

DEPARTMENT OF NATURAL  
RESOURCES AND CONSERVATION



STEVE BULLOCK, GOVERNOR

STATE OF MONTANA

Telephone: (406) 563-6078  
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ANACONDA UNIT OFFICE  
1300 Maguire Road  
Anaconda, MT 59711

November 16, 2016

Ref: Kanduch/Negus Salvage SMZ AP

Dear Mr. Kanduch

This letter is in reference to a request made by Kevin Kanduch of Kanduch Logging, L.L.C. to the Department of Natural Resource and Conservation for an Alternative Practice. This AP is located in Sections 5 & 7, T4N, R15W. After review of the Checklist Environmental Assessment prepared for this request, the Alternative Practice to allow equipment operations within the SMZ of the Middle Fork of Rock Creek and the un-named pond is approved, subject to the following conditions:

1. The harvest inside the fifty foot buffer will only occur under conditions of dry ground or ground frozen to six inches and/or snow cover of eight inches, and will be no closer than fifteen feet to the ordinary high water mark.
2. Skidding is allowed inside the 50 foot buffer but no closer than 25 feet to the OHWM.
3. Distance that skidding occurs inside the SMZ must be kept to a minimum.
4. Operation of equipment is only allowed when slope is less than 20% over the 50 foot buffer.
5. Operation in the adjacent wetland are allowed as a pre-approved Alternative Practice under winter conditions (see Rule 4 in *Montana Guide to the Streamside Management Zone Law and Rules 2006*). However, if those conditions are not achieved during the 2016/17 winter months, this Alternative Practice may include operations in the wetland during summer months. Operations would only be allowed when ground moisture is less than 20% and approved by a DNRC representative.
6. Disturbed areas inside the SMZ will be grass seeded.

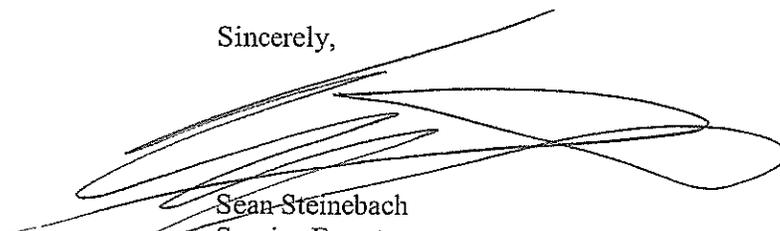
Approved Alternative Practices, including any additional conditions required by DNRC, shall have the same force and authority as the standards contained in 77-5-303, MCA, and shall be enforceable by DNRC under 77-5-305, MCA, to the same extent as such standards.

It is your responsibility to ensure that your operators understand that an Alternative Practice has been issued for their operations in this area, and that these conditions must be fully met to achieve compliance with the SMZ Law.

This approval is contingent upon your execution and return of the attached Compliance Affidavit to the DNRC Anaconda Unit Office.

Thank you for your cooperation in this matter. Please call me if you have any questions.

Sincerely,



Sean Steinebach  
Service Forester

cc: HRA file, Landowner, Applicant,  
Unit Office, Land Office,  
Service Forestry Bureau

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**Kanduch - Negus Salvage AP**

ALTERNATIVE PRACTICE RESPONSIBILITY AFFIDAVIT

In consideration of DNRC's approval of the alternative practice(s) in Section 5 & 7, T4N, R15W, I hereby certify that I, or by written contract the legal entity I represent, am responsible for the compliance with the Montana Streamside Management Zone Law. I understand that failure to implement any of the mitigation measures required by the DNRC will be considered a violation of the SMZ Law (77-5-301 et. Seq.), and may result in penalties assessed against me or the legal entity I represent.

11/21/16

Signature of Responsible Party

Date

## CHECKLIST ENVIRONMENTAL ASSESSMENT

<b>Project Name:</b>	Kanduch – Negus Timber Salvage Alternative Practice
<b>Proposed Implementation Date:</b>	Upon Signature
<b>Proponent:</b>	Kevin Kanduch of Kanduch Logging Inc.
<b>Location:</b>	T4N, R15W, Secs. 5&7
<b>County:</b>	Granite

### I. TYPE AND PURPOSE OF ACTION

Kevin Kanduch of Kanduch Logging Inc., LLC, is requesting an Alternative Practice to allow the salvage of mountain pine beetle infested lodgepole pine along the Middle Fork of Rock Creek (see attached map). This area has been significantly affected by mountain pine beetle in the lodgepole pine stands and this Alternative Practice would facilitate safe removal of dead and dying trees that would become a safety hazard near homes, cabins, roads, recreational areas and other improvements.

According to MCA 77-5-301 through 307, DNRC is authorized to administer and enforce the provisions of the SMZ Law. This Law was developed to protect the public interest of water quality and quantity within forested areas; provide for standards, oversights and penalties to ensure forest practices conserve the integrity of SMZ's; provide guidelines for wildlife management within SMZ's; and allow operators necessary flexibility to use practices appropriate to site-specific conditions in the SMZ. ARM 36.11.301 through 313 further specify the design of SMZ boundaries, allowable activities and prohibitions within the SMZ, penalties and other related provisions.

According to MCA 77-5-304 and ARM 36.11.310, DNRC may approve alternative practices that are different from practices required by the SMZ Law only if such practices would be otherwise lawful and continue to conserve or not significantly diminish the integrity and function of the SMZ. The proximity of the beetle infested trees to homes, cabins, roads and recreation areas has created safety issues that will require treatments outside of the allowances of the SMZ law. Treatments would include operation of a feller-buncher inside the 50 foot SMZ, but no closer than 15 feet to the ordinary high water mark (OHWM). Skidding would be allowed inside the 50 foot SMZ, but no closer than 25 feet to the OHWM. Skid distances inside the SMZ would be kept to the absolute minimum necessary. These treatments would be conducted on slopes less than 20% and would allow removal of lodgepole pine to below minimum retention standards as identified under Rules 4 and 5 in the *Montana Guide to the Streamside Zone Law and Rules 2006* (ARM 36.11.310-313). Operation in the adjacent wetland would be allowed as a pre-approved alternative (see Rule 4 in *Montana Guide to the Streamside Management Zone Law and Rules 2006*). However, if those conditions are not achieved during the 2016/17 winter months, this Alternative Practice would include operations in the wetland during summer months. Operations would only be allowed when ground moisture is less than 20% and approved by a DNRC representative.

Additional stipulations of this request would include:

- Operation of the feller-buncher would be allowed inside the SMZ but no closer than 15 feet to the OHWM. This operation would be in a straight-in and straight-out manner to minimize disturbance inside the 50 foot boundary.
- Skidding would be allowed inside the SMZ but no closer than 25 to the OHWM. Skid distance inside the SMZ would be kept to a minimum.
- Operation would only occur during periods when soil disturbance can be minimized under conditions of frozen ground to a depth of six inches and/or snow to a depth of eight inches, or periods when ground moisture is less than 20%.
- Operations inside the 50 foot SMZ would only occur in areas where slope is less than 20% over the 50 foot buffer.

- If operations take place during periods of dry ground conditions, mitigation measures would include grass seeding and slash filter windrows placed on disturbed areas to prevent run-off and sediment from reaching water.

- Small, un-infested lodgepole pine, in addition to other species of trees such as Douglas-fir, Engelmann spruce, quaking aspen and all brush species, would be retained and protected to the greatest extent possible.

## II. PROJECT DEVELOPMENT

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

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

MT DNRC Service Forester, Kevin Kanduch and the Landowner.

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

N/A

### 3. ALTERNATIVES CONSIDERED:

Alternative A – No Action.

This alternative would not operate machinery inside the fifty foot buffer. Beetle-killed trees would be hand-felled to minimum retention standards, left standing or removed in a non-commercial manner, such as by an arborist. In instances when the trees are removed non-commercially, the DNRC has no jurisdiction over operations and excessive disturbance or increased risks to safety may occur.

Alternative B – Action.

Please see *Type and Purpose of Action* for a full description of this alternative.

## III. IMPACTS ON THE PHYSICAL ENVIRONMENT

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

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

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

Alternative A - No Action

No equipment operation would be allowed inside the 50 foot SMZ. Minimum retention standards would be recognized. Trees may be hand-felled and skidded by cable through the SMZ. Felling and skidding may occur on various types of soils and on various degrees of slopes. Cable skidding each tree out of the SMZ may create more soil disturbance than a feller-buncher carrying multiple trees out of the SMZ for skidding.

Alternative B – Action

Equipment operation would be limited to soils that are described as "moderately or well suited" for timber harvest in the Web Soil Survey (see attached soil survey). Equipment operation would be limited to areas where slope is less than 20%. Mitigation measures would include operating season restrictions that require frozen ground to a depth of six inches, snow depth of eight inches or ground moisture of 20% or less. In addition, grass-seeding and installation of erosion control measures such as a slash-filter windrow on any disturbed area upon completion of activity would be required. Minimal direct, indirect or cumulative impacts to

soil stability and compaction are anticipated due to the soil rating restrictions, operation restrictions and mitigation measures.

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**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.*

**Alternative A - No Action**

No equipment operation would be allowed inside the 50 foot SMZ. Minimum retention standards would be recognized. Trees would be hand-felled and skidded by cable through the SMZ or left standing. Hand-felling operations may introduce low levels of sediment delivery to adjacent waterbodies. Sedimentation delivery from existing roads, other land treatments and developments would continue. Minimal direct, indirect, and cumulative impacts to water quality and quantity would be expected.

**Alternative B – Action**

The harvest of trees within 50 feet of the SMZ may introduce low levels of sediment delivery to adjacent waterbodies. However, due to slope restrictions, the 15 foot equipment exclusion zone would be expected to provide adequate filtration for any displaced soils or increased runoff due to compacted soils in the 15 to 50 foot AP zone. Increases in sedimentation would be expected to be minimal and temporary due to operations only occurring on slopes less than 20% and application of mitigation measures. Mitigation measures include imposing seasonal operating restrictions that require frozen ground to a depth of six inches, snow depth of eight inches or ground moisture of 20% or less; and requiring grass seeding and installation of erosion control measures such as a slash-filter windrow on any disturbed area upon completion of operations. DNRC may monitor AP sites to verify effectiveness. Minimal direct, indirect, and cumulative impacts to water quality and quantity are expected due to operation restrictions and mitigation measures.

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**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.*

N/A

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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.*

**Alternative A - No Action**

If no action is taken the dead trees will fall over, potentially causing damage to improvements and people. Trees may be hand-felled to minimum retention standards, but it would be expected that as retention trees fell the landowner would remove them anyway. Hand-felling and skidding hand-felled trees have the potential to be more damaging to the residual stand than the directional felling of a feller buncher. This is due to trees being pulled through the residual stand with less maneuverability, potentially removing bark and pulling over the residual stand.

**Alternative B – Action**

A query of the Montana Natural Heritage Program shows whitebark pine as a Species of Concern for T4N, R15W. No occurrence of whitebark pine has been noted in the project area. Vegetative communities would be affected to the extent that lodgepole pine would be reduced to below minimum retention standards as outlined in Rule 5 of the *Montana Guide to the Streamside Management Zone Law and Rules* handbook. Other species of trees such as Douglas-fir, Engelmann spruce and quaking aspen would be retained where present and understory vegetation would be protected to the greatest extent possible. Removal of the dead trees would expedite natural regeneration and cumulative effects to vegetative communities would decrease as trees regenerate and replace those that are harvested.

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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.*

### Alternative A – No Action

Minimum retention standards would be adhered to as well as equipment restrictions. Due to the areas being heavily used for recreation and their proximity to roads and cabins, the suitability of the proposed sites would continue to be marginal at best for terrestrial and avian habitat. Dead lodgepole pine would eventually fall over and/or be removed in a non-commercial manner.

### Alternative B – Action

#### Terrestrial Wildlife

The project area provides habitat for a variety of wildlife species. Deer and moose likely use the project area much of the non-winter periods; elk winter range does not exist in the limited AP area; no elk security habitats exist in the limited AP area. Under the action alternative, lodgepole pine would be removed leading to more open areas in portions of the project area. This would alter habitats for wildlife species requiring mature forested conditions, while creating habitats for species needing more open stands. Additionally, habitats for species that utilize lodgepole pine snags could be reduced. Thus, a low risk of adverse direct, indirect, or cumulative effects to species requiring mature forested stands, big game, or snags would be anticipated with the proposed activities.

#### Aquatic Life and Fisheries

The Middle Fork of Rock Creek is a fish bearing Class 1 stream. The AP would reduce recruitable woody debris for this stretch of water. Stream shading would be reduced and peak seasonal stream temperatures may see an increase during the summer months. All other species of trees besides lodgepole pine would be retained and protected. Direct, indirect and cumulative impacts would be expected to be short-term and temporary.

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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.*

### Alternative A – No Action

A query of the Montana Natural Heritage Program identifies the area as being possible habitat for wolverine, hoary bat, fisher, golden eagle, great blue heron, Cassin's finch, Harlequin duck, Clark's nutcracker, westslope cutthroat and bull trout. Under Alternative A, minimum retention standards and equipment restrictions would be adhered to as outlined in the SMZ Law. Direct, indirect and cumulative effects would not be influenced by the AP.

### Alternative B - Action

Proposed actions may cause slight shifts in use by listed species of concern, however, no key habitat components are known to exist in the AP project area and long term use is not expected to appreciably change. If a sighting of any of the listed species of concern (or evidence such as nests, dens etc...) occurs, operations may be halted, or not allowed, until further assessment could take place. Due to operating restrictions and mitigation measures outlined under Type and Purpose of Action, a low risk of direct, indirect and cumulative effects to listed species of concern would be expected with the action alternative.

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## 10. HISTORICAL AND ARCHAEOLOGICAL SITES:

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

Although no cultural or paleontologic resources are known to exist in the project APE, a systematic inventory of such resources has not occurred. Because none of the projects are located on state land, the DNRC has no jurisdiction to require private landholders to conduct professional level inventories to identify, or develop treatment plans for, privately owned National Register eligible properties.

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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.*

**Alternative A – No Action**

Minimum retention standards would be adhered to as well as equipment restrictions. Dead lodgepole pine would eventually fall over and/or be removed in a non-commercial manner. Aesthetics would be degraded as green trees transitioned to red and eventually fell over.

**Alternative B - Action**

Potential impacts may be perceived as adverse by recreationists, landowners and travelers. The removal of beetle killed lodgepole pine would look unsightly in the short term, but would encourage regeneration. This regeneration would eventually soften and replace aesthetic quality damaged by mountain pine beetle infestation.

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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.*

N/A

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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.*

There have been multiple SMZ AP's issued in the last two years in this area. All of them have required similar operating restrictions and mitigation measures and have proved beneficial with minimal impacts.

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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.*

Cabins and recreational sites would become unsafe as beetle killed trees begin to fall over and improvements such as culverts and bridges would be put in jeopardy as falling trees impede water movement. The removal of beetle killed tree would improve safety to homeowners and those that use the area for recreation.

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

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

N/A

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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.*

The proposed project would create employment for one logging crew for approximately 2 weeks. In addition this project would provide raw material for local mill operations.

**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.*

Negligible amounts.

**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*

N/A

**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.*

Projects under this Alternative Practice would allow timber salvage in areas considered at high risk for wildfire under the Granite County Community Wildfire Protection Plan.

**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.*

N/A

**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.*

N/A

**22. SOCIAL STRUCTURES AND MORES:**

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

N/A

**23. CULTURAL UNIQUENESS AND DIVERSITY:**

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

N/A

**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.*

N/A

<b>EA Checklist Prepared By:</b>	<b>Name:</b> Sean Steinebach	<b>Date:</b> 11/16/16
	<b>Title:</b> Service Forester	

**V. FINDING**

**25. ALTERNATIVE SELECTED:**

Alternative B - Action

**26. SIGNIFICANCE OF POTENTIAL IMPACTS:**

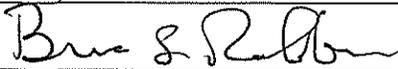
No significant impacts to the integrity and function of the SMZ will occur with the implementation of operating restrictions and mitigation measures.

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

EIS

More Detailed EA

No Further Analysis

<b>EA Checklist Approved By:</b>	<b>Name:</b> Brian Robbins <b>Title:</b> Anaconda Unit Manager
<b>Signature:</b> 	<b>Date:</b> 11/21/2016

Harvest Equipment Operability—Deer Lodge National Forest Area, Montana  
(Kanduch\_Negus Soils)



Map Scale: 1:12,900 if printed on A portrait (8.5" x 11") sheet

0 150 300 600 900 Meters

0 500 1000 2000 3000 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84



## MAP LEGEND

Area of Interest (AOI)	Background
Area of Interest (AOI)	Aerial Photography
Soils	
Soil Rating Polygons	
Poorly suited	
Moderately suited	
Well suited	
Not rated or not available	
Soil Rating Lines	
Poorly suited	
Moderately suited	
Well suited	
Not rated or not available	
Soil Rating Points	
Poorly suited	
Moderately suited	
Well suited	
Not rated or not available	
Water Features	
Streams and Canals	
Transportation	
Rails	
Interstate Highways	
US Routes	
Major Roads	
Local Roads	

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000. Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Deer Lodge National Forest Area, Montana  
Survey Area Data: Version 14, Sep 25, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 9, 2011—Jul 10, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Harvest Equipment Operability

Harvest Equipment Operability— Summary by Map Unit — Deer Lodge National Forest Area, Montana (MT635)						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
21UD2	Garlet-Worock-Waldbillig families, complex, moderately steep young moraines, cool	Moderately suited	Garlet, very bouldery (35%)	Slope (0.50)	2.5	1.1%
			Worock, very stony (20%)	Low strength (0.50)		
				Slope (0.50)		
			Bata, stony (10%)	Low strength (0.50)		
Loberg (5%)	Slope (0.50)					
21UJ1	Finn-Lowder families, complex, moderately steep young moraines	Well suited	Finn (75%)	Dusty (0.00)	77.2	32.7%
			Lowder (25%)	Dusty (0.00)		
342E	Braziel stony loam, 15 to 35 percent slopes	Moderately suited	Braziel (85%)	Low strength (0.50)	152.4	64.6%
				Slope (0.50)		
				Dusty (0.08)		
			Shanley (4%)	Low strength (0.50)		
				Slope (0.50)		
				Dusty (0.09)		
			Perma (3%)	Low strength (0.50)		
				Slope (0.50)		
				Dusty (0.06)		
			Shawmut (3%)	Low strength (0.50)		
Slope (0.50)						
Dusty (0.07)						
844A	Bandy-Blossberg complex, 0 to 2 percent slopes, rarely flooded	Moderately suited	Bandy (45%)	Low strength (0.50)	3.8	1.6%
				Dusty (0.08)		
			Blossberg (40%)	Low strength (0.50)		
				Dusty (0.11)		
Mannixlee (4%)	Low strength (0.50)					

Harvest Equipment Operability— Summary by Map Unit — Deer Lodge National Forest Area, Montana (MT635)						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Dusty (0.13)		
			Poronto (4%)	Low strength (0.50)		
				Dusty (0.08)		
			Flintcreek (4%)	Low strength (0.50)		
				Dusty (0.11)		
			Windlass (3%)	Low strength (0.50)		
				Dusty (0.04)		
<b>Totals for Area of Interest</b>					<b>235.8</b>	<b>100.0%</b>

Harvest Equipment Operability— Summary by Rating Value			
Rating	Acres in AOI	Percent of AOI	
Moderately suited	158.6	67.3%	
Well suited	77.2	32.7%	
<b>Totals for Area of Interest</b>	<b>235.8</b>	<b>100.0%</b>	

## Description

Ratings for this interpretation indicate the suitability for use of forestland harvesting equipment. The ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification of the soil, depth to a water table, and ponding. Standard rubber-tire skidders and bulldozers are assumed to be used for ground-based harvesting and transport.

The ratings are both verbal and numerical. Rating class terms indicate the degree to which the soils are suited to this aspect of forestland management. "Well suited" indicates that the soil has features that are favorable for the specified management aspect and has no limitations. Good performance can be expected, and little or no maintenance is needed. "Moderately suited" indicates that the soil has features that are moderately favorable for the specified management aspect. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. "Poorly suited" indicates that the soil has one or more properties that are unfavorable for the specified management aspect. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher

Montana Natural Heritage - SOC Report

Animal Species of Concern

Species List Last Updated 05/03/2016

10 Species of Concern

Filtered by the following criteria:

Township = 004N015W (based on mapped Species Occurrences)



A program of the Montana State Library's Natural Resource Information System operated by the University of Montana.

Expand All | Collapse All

Introduction

Species of Concern

Species of Concern										TOWNSHIP = 004N015W (based on mapped Species Occurrences)			
10 Species										3 SPECIES			
Filtered by the following criteria:													
Township = 004N015W (based on mapped Species Occurrences)													
SCIENTIFIC NAME	COMMON NAME	TAXA SORT	FAMILY (SCIENTIFIC)	FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	FWP SWAP	% OF GLOBAL BREEDING RANGE IN MT	% OF MT THAT IS BREEDING RANGE	HABITAT
<b>MAMMALS (MAMMALIA)</b>													
<i>Gulo gulo</i>	Wolverine		Mustelidae	Weasels	G4	S3	P	SENSITIVE	SENSITIVE	SGCN3	0%	37%	Boreal Forest and Alpine Habitats
Species Occurrences verified in these Counties: Beaverhead, Broadwater, Carbon, Cascade, Deer Lodge, Flathead, Gallatin, Glacier, Granite, Jefferson, Judith Basin, Lake, Lewis and Clark, Lincoln, Madison, Meagher, Mineral, Missoula, Park, Pondera, Powell, Ravalli, Sanders, Silver Bow, Stillwater, Sweet Grass, Teton, Wheatland													
<i>Lasiurus cinereus</i>	Hoary Bat		Vespertilionidae	Bats	G3G4	S3				SGCN3	2%	100%	Riparian and forest
Species Occurrences verified in these Counties: Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Daniels, Dawson, Deer Lodge, Fallon, Fergus, Flathead, Gallatin, Garfield, Glacier, Golden Valley, Granite, Harding, Hill, Jefferson, Judith Basin, Lake, Lewis and Clark, Liberty, Lincoln, Madison, McCone, Meagher, Mineral, Missoula, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Powell, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Silver Bow, Stillwater, Sweet Grass, Teton, Toole, Treasure, Valley, Wheatland, Wibaux, Yellowstone													
<i>Pekania pennanti</i>	Fisher		Mustelidae	Weasels	G5	S3		SENSITIVE	SENSITIVE	SGCN3	1%	31%	Mixed conifer forests
Species Occurrences verified in these Counties: Beaverhead, Deer Lodge, Flathead, Glacier, Granite, Lake, Lewis and Clark, Lincoln, Mineral, Missoula, Pondera, Powell, Ravalli, Sanders, Teton													
<b>BIRDS (AVES)</b>													
										TOWNSHIP = 004N015W (based on mapped Species Occurrences)			
										5 SPECIES			
SCIENTIFIC NAME	COMMON NAME	TAXA SORT	FAMILY (SCIENTIFIC)	FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	FWP SWAP	% OF GLOBAL BREEDING RANGE IN MT	% OF MT THAT IS BREEDING RANGE	HABITAT
<i>Aquila chrysaetos</i>	Golden Eagle		Accipitridae	Hawks / Kites / Eagles	G5	S3	BGEPA; MBTA; BCC		SENSITIVE	SGCN3	3%	100%	Grasslands
Species Occurrences verified in these Counties: Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Dawson, Deer Lodge, Fallon, Fergus, Flathead, Gallatin, Garfield, Glacier, Golden Valley, Granite, Harding, Hill, Jefferson, Judith Basin, Lake, Lewis and Clark, Liberty, Lincoln, Madison, McCone, Meagher, Missoula, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Powell, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Silver Bow, Stillwater, Sweet Grass, Teton, Toole, Treasure, Valley, Wheatland, Yellowstone													
<i>Ardea herodias</i>	Great Blue Heron		Ardeidae	Bitterns / Egrets / Herons / Night-Herons	G5	S3				SGCN3	3%	100%	Riparian forest
Species Occurrences verified in these Counties: Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Dawson, Deer Lodge, Fallon, Fergus, Flathead, Gallatin, Garfield, Glacier, Golden Valley, Granite, Harding, Hill, Jefferson, Judith Basin, Lake, Lewis and Clark, Liberty, Lincoln, Madison, McCone, McKenzie, Meagher, Mineral, Missoula, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Powell, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Silver Bow, Stillwater, Sweet Grass, Teton, Treasure, Valley, Wheatland, Wibaux, Yellowstone													
State Rank Reason: Small breeding population size, evidence of recent declines, and declining regeneration of riparian cottonwood forests due to altered hydrology and grazing.													
<i>Haemorrhous cassini</i>	Cassin's Finch		Fringillidae	Finches	G5	S3				SGCN3	11%	62%	Drier conifer forest
Species Occurrences verified in these Counties: Beaverhead, Big Horn, Broadwater, Carbon, Cascade, Chouteau, Custer, Deer Lodge, Fergus, Flathead, Gallatin, Glacier, Golden Valley, Granite, Jefferson, Judith Basin, Lake, Lewis and Clark, Lincoln, Madison, Meagher, Mineral, Missoula, Musselshell, Park, Petroleum, Phillips, Powder River, Powell, Ravalli, Rosebud, Sanders, Silver Bow, Stillwater, Sweet Grass, Teton, Wheatland, Yellowstone													
<i>Histrionicus histrionicus</i>	Harlequin Duck		Anatidae	Swans / Geese / Ducks	G4	S2B		SENSITIVE		SGCN2	4%	40%	Mountain streams
Species Occurrences verified in these Counties: Carbon, Flathead, Glacier, Granite, Lewis and Clark, Lincoln, Mineral, Missoula, Park, Pondera, Powell, Sanders, Sweet Grass, Teton													
State Rank Reason: The Harlequin Duck has an extremely limited breeding range in Montana.													
<i>Nucifraga columbiana</i>	Clark's Nutcracker		Corvidae	Jays / Crows / Magpies	G5	S3				SGCN3	9%	84%	Conifer forest
Species Occurrences verified in these Counties: Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Deer Lodge, Fergus, Flathead, Gallatin, Glacier, Golden Valley, Granite, Jefferson, Judith Basin, Lake, Lewis and Clark, Liberty, Lincoln, Madison, Meagher, Mineral, Missoula, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Powell, Ravalli, Sanders, Silver Bow, Stillwater, Sweet Grass, Teton, Toole, Wheatland													
<b>FISH (ACTINOPTERYGII)</b>													
										TOWNSHIP = 004N015W (based on mapped Species Occurrences)			
										2 SPECIES			
SCIENTIFIC NAME	COMMON NAME	TAXA SORT	FAMILY (SCIENTIFIC)	FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	FWP SWAP	% OF GLOBAL BREEDING RANGE IN MT	% OF MT THAT IS BREEDING RANGE	HABITAT
<i>Oncorhynchus clarkii lewisi</i>	Westslope Cutthroat Trout		Salmonidae	Trout	G4T3	S2		SENSITIVE	SENSITIVE	SGCN2		34%	Mountain streams, rivers, lakes
Species Occurrences verified in these Counties: Beaverhead, Broadwater, Cascade, Chouteau, Deer Lodge, Fergus, Flathead, Gallatin, Glacier, Granite, Jefferson, Judith Basin, Lake, Lewis and Clark, Lincoln, Madison, Meagher, Mineral, Missoula, Park, Pondera, Powell, Ravalli, Sanders, Silver Bow, Teton, Wheatland													
<i>Salvelinus confluentus</i>	Bull Trout		Salmonidae	Trout	G4	S2	LT	THREATENED	SPECIAL STATUS	SGCN2	5%	18%	Mountain streams, rivers, lakes
Species Occurrences verified in these Counties: Deer Lodge, Flathead, Glacier, Granite, Lake, Lewis and Clark, Lincoln, Mineral, Missoula, Powell, Ravalli, Sanders													

Potential Species of Concern

Special Status Species

Additions To Statewide List

Species Removed From Statewide List

Species of Greatest Inventory Need

Citation for data on this website: Montana Animal Species of Concern Report. Montana Natural Heritage Program and Montana Fish, Wildlife and Parks. Retrieved on 11/15/2016 from <http://mtnhp.org/SpeciesOfConcern/?AorP=a>

Montana Natural Heritage - SOC Report

Plant Species of Concern

Species List Last Updated 05/03/2016

1 Species of Concern

Filtered by the following criteria:

Township = 004N015W (based on mapped Species Occurrences)



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Introduction

Species of Concern

Species of Concern												
1 Species												
Filtered by the following criteria:												
Township = 004N015W (based on mapped Species Occurrences)												
GYMNOSPERM (CONIFERS)												
1 SPECIES												
TOWNSHIP = 004N015W (based on mapped Species Occurrences)												
SCIENTIFIC NAME	COMMON NAME	TAXA SORT	OTHER NAMES	FAMILY (SCIENTIFIC)	FAMILY (COMMON)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	MNPS THREAT CATEGORY	HABITAT
<i>Pinus albicaulis</i>	Whitebark Pine			Pinaceae	Fir / Hemlock / Larch / Pine / Spruce	G3G4	S3	C	SENSITIVE	SENSITIVE		Subalpine forest, timberline
<p><b>Species Occurrences verified in these Counties:</b> Beaverhead, Broadwater, Carbon, Cascade, Deer Lodge, Fergus, Flathead, Gallatin, Glacier, Granite, Jefferson, Judith Basin, Lake, Lewis and Clark, Liberty, Lincoln, Madison, Meagher, Mineral, Missoula, Park, Pondera, Powell, Ravalli, Sanders, Silver Bow, Stillwater, Sweet Grass, Teton, Toole, Wheatland</p> <p><b>State Rank Reason:</b> Whitebark pine is a common component of subalpine forests and a dominant species of treeline and krummholz habitats. It occurs in almost all major mountain ranges of western and central Montana. Populations of whitebark pine in Montana and across most of western North America have been severely impacted by past mountain pine beetle outbreaks and by the introduced pathogen, white pine blister rust. The results of which have been major declines in whitebark pine populations across large areas of its range. Additionally, negative impacts associated with encroachment and increased competition from other trees, primarily subalpine fir have occurred as a result of fire suppression in subalpine habitats.</p>												

Potential Species of Concern

Special Status Species

Additions To Statewide List

Species Removed From Statewide List

Citation for data on this website:  
Montana Plant Species of Concern Report. Montana Natural Heritage Program. Retrieved on 11/15/2016 from <http://mtnhp.org/SpeciesOfConcern/?AorP=p>