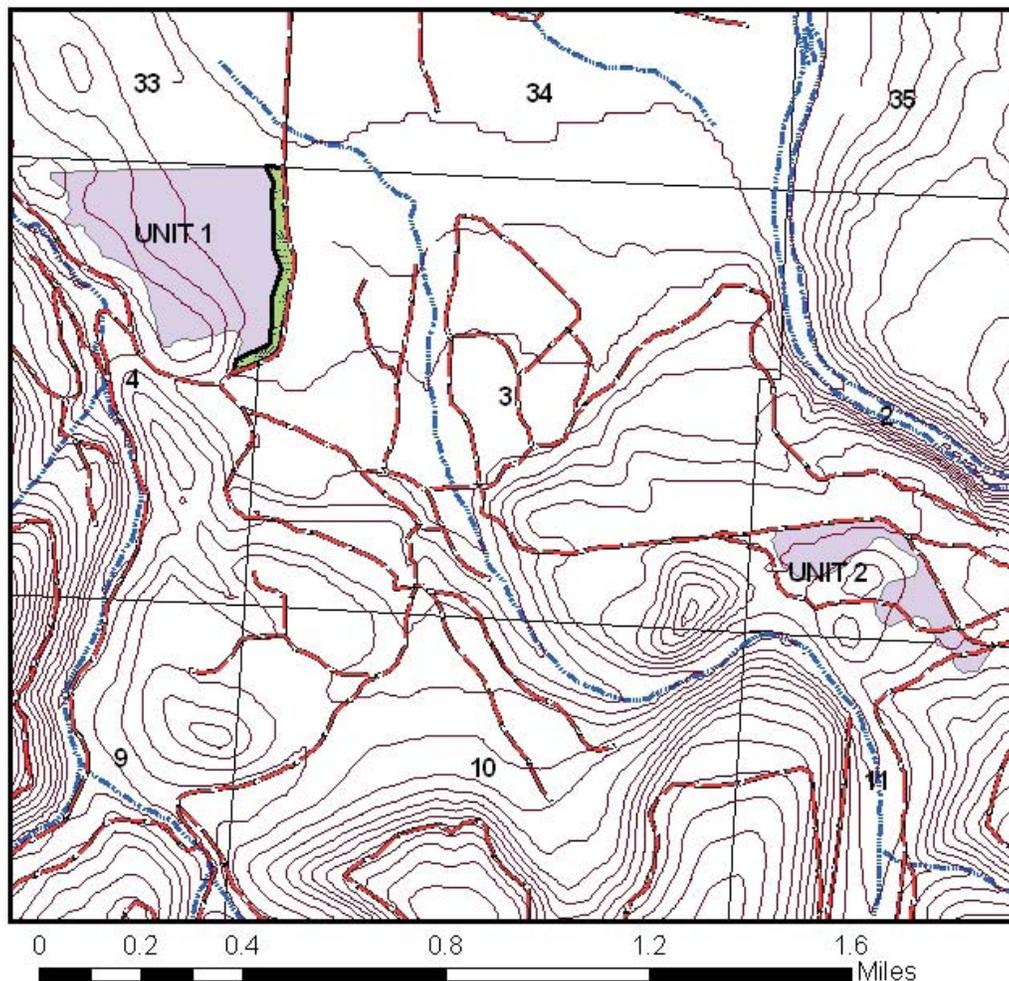
More Detailed EA

No Further Analysis

<b>EA Checklist Approved By:</b>	<b>Name:</b> Craig V. Nelson
	<b>Title:</b> Supervisory Forester
<b>Signature:</b> /s/ Craig V. Nelson	
<b>Date:</b> September 8, 2011	



**THE STILT**  
**Sections 2,3,4 & 11 T14N R13W**  
**DNRC-CLEARWATER UNIT**



Remove all lodgepole pine. Remove Douglas-fir that will make a sawlog to a 5.6" top. Douglas-fir greater than 10" dbh that are unmerchantable because of defect (crook, sweep, etc.) shall be removed as pulp. Remove mountain pine beetle infested ponderosa pine as well as forked top ponderosa pine. Retain ponderosa pine that contain more than two tops for wildlife trees.

Do not harvest trees within 100 feet from the open road (flagged in orange and painted with two orange dots) unless they have an orange horizontal stripe around the bole of the tree.

No landings or skid trails shall exist within the 100 foot buffer.



	Chamberlain Units		Roads
	Road Buffer		Streams

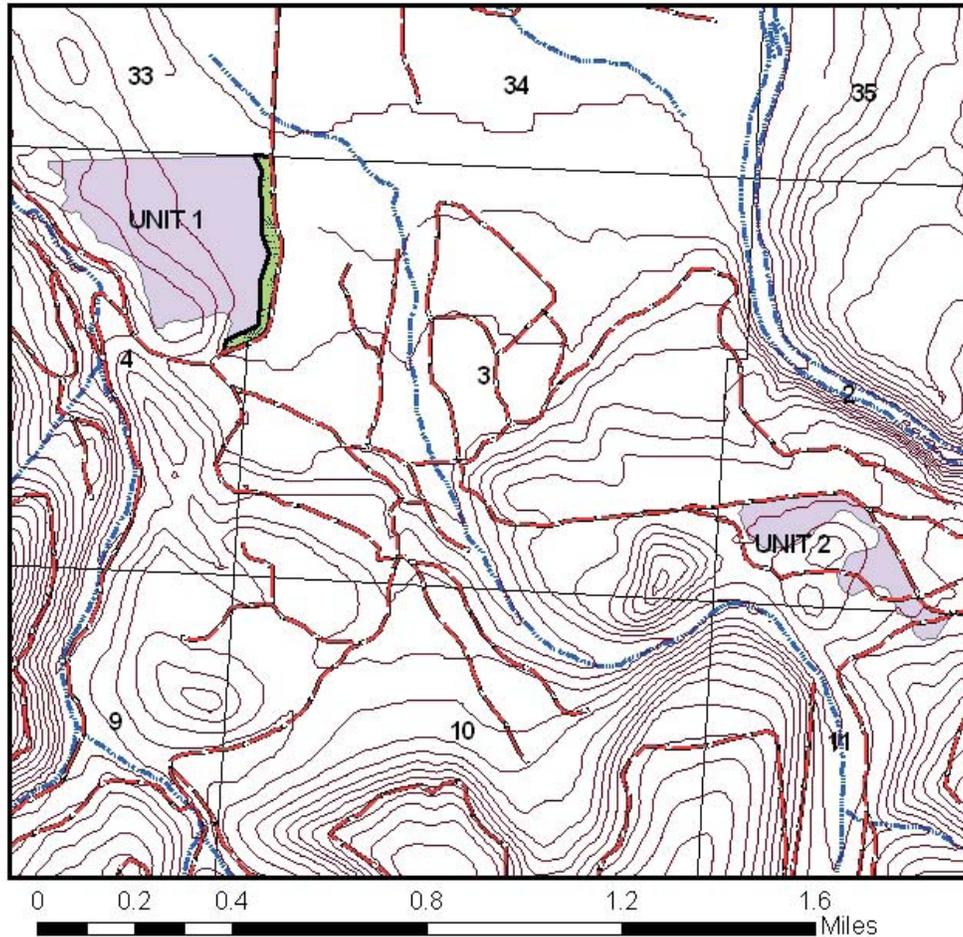
Unit Boundary: Blue flags and blue painted three stripe  
 Buffer Area: Orange flags and Orange two dot

UNIT 1: 78 Acres  
 UNIT 2: 24 Acres

AMH  
 4/6/2011

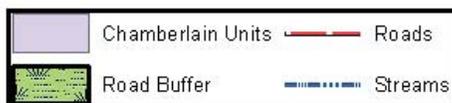


Chamberlain start over PCT  
Sections 2,3,4 & 11 T14N R13W  
DNRC-CLEARWATER UNIT



Leave only those trees exhibiting quality characteristics (no forked tops, crook, disease or insects) on a 14' X14' spacing. No lazy straps, high stumps or live limbs will be permitted. The species order of preference is WL, PP, DF.

No thinning will take place within 100 feet from the open road (flagged in orange and painted with two orange dots) unless they have an orange horizontal stripe around the bole of the tree.



Unit Boundary: Blue flags and blue painted three stripe  
Buffer Area: Orange flags and Orange two dot

UNIT 1: 78 Acres  
UNIT 2: 24 Acres

AMH  
4/6/2011