

## Environmental Assessment Checklist

**Project Name: Alkali Coulee Limited Access Timber Sale**  
**Proposed Implementation Date: November 2016**  
**Proponent: Lewistown Unit, Northeast Land Office, Montana DNRC**  
**County: Fergus Co.**

### Type and Purpose of Action

**Description of Proposed Action:**

The Lewistown Unit of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the Alkali Coulee Limited Access Timber Sale. The project is located 17 miles northwest of Lewistown (refer to attachments; vicinity map A-1 and project map A-2). It includes the following sections:

Beneficiary	Legal Description	Total Acres	Treated Acres
Common Schools	Sec. 36 T18N R16E	320	160

Objectives of the project include:

- Generate revenue for the common school trust
- Improve stand health and vigor by removing over mature and dead trees
- Reduce fuel loading
- Create natural regeneration
- Maintain habitat for local wildlife

Proposed activities include:

Action	Quantity
<b>Proposed Harvest Activities</b>	<b># Acres</b>
Clearcut	
Seed Tree	
Shelterwood	
Selection	160
Commercial Thinning	
Salvage	
<b>Total Treatment Acres</b>	<b>160</b>
<b>Proposed Forest Improvement Treatment</b>	<b># Acres</b>
Pre-commercial Thinning	
Planting	
<b>Proposed Road Activities</b>	<b># Miles</b>
New permanent road construction	2.7

Action	Quantity
New temporary road construction	
Road maintenance	
Road reconstruction	1.5
Road abandoned	
Road reclaimed	
<b>Other Activities</b>	

The lands involved in this proposed project are held in trust by the State of Montana. (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),
- Administrative Rules for Forest Management (ARM 36.11.401 through 471),
- and all other applicable state and federal laws.

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## Project Development

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### SCOPING:

- DATE:
  - August 26, 2016
- PUBLIC SCOPED:
  - The scoping notice was posted on the DNRC Website:  
<http://dnrc.mt.gov/public-interest/public-notice>
  - NELO Scoping List, State Wide Scoping list, Adjacent Landowners, and the Lewistown News-Argus
- AGENCIES SCOPED:
  - Montana FWP, Montana DNRC
- COMMENTS RECEIVED:
  - How many: 2
  - Concerns: One concern was expressed about the risk of sediment and erosion being discharged into Alkali Creek.
  - Results (how were concerns addressed): Streamside Management Zone Law is in place to mitigate the effects of sediment deposits and erosion.

DNRC specialists were consulted, including: Jeff Schmalenberg (Resource Management), Patrick Rennie (Archaeologist), Tim Spoelma (Silviculturalist), and Mike Anderson (Fisheries Biologist)

Internal and external issues and concerns were incorporated into project planning and design and would be implemented in associated contracts.

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

- **Montana Department of Environmental Quality (DEQ)**- DNRC is classified as a major open burner by DEQ and is issued a permit from DEQ to conduct burning activities on state lands managed by DNRC. As a major open-burning permit holder, DNRC agrees to comply with the limitations and conditions of the permit.
- **Montana/Idaho Airshed Group**- 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). As a member of the Airshed Group, DNRC agrees to burn only on days approved for good smoke dispersion as determined by the Smoke Management Unit.
- **Montana Department of Natural Resources and Conservations Forestry Division (DNRC)**- The DNRC TLMD would need to apply for an alternative practice to the Streamside Management Zone law in order to build a road in a class 1 streamside management zone.

## **ALTERNATIVES CONSIDERED:**

**No-Action Alternative:** This alternative would postpone timber harvest at this time. Probable effects of this alternative would be increases risk of disease and pine beetle damage and increased risk of stand replacing wildfire.

**Action Alternative:** Selectively harvest approximately 400 MBF (2800 tons) of ponderosa pine sawlogs with an optional harvest of 1000 tons of ponderosa pine pulp from approximately 160 acres. Forest health would be improved by leaving the best quality merchantable trees at 30-40 foot spacing. This alternative would produce income for the common school trust and decrease the risk of disease, insect damage, and stand replacing wildfire.

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## **Impacts on the Physical Environment**

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Evaluation of the impacts on the No-Action and Action Alternatives including **direct, secondary, and cumulative** impacts on the Physical Environment.

## **VEGETATION:**

**Vegetation Existing Conditions:** The project area consists of overstocked, even-aged ponderosa pine trees. No rare plants or cover types are present.

Vegetation	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
<b>No-Action</b>														
Noxious Weeds	X				X				X					1
Rare Plants	X				X				X					
Vegetative community		X			X					X				2
Old Growth	X				X				X					
<b>Action</b>														
Noxious Weeds			X				X			X			Yes	3
Rare Plants	X				X				X					4
Vegetative community			X		X					X			Yes	5
Old Growth	X				X				X					6

*Comments:*

- (1) A small population of Canadian thistle and houndstongue are established on site.
- (2) Reduced growth and increased mortality of even-aged ponderosa pine would continue due to an overstocked condition.
- (3) Mechanical treatment would increase ground disturbance and increase the potential spread of noxious weeds.
- (4) No rare plants were identified in the project area.
- (5) Species composition would be unaffected as harvesting activities would replicate natural disturbance regimes of this cover type.
- (6) There is no old growth in the project area.

*Vegetation Mitigations:*

- Noxious weeds would be sprayed within 20 feet of haul roads, slash piles and other timber harvest activities for three years following timber harvest.
- Disturbed areas would be replanted using native seed source grass seed.

**SOIL DISTURBANCE AND PRODUCTIVITY:**

**Soil Disturbance and Productivity Existing Conditions:** The three soil types identified in the proposed harvest area are Flasher-Tally-Rock outcrop, Doney-Wayden Complex, and Tally-Flasher complex. The soils listed are all classified as loamy sand with excessive drainage. These soils are low risk for compaction and a moderate risk for erosion.

Soil Disturbance and Productivity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
<b>No-Action</b>														
Physical Disturbance (Compaction and Displacement)	X				X				X				N/A	

Soil Disturbance and Productivity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Erosion	X				X				X				N/A	
Nutrient Cycling	X				X				X				N/A	
Slope Stability	X				X				X				N/A	
Soil Productivity	X				X				X				N/A	
<b>Action</b>														
Physical Disturbance (Compaction and Displacement)		X				X				X			Yes	1
Erosion		X				X				X			Yes	1,3
Nutrient Cycling		X				X				X			Yes	2
Slope Stability	X				X				X				Yes	1
Soil Productivity		X				X				X			Yes	2

*Comments:*

- (1) Standard erosion control measures would provide effective erosion prevention. No unstable slopes were observed in the project area.
- (2) 5-10 tons of coarse woody material (<3.0”) would be retained on site for nutrients critical for soil productivity.
- (3) Skid trails would be slashed on steep slopes to prevent excessive erosion.

*Soil Mitigations:*

- Limit equipment operations to periods when soils are dry (<20% soil moisture), Frozen or snow covered (12”packed or 18” unconsolidated).
- Limit equipment operation to slopes <45%.
- Retain 5-10 tons per acre of coarse woody material.
- Apply BMP’s for forestry concurrent with all activities.

**WATER QUALITY AND QUANTITY:**

**Water Quality and Quantity Existing Conditions:** The Alkali Coulee Timber Sale project area is located in the Alkali Creek watershed which is a tributary to Warm Spring Creek. A class one stream exists in the project area and does not support a fishery on state owned land. The Streamside Management Zone law (SMZ) and Forest Management Rules will be applied during implementation of the proposed actions which includes an alternative practice to the SMZ law. This alternative practice will allow the construction of 325 feet of road within the SMZ. This alternative practice presents a lower risk of sediment production and subsequent sediment transport than constructing this segment of road outside of the SMZ on much steeper slopes. By implementing this alternative practice, less road is necessary to implement the action alternative.

Water Quality & Quantity	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					

	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
<b>No-Action</b>														
Water Quality	X				X				X				N/A	
Water Quantity	X				X				X				N/A	
<b>Action</b>														
Water Quality		X				X				X			Yes	1
Water Quantity	X				X				X				N/A	

*Comments:*

- (1) Low probability of low level direct and secondary impacts to water quality are expected due to a lack of road stream crossings, implementation of water quality BMPs, and no timber harvest activities within the SMZ.

*Water Quality & Quantity Mitigations:*

- BMP's for forestry would be applied concurrent with all logging and hauling operations to mitigate sediment production and transport to water bodies or stream courses.
- The Streamside Management Zone Law would be applied to the stream in the project area.
- Montana Administrative Rules for Forest Management would be applied throughout the implementation of this project.

**FISHERIES:**

**Fisheries Existing Conditions:** There are no fish bearing streams in the proposed harvest area.

**No-Action:** No direct or indirect impacts would occur to affected fish species or affected fisheries resources beyond those described in Fisheries Existing Conditions. No cumulative effects associated with the No Action Alternative.

**Action Alternative (see Fisheries table below):**

Fisheries	Impact												Can Impact Be Mitigated?	Comment Number	
	Direct				Secondary				Cumulative						
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High			
<b>No-Action</b>															
Sediment	X				X				X						
Flow Regimes	X				X				X						
Woody Debris	X				X				X						
Stream Shading	X				X				X						
Stream Temperature	X				X				X						
Connectivity	X				X				X						
Populations	X				X				X						
<b>Action</b>															
Sediment		X				X				X			Y	1	

Fisheries	Impact												Can Impact Be Mitigated?	Comment Number	
	Direct				Secondary				Cumulative						
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High			
Flow Regimes	X				X				X						1
Woody Debris	X				X				X						1
Stream Shading	X				X				X						1
Stream Temperature	X				X				X						1
Connectivity	X				X				X						1
Populations	X				X				X						1

*Comments:*

- (1) The nearest fish bearing stream is roughly a mile away from the proposed project area. Due to a lack of connectivity and proximity to fish bearing streams, there is no risk of direct, indirect or cumulative impacts to fish habitat or aquatic life.

*Fisheries Mitigations:*

- Apply all BMP's for forest management activities concurrent with road construction, hauling and harvesting. Apply SMZ law to all streams within the project area and haul route.

**WILDLIFE:**

Note: There were no species of concern in this area as listed by the Montana Natural Heritage Program review.

**No-Action:** No changes to existing conditions would be anticipated, thus no habitat or species would be affected.

**Action Alternative (see Wildlife table below):**

Wildlife	Impact												Can Impact be Mitigated?	Comment Number	
	Direct				Secondary				Cumulative						
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High			
<b>Threatened and Endangered Species</b>															
<b>Canada lynx</b> ( <i>Felix lynx</i> ) Habitat: Subalpine fir habitat types, dense sapling, old forest, deep snow zone	X				X				X					N/A	1
<b>Wolverine</b> ( <i>Gulo gulo</i> )	X				X				X					N/A	1
<b>Sensitive Species</b>															
<b>Bald eagle</b> ( <i>Haliaeetus leucocephalus</i> )	X				X				X					N/A	2

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Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Habitat: Late-successional forest within 1 mile of open water														
<b>Black-tailed prairie dog</b> ( <i>Cynomys ludovicianus</i> ) Habitat: grasslands, short-grass prairie, sagebrush semi-desert	X				X				X				N/A	2
<b>Gray Wolf</b> ( <i>Canis lupus</i> ) Habitat: Ample big game populations, security from human activities	X				X				X				N/A	2
<b>Harlequin duck</b> ( <i>Histrionicus histrionicus</i> ) Habitat: White-water streams, boulder and cobble substrates	X				X				X				N/A	2
<b>Mountain plover</b> ( <i>Charadrius montanus</i> ) Habitat: short-grass prairie & prairie dog towns	X				X				X				N/A	2
<b>Peregrine falcon</b> ( <i>Falco peregrinus</i> ) Habitat: Cliff features near open foraging areas and/or wetlands	X				X				X				N/A	2
<b>Greater Sage grouse</b> ( <i>Centrocercus urophasianus</i> ) Habitat: sagebrush semi-desert	X				X				X				N/A	3
<b>Townsend's big-eared bat</b> ( <i>Plecotus townsendii</i> ) Habitat: Caves, caverns, old mines	X				X				X				N/A	2
<b>Big Game Species</b>														

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
Elk		X				X				X			Y	4
Whitetail		X				X				X			Y	4
Mule Deer		X				X				X			Y	4
Other														

*Comments:*

- (1) The project area occurs outside of the normal distribution of Canada Lynx and Wolverine in Montana. Thus, no direct, secondary or cumulative effects to these species would be anticipated.
- (2) The project area is either out of the range of the normal distribution for this species or suitable habitat is not present. Thus, no direct, secondary or cumulative effects would be anticipated.
- (3) The project area is not located in Greater Sage Grouse general habitat or core habitat and the nearest known lek site occurs ~8.5 miles southeast of the project area (survey date 1999).
- (4) For Big game species, the project duration would be short and ample hiding cover and winter cover would be retained in thinned stands. Disturbance associated with thinning activities could temporarily displace individual animals in the area. However, the project would be short in duration. There is no public access to the project area. Thus, minor adverse direct, secondary, and cumulative effects to these species would be expected.

*Wildlife Mitigations:*

- A minimum of one snag and one snag recruitment tree per acre, of the largest diameter class, would be retained. Cull live trees and cull snags would be retained where possible given human safety considerations.

**AIR QUALITY:**

Air Quality	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
<b>No-Action</b>														
Smoke	X				X				X				N/A	
Dust	X				X				X				N/A	
<b>Action</b>														
Smoke		X				X				X			Yes	1
Dust		X				X				X			Yes	2

Comments: (1) 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.

The project area is located within Montana Airshed Group 9 which encompasses major portions of eastern Montana. Few residential properties are found within the vicinity of this project.

(2) Harvesting and hauling logs could create dust, which may affect local air quality. However, because dust would be localized to skid trails and haul roads and operating seasons would be short in duration, effects to air quality as a result of dust generated during harvest activities are expected to be low.

- **Air Quality Mitigations:** *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.*
- *DNRC, as a member of the Montana/Idaho Airshed Group, would burn only on approved days.*

**ARCHAEOLOGICAL SITES / AESTHETICS / DEMANDS ON ENVIRONMENTAL RESOURCES:**

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
<b>No-Action</b>														
Historical or Archaeological Sites	X				X				X				N/A	1
Aesthetics	X				X				X				N/A	
Demands on Environmental Resources of Land, Water, or Energy	X				X				X				N/A	
<b>Action</b>														
Historical or Archaeological Sites	X				X				X				N/A	
Aesthetics	X				X				X				N/A	
Demands on Environmental Resources of Land, Water, or Energy	X				X				X				N/A	

*Comments:*

- (1) Scoping letters were sent to all Montana Tribal Nations. No response was returned that identified a specific cultural resource issue. A Class I (literature review) level review was conducted by the DNRC staff archaeologist for the area of potential effect (APE). This entailed inspection of project maps, DNRC's sites/site leads database, land use records, General Land Office Survey Plats, and control cards. The Class I search results revealed that no cultural or paleontological resources have been identified in the

APE, but it should be noted that Class III level inventory work has not been conducted there to date.

Because the topographic setting and geology suggest a low likelihood of the presence of cultural or paleontologic resources, proposed timber harvest activities are expected to have *No Effect to Antiquities*. No additional archaeological investigative work will be conducted in response to this proposed development. However, if previously unknown cultural or paleontological materials are identified during project related activities, all work would cease until a professional assessment of such resources can be made. Based on the lack of previously identified cultural resources, DNRC Archaeologist Patrick Rennie did not recommend additional investigative work. No direct, indirect, or cumulative effects to cultural resources are expected as a result of the proposed action.

*Mitigations:*

- If any archaeological sites or cultural resources are discovered, DNRC would suspend all operations in the vicinity of the cultural resource. Cultural resources, once discovered or identified, would not to be disturbed.

## Impacts on the Human Population

Evaluation of the impacts on the proposed action including direct, secondary, and cumulative impacts on the Human Population.

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
<b>No-Action</b>														
Health and Human Safety	X				X				X				N/A	
Industrial, Commercial and Agricultural Activities and Production	X				X				X				N/A	
Quantity and Distribution of Employment	X				X				X				N/A	
Local Tax Base and Tax Revenues	X				X				X				N/A	
Demand for Government Services	X				X				X				N/A	
Access To and Quality of Recreational and Wilderness Activities	X				X				X				N/A	
Density and Distribution of	X				X				X				N/A	

Will Alternative result in potential impacts to:	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
population and housing														
Social Structures and Mores	X				X				X				N/A	
Cultural Uniqueness and Diversity	X				X				X				N/A	
<b>Action</b>														
Health and Human Safety		X				X				X			Yes	1
Industrial, Commercial and Agricultural Activities and Production	X				X				X				N/A	
Quantity and Distribution of Employment	X				X				X				N/A	
Local Tax Base and Tax Revenues	X				X				X				N/A	
Demand for Government Services	X				X				X				N/A	
Access To and Quality of Recreational and Wilderness Activities	X				X				X				N/A	2
Density and Distribution of population and housing	X				X				X				N/A	
Social Structures and Mores	X				X				X				N/A	
Cultural Uniqueness and Diversity	X				X				X				N/A	

**Comments:**

- (1) Some minor additional short-term risk to health and human safety could be present related to increases in logging traffic during operations. Increases would be cumulative to existing traffic volumes and other land uses in the area.
- (2) State Land associated with this project has no legal public access and would have no impact on the ability of the public to recreate on these lands.

**Mitigations:** Signs at appropriate locations on county roads would be used to warn motorists and local residents of temporary increases in log truck traffic. No harvests are being complete along public roads

**Locally Adopted Environmental Plans and Goals:**

- None

**Other Appropriate Social and Economic Circumstances:**

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. The estimated stumpage is based on comparable sales analysis. This method compares recent sales to find a market value for stumpage. These sales have similar species, quality, average diameter, product mix, terrain, date of sale, distance from mills, road building and logging systems, terms of sale, or anything that could affect a buyer's willingness to pay.

**No Action:** The No Action alternative would not generate any return to the trust at this time.

**Action:** The timber harvest would generate additional revenue for the Common Schools Trust. The estimated return to the trust for the proposed harvest is \$16,800 based on an estimated harvest of 400,000 board feet (2800 tons) and an overall stumpage value of \$6.00 per ton. An optional harvest of pulp could generate revenue of \$1000.00 if the markets allow. 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.

## References

DNRC 1996. State forest land management plan: final environmental impact statement (and appendixes). Montana Department of Natural Resources and Conservation, Forest Management Bureau, Missoula, Montana.

**Does the proposed action involve potential risks or adverse effects that are uncertain but extremely harmful if they were to occur?**

No.

**Does the proposed action have impacts that are individually minor, but cumulatively significant or potentially significant?**

No.

## Environmental Assessment Checklist Prepared By:

**Name: Joshua Stoychoff**  
**Title: NELO Forester**  
**Date: October 20, 2016**

## Finding

### Alternative Selected

Action Alternative

### Significance of Potential Impacts

None

### Need for Further Environmental Analysis

EIS

More Detailed EA

No Further Analysis

**Environmental Assessment Checklist Approved By:**

**Name: Clive Rooney**

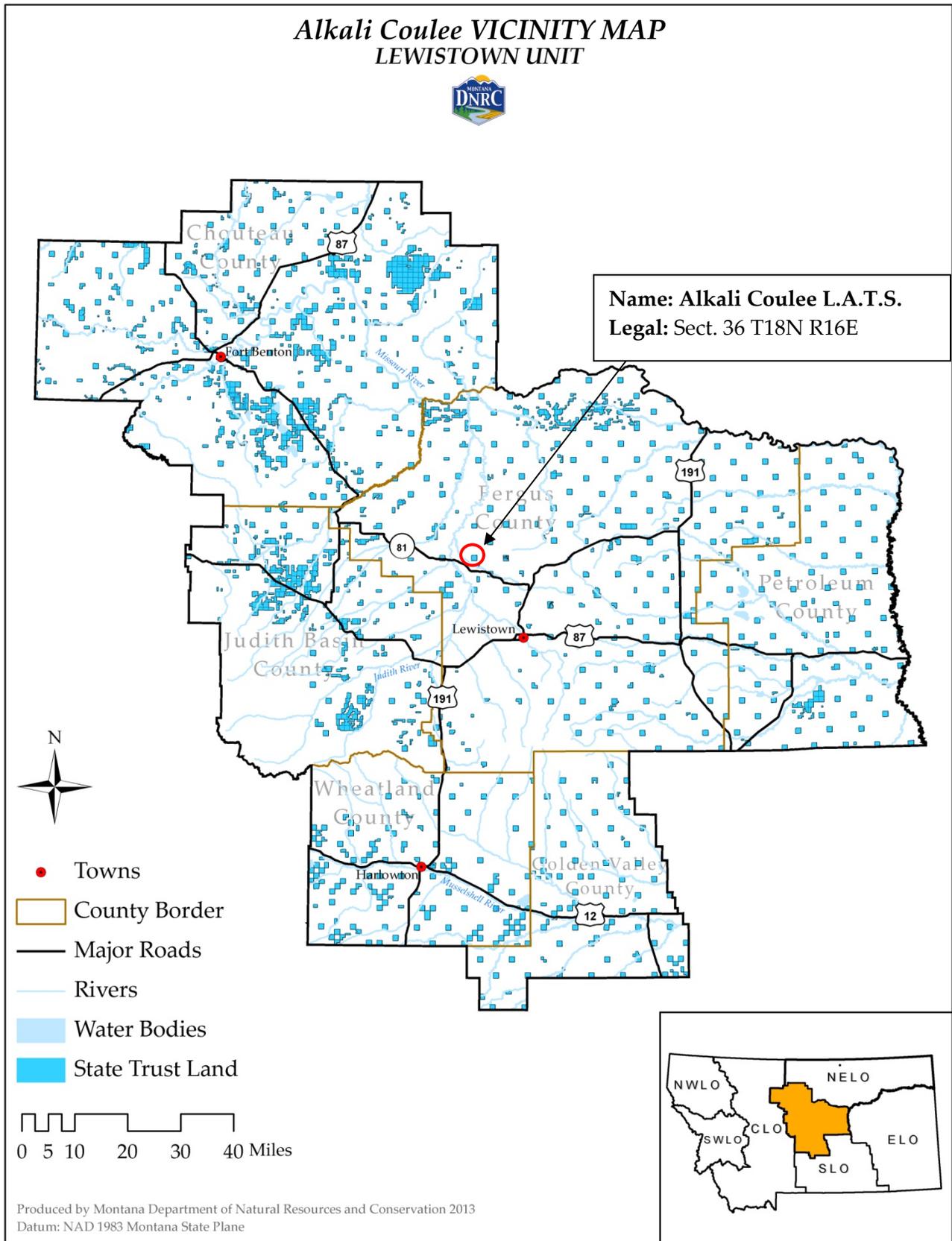
**Title: Northeastern Land Office Area Manager**

**Date: November 17, 2016**

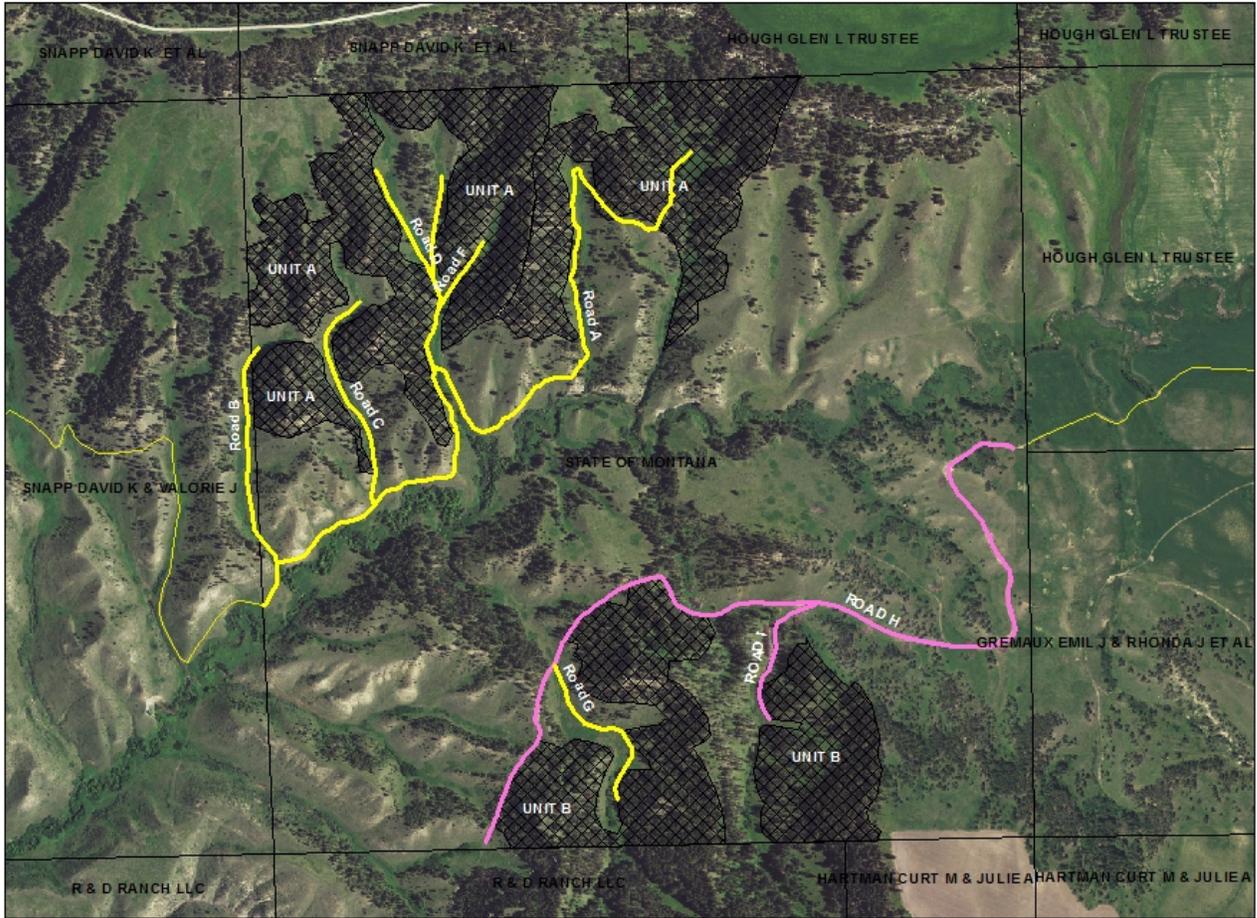
**Signature: /s/ Clive Rooney**

## **Attachment A - Maps**

A-1: Timber Sale Vicinity Map



A-2: Timber Sale Harvest Units



**Legend**

-  Road final
-  Glen Hugh Access
-  Alkali Coulee E xtR ds
-  Snapp Access 2
-  Alkali Coulee Units

Alkali Coulee LATS  
T18N R16E Sect 36

