

DNRC - Trust Land Management Division

# CHECKLIST ENVIRONMENTAL ASSESSMENT

FOR THE

MIDDLE SARPY TIMBER SALE

**RECEIVED**

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LEGISLATIVE ENVIRONMENTAL  
POLICY OFFICE

Prepared by Chris Pileski  
Eastern Land Office-DNRC  
January 2008

**Middle Sarpy Timber Sale  
Formal Public Review Distribution List**

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## CHECKLIST ENVIRONMENTAL ASSESSMENT

<b>Project Name:</b>	Middle Sarpy Limited Access Timber Sale
<b>Proposed Implementation Date:</b>	February 2008-April 2009
<b>Proponent:</b>	Southern Land Office of the Department of Natural Resources and Conservation
<b>Location:</b>	All Section 36 Township 1N Range 37E in the Sarpy Creek Drainage of the Yellowstone River in Southeastern Montana.
<b>County:</b>	Big Horn

### I. TYPE AND PURPOSE OF ACTION

The Southern Land Office (SLO) of the Montana Department of Natural Resources and Conservation (DNRC) is proposing a commercial timber harvest approximately 26 miles east of Hardin in Section 36 Township 1N Range 37E (Attachment 1, Vicinity Map). Under the proposed action, DNRC would harvest approximately 1000-1500 tons of ponderosa pine from approximately 80 acres of timber land within the southern half of Section 36. The purposes of the action are to: (1) reduce stocking levels to a more historic, pre-fire suppression stand density, while maintaining the stand size and age class structure, (2) take advantage of an access opportunity presented to the DNRC to manage previously inaccessible timbered stands, and (3) generate revenue for the Common Schools Trust. Approximately 1-2 miles of existing road on both state and private land may be used as designated haul routes. Approximately 0.5 -1 mile of temporary spur roads may be constructed to further accommodate log hauling. Temporary spur roads would be reclaimed through moving the berm back onto the road surface, mechanical surface scarification and surface broadcast seeding of native grass species. An estimated \$11,500-\$17,250 in revenue to the Common Schools Trust would be generated through the implementation of the Action Alternative.

The lands involved in this proposed project are held by the State of Montana in trust for the Common Schools (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) and the Administrative Rules for Forest Management (ARM 36.11.401 through 450) as well as other applicable state and federal laws.

### 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 sent scoping letters on November 8, 2007 to lessees, adjacent landowners, and other interested parties including Fish, Wildlife, and Parks. A public notice was run in the Big Horn County News on November 15 & 22, 2007. Two written comments were received and used to identify issues relevant to the impacts analysis. DNRC specialists were also consulted, including: Jeff Schmalenberg, Soil Scientist; Patrick Rennie, Archeologist.

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

No permits required and no other agencies with jurisdiction.

#### 3. ALTERNATIVES CONSIDERED:

**NO ACTION:** Current land use activities of grazing and recreation would continue without change. Increased fire hazard may occur as more ponderosa pine encroachment invades grassland areas and as stands become more heavily stocked and stagnant.

**TIMBER HARVEST ALTERNATIVE:** This alternative would continue the current land use of grazing and would also incorporate a commercial timber harvest on approximately 80 acres. The proposed commercial timber harvest would remove approximately 1000-1500 tons of sawlog material along with an additional 500-1000 tons

of pulp material (Attachment 1, vicinity and project maps). The proposed commercial harvest would be an individual tree selection harvest attempting to reduce stocking levels to a more historic, pre-fire suppression stand density, while maintaining the stand size and age class structure. The harvest would attempt to emulate a low intensity high frequency or non lethal fire regime that would historically have been expected on this site. A target basal area (BA) per acre for these stands would range from 10-20 sqft depending on existing stocking levels and stand structure. The remaining stand would consist of trees of all size classes favoring trees with good form, crown, and vigor. The harvest activity may require the construction of approximately 0.5 -1 mile of temporary spur roads and the use of approximately 1-2 miles of existing road on both state and private land as designated haul routes. All temporary spur roads would be closed and reclaimed upon completion of the sale.

### 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.*

Geology of the area is Fort Union Formation, siltstones, sandstones, clay shale and scoria (porcellinite) which are exposed on ridges. There are several badland bluffs in the area that have natural high rates of erosion, but no unusual geologic features occur on the state tract and slope stability is not expected to be affected by this project. The Thedalund-Wibaux complex is the only soil map unit that will be operated on. These soils are shallow to moderately deep, loamy in texture and pose a moderate to high erosion risk. Displacement and compaction risk is moderate. Soil disturbance would occur on new temporary roads and to a lesser extent in the skid trail locations. Impacts from skidding activities would be mitigated mostly by the scattered nature of the timber, dispersing the skidding activity over a large area. Planned ground skidding operations should have low risk of direct, in-direct and cumulative impacts based on implementing Montana Best Management Practices (BMP's) and mitigation measures. Mitigations include temporary use roads, season of use restrictions, general skid trail planning for selected draw crossing and avoiding steep slopes, protecting isolated wetlands and prompt re-vegetation of roads and landings 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.*

Due to the low precipitation, the lack of perennial streams, temporary road construction, closure and seeding of the temporary roads after use, and the selective nature of the harvest, there would be a low risk of direct or indirect impacts to water quality, and cumulative impacts are not likely. BMPs and site specific mitigations, to control erosion and protect water quality would be implemented. Planned harvest operations and temporary roads present low risk of direct, in-direct and cumulative impacts based on the implementing BMP's and mitigation measures. Mitigations include temporary use roads, season of use restrictions, protecting isolated wetlands and prompt re-vegetation of roads and landings to protect soil resources.

#### 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.*

Particulate would be released into the atmosphere when the slash piles are burned. Slash would only be ignited when ambient air conditions are suitable and air dispersal flows are adequate to lift the smoke into the winds aloft for rapid and thorough dispersal. Environmental conditions required prior to ignition must include adequate snow cover on the ground surface with a long-term forecast of continued low temperatures during daylight

hours. There would likely be minimal direct, indirect and cumulative impacts on air quality as a result of the proposed action.

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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.*

The project area consists of mixed grass and ponderosa pine types with smaller amounts of Rocky Mountain juniper interspersed throughout. The ponderosa pine generally occurs along the upland areas and in the swale and draw features associated with the uplands. Current stocking levels are approximately 60sqft BA with approximately 90 trees per acre (TPA) greater than 5 inches DBH.

DNRC has adopted the old-growth definitions proposed by Green et al. (1992: Old Growth Forest Types of the Northern Region, R-1 SES 4/92, USDA Forest Service, Northern Region, Missoula, MT). Tree ages were sampled from a range of size classes and it was determined that there are no stands within the project area and subsequent harvest units that meet the definition of old growth. A representation of old age trees would be retained in harvest units where they occur. The silvicultural prescription calls for Individual Tree Selection harvest of trees from all size classes in an attempt to emulate a low intensity high frequency or Non-Lethal fire regime that would have historically occurred on this site prior to intensive fire suppression efforts that the stand has evolved in. The prescription calls for lowering stocking levels to 10-20 square feet of basal area per acre, depending on current stocking levels while maintaining the stands size and age structure by leaving trees from all size and age classes. The long-term plan for this stand is to maintain the multi-aged structure while maintaining the decreased stocking levels through periodic re-entry. Where available, DNRC would retain one snag and one snag recruit per acre throughout the harvest unit. Preferred diameter of snags is greater than 21 inches. However, snags of this diameter are virtually non-existent throughout the project area; therefore, DNRC would retain the next largest available size.

The Montana Natural Heritage Program (MNHP) was contacted and their search found no recorded threatened, endangered, or sensitive plant species within their analysis area. No occurrences of noxious weeds were observed in the project area during presale reconnaissance, however, infestations of Canada thistle have been observed in the Middle and Main Forks of Sarpy Creeks. To prevent introduction of new weeds, off-road equipment would be cleaned and inspected prior to entry into harvest areas. Due to the selective nature of the proposed harvest and contract mitigation measures, minimal direct, indirect, and cumulative impacts to vegetative communities are likely to occur as a result of the proposed activity.

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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.*

Section 36 is used by a wide variety of wildlife species including: mule deer, whitetail deer, elk, Merriam's turkey, amphibians, cottontail rabbits, various raptors, and migratory birds. The section contains approximately 130 acres of ponderosa pine forest cover type, 315 acres of grassland, 110 acres of shrubland, and 84 acres of ground that has been previously mined. DNRC would remove approximately 1000 – 1500 tons of ponderosa pine from 80 acres of the forested land, subsequently reducing canopy cover. Habitat quality for wildlife associated with denser forest canopies may be reduced in the short term. Conversely, habitat quality for species that use more open habitats may be improved in the short term. Over time, sub-merchantable trees would grow to create denser canopy conditions. Where available, DNRC would retain one snag and one snag recruit per acre throughout the harvest unit, thereby providing potential foraging and nesting habitat for various species.

DNRC timber harvest operations would take place over a period of time not to extend beyond 6 months. Wildlife such as elk, mule deer and to a lesser extent, whitetail deer may be temporarily displaced during DNRC harvest activities but their inherent mobility coupled with surrounding un-harvested areas on adjacent properties should provide security and other habitat needs during the displacement period.

Grassland associated species could be temporarily disturbed by traffic associated with harvest operations. Approximately 1-2 miles of existing road on both state and private land may be used as designated haul routes and approximately 0.5 -1 mile of temporary spur roads may be constructed to further accommodate log hauling. Temporary spur roads would be reclaimed through moving the berm back onto the road surface, mechanical surface scarification and surface broadcast seeding of native grass species. Harvest operations would be temporary and short in duration, thereby limiting any potential displacement period. No harvest activities are proposed adjacent to any known fish-bearing streams. Due to the short duration, small size and selective nature of this harvest, the selective nature of harvest on surrounding ownership, and the surrounding large un-harvested areas, direct, indirect, and cumulative impacts on terrestrial, avian, and aquatic habitats are likely to be minimal as a result of the proposed action.

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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.*

The MNHP was contacted and a search of their data base identified the occurrence of the Western Hognose Snake within the analysis area. The Western Hognose Snake is listed as a sensitive species with both the Bureau of Land Management and the US Forest Service. Several specialists were contacted concerning this species during the scoping and project development phase of the East Sarpy Salvage Timber Sale and their recommendations are contained in the project file. Those recommendations have also been incorporated into this project. There are no known threatened and endangered (T & E) species in this general area. There are no documented studies suggesting the existence of T & E species in this area. There are no limited environmental resources within this area. The small size and selective nature of the sale and the existing surrounding habitat would likely create minimal direct, indirect, and cumulative impacts as a result of the proposed activity.

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**10. HISTORICAL AND ARCHAEOLOGICAL SITES:**

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

The DNRC staff archaeologist was contacted and found there to be no documented cultural or paleontologic resources in the proposed project area.

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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.*

The proposed harvest would produce temporary visual impacts. This effect would be mitigated over time as the disturbed sites recover and the slash piles are burned. The surrounding region is lightly populated which would result in the temporary visual impact distributed over a limited population size. For these reasons, along with the scattered nature of the timber and grasslands direct, indirect, and cumulative impacts are expected to be minimal as a result of the proposed activity.

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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.*

The project would not use resources that are limited in the area. The selective harvest on adjacent ownership and vast un-harvested areas would have minimal direct, indirect, and cumulative effects on limited resources.

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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.*

This section is leased for coal development and is within the current mine permit boundary of Westmorland Resources Inc. The north half of this section has been strip mined in the past. The area has been reclaimed and seeded back to native grass species and has areas planted back to ponderosa pine and Rocky Mtn juniper. The lessee contacted the DNRC by phone and in writing expressing their support for the proposed project. In that letter they also indicated that the mine has no further operations planned for the south half of this section. Other logging activity has and is currently taking place on surrounding private lands, these harvests are also selective in nature and cumulative impacts are expected to be minimal as a result of these harvests. No other state actions are under MEPA scoping that pertain to this analysis area.

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**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.*

Safety considerations and temporary risks may increase for the professional contractors working within the sale area, and possibly for public vehicle traffic on the highway and the county road while log trucks are hauling. There would be no unusual safety considerations associated with the proposed timber sale. The general public or local residents would not likely face increased health or long term safety hazards because of the proposed timber sale. Thus, direct, indirect, and cumulative effects of the proposed action to human health would be minimal.

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**15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:**

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

The section lies within the mine permit boundary of an active coal mine owned by Westmorland Resources Inc. Representatives of Westmorland Resources Inc. have indicated through a written response that they do not have any future mining plans for the remainder of this section.

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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.*

People are currently employed in the wood products industry in the region. Due to the relatively small size of the timber sale program, measurable direct, indirect, and cumulative impacts from this proposed action on employment are expected to be minimal.

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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.*

People are currently paying taxes from the wood products industry in the region. Due to the relatively small size of the timber sale program, measurable direct, indirect, and cumulative impacts from this proposed action on tax revenues would be minimal.

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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*

Due to the relatively small size of the timber sale program, the short-term impacts to traffic, the small possibility of a few people temporarily relocating to the area, and the lack of other timber sales in the adjacent area, measurable direct, indirect, and cumulative impacts related to demand for government services would be minimal.

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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.*

On June 17, 1996, the Land Board approved the State Forest Land Management Plan (SFLMP). The SFLMP provides the philosophy adopted by DNRC through programmatic review (DNRC, 1996). The DNRC will manage the lands in this project according to this philosophy, which states:

*Our premise is that the best way to produce long-term income for the trust is to manage intensively for healthy and biological 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.*

On March 13, 2003, the DNRC adopted Administrative Rules for Forest Management (Rules) (Administrative Rules of Montana [ARM] 36.11.401 through 450). The Rules provide DNRC personnel with consistent policy, direction, and guidance for the management of forested trust lands. Together, the SFLMP and Rules define the programmatic framework for this project.

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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.*

This parcel is completely land locked and there is no public access.

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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.*

Due to relatively small size of the timber sale program and the fact that people are already employed in this occupation in the region, measurable direct, indirect, and cumulative impacts related to population and housing would be minimal.

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**22. SOCIAL STRUCTURES AND MORES:**

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

No direct, indirect, or cumulative impacts would be expected with either alternative.

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**23. CULTURAL UNIQUENESS AND DIVERSITY:**

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

No direct, indirect, or cumulative impacts would be expected with 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 cumulative economic and social effects likely to occur as a result of the proposed action.*

The proposed economic return to the trust for this sale would be approximately \$11,500-\$17,250, which was calculated by taking the range of estimated volume multiplied by the estimated minimum bid rate. The estimated minimum bid rate was estimated by using comparable sales analysis.

Costs, revenues, and estimates of return are estimates intended for relative comparison of alternatives. They are not to be used as absolute estimates of return.

For FY 07, SLO had revenue to cost ratio of 1.14:1 and statewide DNRC had a ratio of 1.36:1.

<b>EA Checklist Prepared By:</b>	<b>Name:</b> Chris Pileski	<b>Date:</b> January 2, 2008
	<b>Title:</b> Forester	

**V. FINDING**

**25. ALTERNATIVE SELECTED:**

The timber harvest alternative is the selected Alternative.

**26. SIGNIFICANCE OF POTENTIAL IMPACTS:**

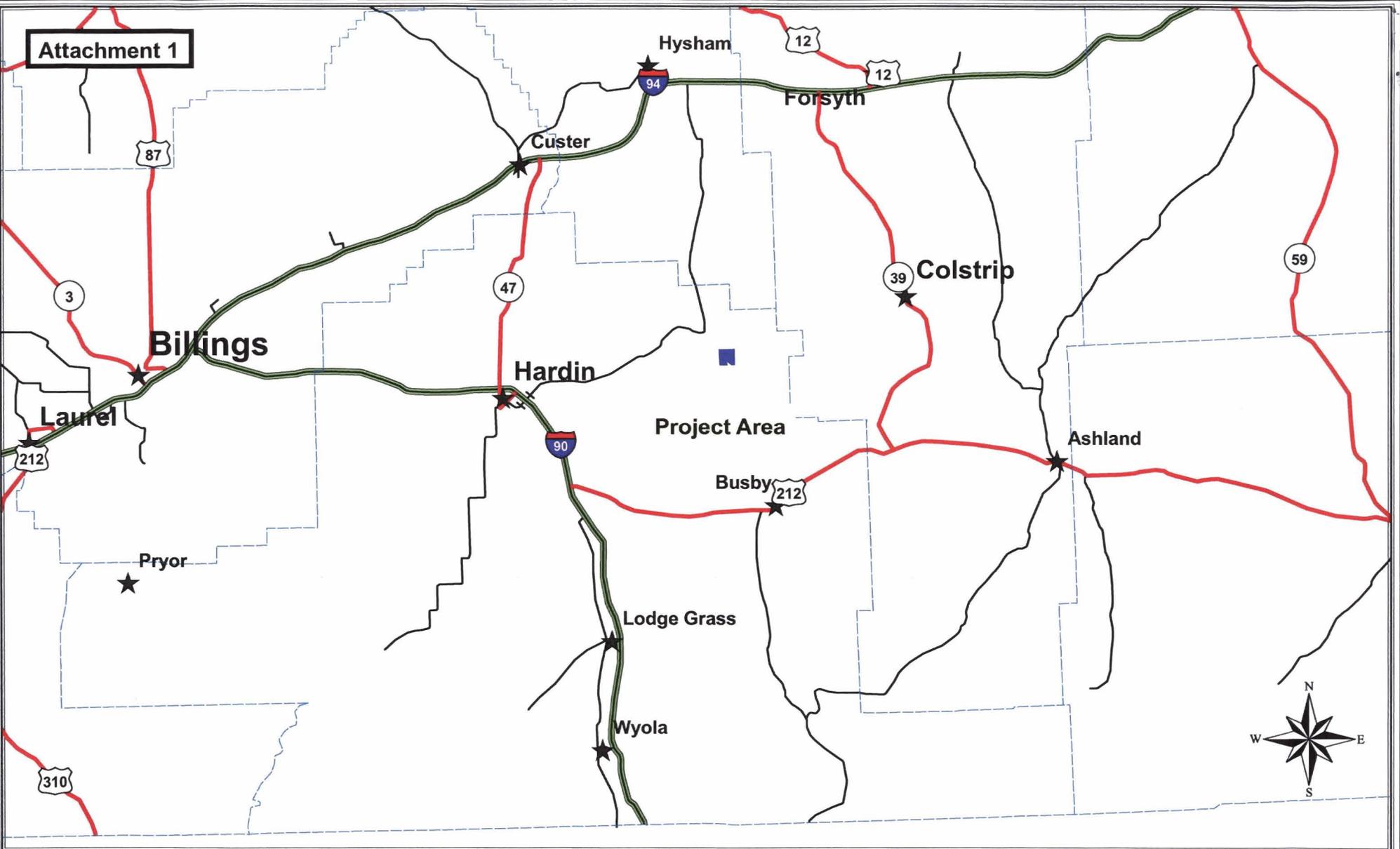
The commercial harvest of 1000-1500 tons of ponderosa pine on 80 acres of state land would not result in nor cause significant environmental impacts. The predicted environmental impacts would be adequately mitigated through the proposed timber sale plan, harvest prescription, operating period, unit boundaries, road layout, and contract stipulations. For these reasons, an environmental assessment checklist is the appropriate level of analysis for the proposed action. The lessee of record was contacted and their comments and or concerns were also incorporated into the proposed timber sale. Agency specialists were contacted and appropriate comments and concerns were incorporated into the proposed timber sale. The sale meets the intent, standards, and guidance of the SFLMP and administrative rules. The proposed harvest would satisfy the trust fiduciary mandate and treat the natural resources to increase long term production.

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

EIS       More Detailed EA       No Further Analysis

<b>EA Checklist Approved By:</b>	<b>Name:</b> Rick Strohmyer	
	<b>Title:</b> Area Manager	
<b>Signature:</b>	<i>Rick Strohmyer</i>	<b>Date:</b> 1-11-08

**Attachment 1**



**Legend**

- ★ Cities and Towns
- Interstate Highway
- County Boundary
- Project Area
- State Highway
- U.S. Route
- Secondary Highway



Map created 12/28/2007  
DNRC/ELO/CP

Attachment 1

# Middle Sarpy Creek Timber Sale Harvest Unit Map



--- Temporary Spur Roads

— Existing Roads

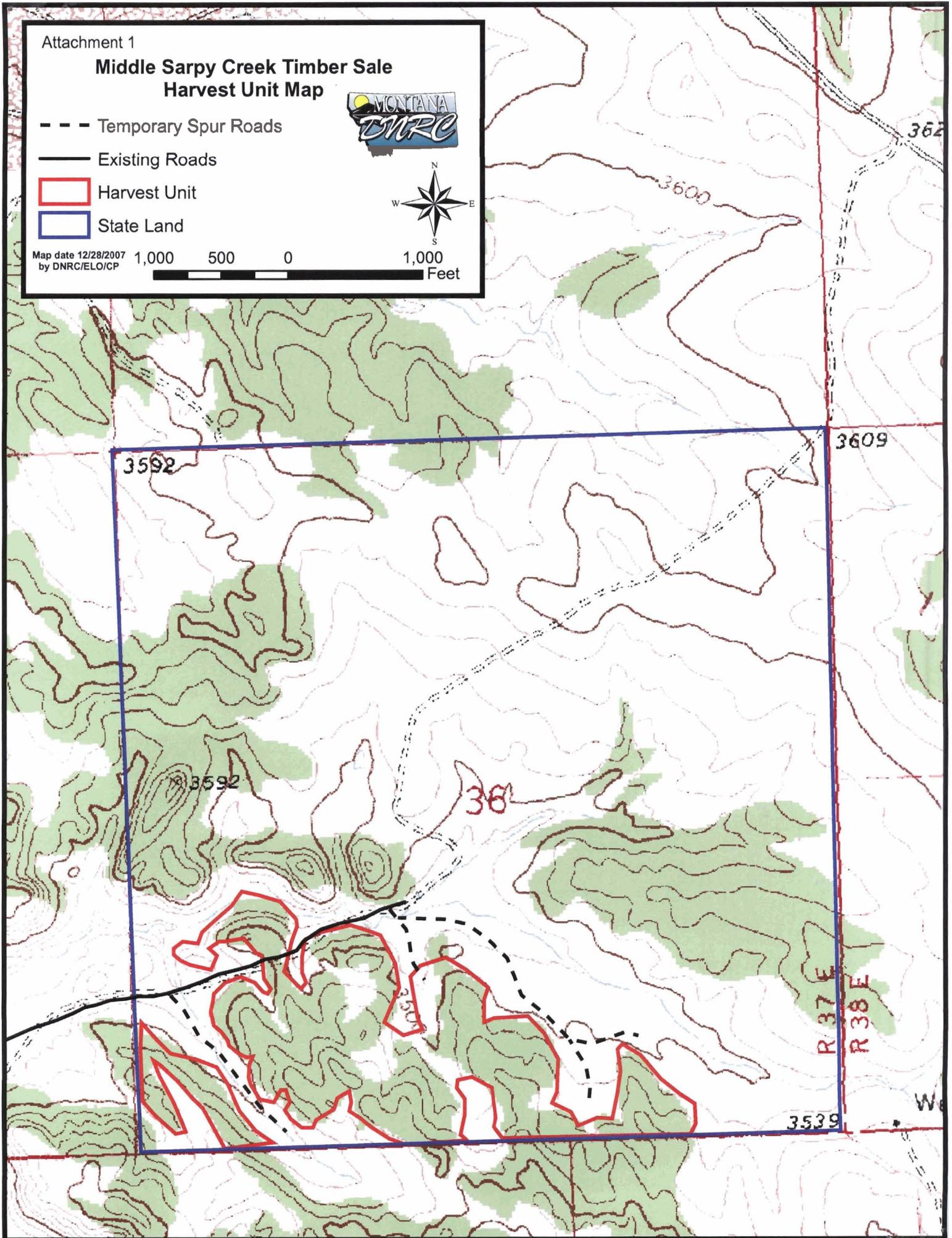
Harvest Unit

State Land

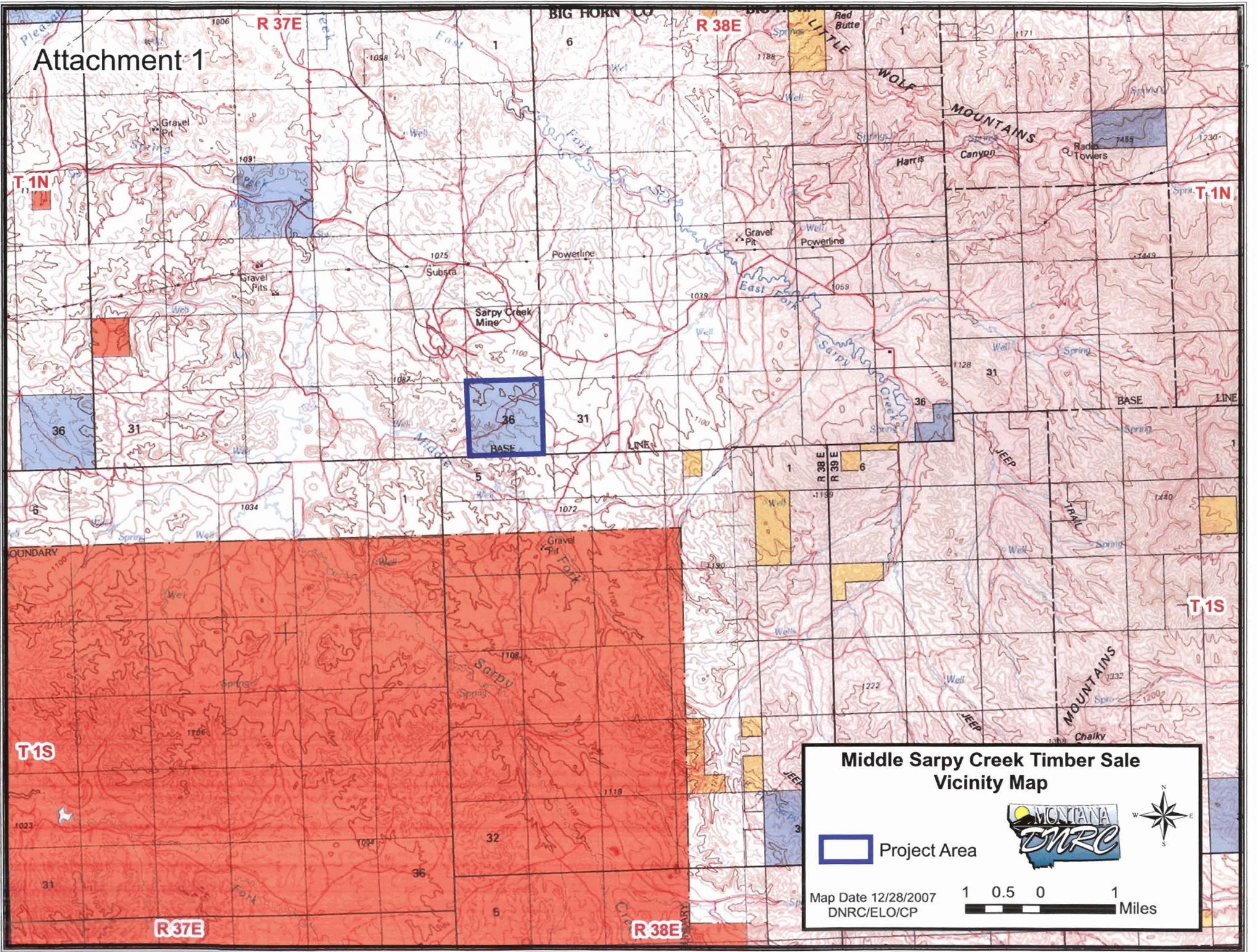


Map date 12/28/2007  
by DNR/ELO/CP

1,000 500 0 1,000  
Feet



# Attachment 1



**Middle Sarpy Creek Timber Sale Vicinity Map**

 Project Area



Map Date 12/28/2007  
DNRC/ELO/CP



