Environmental Assessment Checklist

Project Name: Schwartz Creek Timber Permit
Proposed Implementation Date: September, 2020
Proponent: Dillon Unit, Central Land Office, Montana DNRC
County: Beaverhead

Type and Purpose of Action

Description of Proposed Action:

The Dillon Unit of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the Schwartz Creek Timber Permit. The project is located approximately 32 air miles southwest of Dillon (refer to Attachments vicinity map A-**1** and project map A-**2**) and includes the following sections:

Beneficiary	Legal Description	Total Acres	Treated Acres
Common Schools	**Sec. 33, T11S R12W**	**322**	**322**
Public Buildings			
MSU 2nd Grant			
MSU Morrill			
Eastern College-MSU/Western College-U of M			
Montana Tech			
University of Montana			
School for the Deaf and Blind			
Pine Hills School			
Veterans Home			
Public Land Trust			
Acquired Land			

Objectives of the project include:

- Contribute to the annual targets of timber harvest volumes of DNRC and the Central Land Office. DNRC is required by state law (*77-5-221 through 223, MCA*) to sell approximately 57.6 Million board feet (MMbf) of timber annually and produce revenue over time.
- Take advantage of logging operations on adjacent ownership to harvest low value timber.
- Generate revenue for the Common School Trust.
- Reduce conifer encroachment in sage-steppe ecosystem.

Proposed activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Clearcut	
Seed Tree	32
Shelterwood	
Selection	48
Commercial Thinning	
Salvage	
Total Treatment Acres	
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning	
Planting	
Proposed Road Activities	# Miles
New permanent road construction	
New temporary road construction	
Road maintenance	
Road reconstruction	0.5
Road abandoned	
Road reclaimed	
Other Activities	
Conifer encroachment reduction	237
Aspen restoration	5

Duration of Activities:	Up to 3 years
Implementation Period:	July 2020 to Sept. 2022

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),
- The Montana DNRC Forested State Trust Lands Habitat Conservation Plan (HCP) (DNRC 2010)
- and all other applicable state and federal laws.

Project Development

SCOPING:

- DATE:
  - January 28, 2020 to February 28, 2020
- PUBLIC SCOPED:

    - The scoping notice was posted on the DNRC Website: http://dnrc.mt.gov/public-interest/public-notices
    - Adjacent landowners and affected landowners along haul route
    - Beaverhead County Commissioners
    - The Nature Conservancy
- AGENCIES SCOPED:
    - USFS Beaverhead NF
    - Bureau of Land Management Dillon Field Office
    - MT FWP
    - Internal MT DNRC
    - All tribes listed on the statewide scoping list.
- COMMENTS RECEIVED:
    - How many: 2 comments received. MT FWP and the Northern Cheyenne Nation
    - Concerns: FWP had no concerns. The Northern Cheyenne Nation was interested in any cultural resources surveys that may have been completed on the project area.
    - Results: The DNRC archaeologist will survey the project area in spring of 2020.

DNRC specialists were consulted, including:

- Jeff Schmalenberg – DNRC FMB soils and hydrology
- Ross Baty – DNRC FMB wildlife biologist
- Mike Anderson – DNRC FMB fisheries biologist
- Patrick Rennie – DNRC archaeologist

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

OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED: *(Conservation Easements, Army Corps of Engineers, road use permits, etc.)*

- **United States Fish & Wildlife Service-** DNRC is managing the habitats of threatened and endangered species on this project by implementing the Montana DNRC Forested Trust Lands HCP and the associated Incidental Take Permit that was issued by the United States Fish & Wildlife Service (USFWS) in February of 2012 under Section 10 of the Endangered Species Act. The HCP identifies specific conservation strategies for managing the habitats of grizzly bear, Canada lynx, and three fish species: bull trout, westslope cutthroat trout, and Columbia redband trout. This project complies with the HCP. The HCP can be found at http://dnrc.mt.gov/divisions/trust/forest-management/hcp.

- **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.

  A Short-term Exemption from Montana's Surface Water Quality Standards (318 Authorization) may also be required from DEQ if activities such as replacing a bridge on a stream would introduce sediment above natural levels into streams.

- **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 Fish, Wildlife and Parks (DFWP)-** A Stream Protection Act Permit (124 Permit) is required from DFWP for activities that may affect the natural shape and form of a stream's channel, banks, or tributaries. Such activities include:
    - A 124-permit may be needed to cross an un-named class 2 stream if timber permit purchaser desires to harvest timber in northwest corner of section.

ALTERNATIVES CONSIDERED:

No-Action Alternative: No timber harvesting or conifer encroachment removal would occur.

Action Alternative: Up to 200 thousand board feet (Mbf) of timber could be harvested from approximately 32 acres. Conifer encroachment reduction could occur on up to 291 acres.

Impacts on the Physical Environment

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:

Of the 322-acre project area, 66 acres (20%) are identified as forested stands in the DNRC Stand Level Inventory (SLI), the remaining acres are open sage-steppe and not classified as forest. Forest types are predominantly Douglas-fir and one 7-acre stand is indicated as being aspen. Of the forested stands, approximately 40 acres (61%) were once open, savanna stands that have had significant Douglas-fir ingrowth in the past 50 years. The remaining 26 acres (39%) are all stands that have formed from Douglas-fir encroachment into the sage-steppe. Of the conifer encroachment areas, approximately 237 acres are class 1, or early successional and 54 acres are class 2 and 3, where some of the herbaceous and shrub inventory are intact but are trending towards decline due to excessive shade.

Of the forested stands within the project area, 42 acres (63%) are in the 40-99-year age class, 9 acres (13%) are in the 150-199-year age class, 9 acres (13%) are in the old growth age class and 8 acres (11%) are of an unknown age class.

All stands except for a 7-acre aspen stand have an indicated current cover type that meets the desired future condition. In the case of this aspen stand, the desired future condition is listed as

lodgepole, which must be a mistake as lodgepole in the area typically occurs at a slightly higher elevation and all other surrounding forest types are Douglas-fir. Given the low amount of aspen within the project area and its high ecological value, aspen should be the desired future condition of this stand.

Vegetation	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Noxious Weeds	**x**				**x**				**x**					
Rare Plants	**x**				**x**				**x**					
Vegetative community		**x**				**x**				**x**			**N**	**1**
Old Growth	**x**				**x**				**x**					
Action														
Noxious Weeds			**x**				**x**			**x**			**Y**	**2**
Rare Plants	**x**				**x**				**x**					**3**
Vegetative community			**x**			**x**					**x**		**Y**	**1**
Old Growth		**x**				**x**				**x**			**N**	**4**

Comments:

1. Under the no action alternative, no vegetative treatments would occur. The largest impact from the no action alternative would be the continued encroachment of conifers into the sage-steppe. This impact would be negative in nature as conifer encroachment has been found to be detrimental for sage-steppe ecosystems and sage grouse. Because the project area is small compared to the rest of the drainage it is in, all impacts of the no action alternative would be expected low.

   Under the action alternative, commercial harvest of sawlog material would occur on 32 acres and selective sawlog harvest on an additional 48 acres using ground-based logging equipment. In commercial sawlog harvest units, approximately 10 to 15 tons per acre of coarse woody debris would be left on site for nutrient recycling. On the 48 acres of selective harvest, the remaining submerchantable trees would be cut, skidded to a landing and disposed of either by hauling off for utilization or piled and burned. Where available, pockets of shade tolerant submerchantable trees, primarily Engelmann spruce would be left uncut. Direct, indirect and cumulative impacts from commercial sawlog harvest would be expected to be low due to the relatively small size of harvest units. Conifer encroachment reduction would occur on up to 237 acres, where trees would be cut, lopped and the slash scattered. Aspen stand restoration would occur on approximately 5 acres where conifers encroaching into aspen stands would be cut, lopped and the slash scattered. Impacts from conifer encroachment reduction treatment would be expected to have a positive moderate direct impact. Due to the relatively small area treated however a positive secondary impact would be expected to be low. With conifer encroachment reduction activities planned on adjacent private and BLM land,

positive cumulative impacts of conifer encroachment reduction would be expected to be moderate.

2. Under the no action alternative, no changes to or impacts from noxious weeds are expected.

   Under the action alternative, ground disturbance from timber harvesting and conifer encroachment reduction activities could introduce weed seed as well as create area of disturbed soil where weed populations could get established. Due to the relatively small size of the project area within the Medicine Lodge drainage, direct and secondary impacts from noxious weeds are expected to be moderate and the cumulative impact low.

3. The Montana Natural Heritage Program indicates the only specie of concern near the project area is whitebark pine (Pinus albicaulis). The project area sits at about 7,000 feet in elevation. While it might not be impossible to find whitebark pine in the project area, the more common 5-needle pine is limber pine.

4. Approximately 9 acres of old growth occurs within the project area and is proposed for treatment. The old growth stand was historically more open Douglas-fir savannah stand. Under the no action alternative, no treatment would occur, and ingrowth may continue and mortality from defoliation by western spruce budworm is highly likely. Under the action alternative all merchantable timber would be harvested within this stand. Due to the continued defoliation by western spruce budworm, it is likely any attempt to leave enough trees for the stand to continue to meet old growth minimum requirements would fail.

Vegetation Mitigations:

- Wash all equipment before entering the site, sow grass seed on roads and other areas of disturbed soil after harvesting and apply herbicide along roadsides and on spots of noxious weed outbreaks where they occur within the project area.
- Retain where available pockets of Englemann spruce to meet Canada lynx habitat requirements.
- Skid and pile excess conifer encroachment material to prevent excessive hazardous fire fuel loading.

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions:

The project area is located on low to moderate steep slopes with shallow soils weathered from a complex geology of limestones and shales. Forest soils have low productive, are well drained with gravelly loam textures. Risk of soil displacement, compaction and erosion is low to moderate if Best Management Practices for forestry are adhered to.

Forest sites are low productivity with predominate limitations being temperature and precipitation. Coarse woody debris volumes are estimated at 5-10 tons per acre and accumulating in trend.

No previous timber harvest in the project area was completed thus no detrimental soil disturbance has occurred resulting in no loss of soil productivity in the project area. No slope instability occurs in the project area.

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		
No-Action														
Physical Disturbance (Compaction and Displacement)	**x**				**x**				**x**				**N/A**	**-**
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**	**-**
Action														
Physical Disturbance (Compaction and Displacement)		**x**			**x**				**x**				**Yes**	**1**
Erosion		**x**			**x**				**x**				**Yes**	**2**
Nutrient Cycling	**x**				**x**				**x**				**N/A**	**3**
Slope Stability	**x**				**x**				**x**				**N/A**	**-**
Soil Productivity		**x**			**x**				**x**				**Yes**	**3**

Comments:

1. Physical disturbance from compaction and displacement would be expected on skid trails and landings. Past monitoring on DNRC timber sales from 1988 to 2010 has shown an average of 12.2 percent soil impacts across all parent materials. Sales harvested prior to 1990 exhibited impacts of 16.8 percent; sales harvest post-1990 showed impacts averaging 7.3 percent of the harvest area. This provides a strong relationship to the implementation of Forestry Best Management Practices (BMPs) and the Streamside Management Zone (SMZ) law. Detrimental soil impacted are expected on less the 20% of the harvest unit acres and soil productivity will be maintained.

2. Erosion potential of the soils in the project area is moderate and can be controlled with standard BMP's and erosion control measures if care is taken to limit the area of disturbance.

3. Coarse and fine woody debris provide a crucial component in forested environments through nutrient cycling, microbial habitat, moisture retention and protection from mineral soil erosion (Harmon et al., 1986). As required in the DNRC Timber Sale Contract, both fine and coarse woody debris would be retained to reduce potential impacts to forest

productivity. Although fine woody debris would be left on site for nutrient retention, a moderate reduction in annual fine material contribution would result from this alternative for up to 20 years.

Soil Mitigations:

1. Limit equipment operations to periods when soils are relatively dry, (less than 20 percent oven-dried weight), frozen, or snow-covered in order to minimize soil compaction and rutting and maintain drainage features. Check soil moisture conditions prior to equipment start-up.

2. The logger and sale administrator would agree to a skidding plan prior to equipment operations. Skid-trail planning would identify which main trails to use and how many additional trails are needed. Trails that do not comply with BMPs (i.e. trails in draw bottoms) would not be used unless impacts can be adequately mitigated. Regardless of use, these trails may be closed with additional drainage installed, where needed, or grass-seeded to stabilize the site and control erosion.

3. Tractor skidding should be limited to slopes of less than 40 percent unless the operation can be completed without causing excessive displacement or erosion. Based on site review, short, steep slopes may require a combination of mitigation measures, such as adverse skidding to a ridge or winchline, and skidding from more moderate slopes of less than 40 percent.

4. Keep skid trails to 20 percent or less of the harvest unit acreage. Provide for drainage in skid trails and roads concurrently with operations.

5. Slash disposal: Limit the combination of soil disturbance and scarification to 30 to 40 percent of the harvest units. No dozer piling on slopes over 35 percent; no excavator piling on slopes over 40 percent, unless the operation can be completed without causing excessive erosion. Consider lopping and scattering or jackpot burning on the steeper slopes. Consider disturbance incurred during skidding operations to, at least, partially provide scarification for regeneration.

6. Retain 5 tons of large woody debris and a feasible majority of all fine litter following harvesting operations. On units where whole tree harvesting is used, implement one of the following mitigations for nutrient cycling: 1) use in-woods processing equipment that leaves slash on site; 2) for whole-tree harvesting, return-skid slash and evenly distribute within the harvest area; or 3) cut tops from every third bundle of logs so that tops are dispersed as skidding progresses.

WATER QUALITY AND QUANTITY:

Proposed harvesting would impact less than 1 percent of the 6th code HUC watershed; annual precipitation is low with all proposed harvest located in the 18-20 inch precipitation zones. The proposal does not include harvesting within 50 feet of Class 1 streams.

Water Quality and Quantity Existing Conditions:

The receiving waters of Schwartz Creek, Medicine Lodge Creek, are classified as B-1. Waters classified B-1 are to be maintained suitable for drinking, culinary, and food processing purposes, after conventional treatment; bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

In 2018, Medicine Lodge Creek was listed as not fully supporting the beneficial uses previously listed. The causes for this are alterations in stream-side or littoral vegetation, flow regime modification, total Phosphorus, temperature and sedimentation resulting from grazing in riparian areas and crop production. A TMDL for the Red Rock planning area has not yet been completed.

The class I stream within the project area tributary to Schwartz Creek does not support a fishery. Due to the low-risk of sediment delivery to this unnamed tributary and no SMZ or RMZ timber harvest proposed, no effects to fisheries resources are expected and no further analysis is warranted.

No existing road-stream crossing structures exist in the project area and minimal road has been constructed to date. Existing roads in the project area currently meet BMP's and are not a source of sediment to Schwartz Creek.

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		
No-Action														
Water Quality	**x**				**x**				**x**				**N/A**	
Water Quantity	**x**				**x**				**x**				**N/A**	
Action														
Water Quality	**x**					**x**			**x**				**Yes**	**1**
Water Quantity	**x**				**x**				**x**				**Yes**	**2**

Comments:

1. No new road-stream crossing, or new road is proposed for construction under the proposed action. No SMZ harvest is proposed adjacent to the Class 1 stream tributary. Slopes are predominately under 35% with low to moderate erosion potential. Proposed harvest is low intensity with high probability of low level soil disturbance. Because of these factors, no direct or cumulative effects to water quality is expected and low level, short term impacts to water quality for potential sediment sources on county haul routes.

2. Because DNRC is proposing management on a very small portion of the watershed area and annual precipitation is low, it is unlikely that a measurable increase in annual water yield would occur.

Water Quality & Quantity Mitigations:
1. Follow all applicable Best Management Practices, Administrative Rules for Forest Management and Streamside Management Zone Laws.

FISHERIES:

Fisheries Existing Conditions:

The waters within the project area lack fish habitat and do not support a fishery. As a result, a fisheries analysis is not warranted and will be dismissed from further analysis.

Fisheries	Impact												Can Impact Be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
No-Action														
Sediment	**x**				**x**				**x**				**N/A**	**-**
Flow Regimes	**x**				**x**				**x**				**N/A**	**-**
Woody Debris	**x**				**x**				**x**				**N/A**	**-**
Stream Shading	**x**				**x**				**x**				**N/A**	**-**
Stream Temperature	**x**				**x**				**x**				**N/A**	**-**
Connectivity	**x**				**x**				**x**				**N/A**	**-**
Populations	**x**				**x**				**x**				**N/A**	**-**
Action														
Sediment	**x**				**x**				**x**				**N/A**	**-**
Flow Regimes	**x**				**x**				**x**				**N/A**	**-**
Woody Debris	**x**				**x**				**x**				**N/A**	**-**
Stream Shading	**x**				**x**				**x**				**N/A**	**-**
Stream Temperature	**x**				**x**				**x**				**N/A**	**-**
Connectivity	**x**				**x**				**x**				**N/A**	**-**
Populations	**x**				**x**				**x**				**N/A**	**-**

WILDLIFE:

The 322-acre project area is dominated by the montane sagebrush steppe vegetation type of which approximately 20% is forested. Forested stands are primarily comprised of Douglas-fir with scattered pockets of aspen. Douglas-fir has encroached considerably into rangelands during the last 50 years. The cumulative effects analysis area is comprised of approximately 70% montane sagebrush steppe habitat, 19% Douglas-fir forest, 5% aspen/riparian types, and 3% lodgepole pine-dominated forest. The project area occurs along a forest grassland ecotone that provides habitat for many native song birds, raptors, big game species, and predators. The project area occurs in sage grouse "core" habitat, however, aspen and conifer stands that would be treated provide no appreciable habitat for sage grouse. No rock outcrop features occur in the project area. Forested stands in the project area occur to a large extent, as fragmented and isolated patches within a broad grassland/shrubland matrix.

For this analysis, direct and secondary effects were considered within the project area (~322 acres). Cumulative effects were considered for an expanded area (5,760 acres) that included the section containing the project area and 8 surrounding sections.

Following harvest, species that prefer more open forest conditions and/or young forest conditions would benefit, whereas those preferring denser and structurally diverse forest conditions would not benefit. Under the proposed action, some habitat patches could become more fragmented, which would cause little added impact given the conditions already present in this naturally fragmented landscape. Lands within the project area are not within any known area of importance for wildlife habitat linkage. Due to the size, habitat conditions, location and relatively short duration of the project (approximately 1 to 3 years), direct, indirect, and cumulative effects to affected wildlife resources in this area are expected to be minor.

No-Action: Under the no action alternative, none of the proposed vegetation treatments would occur. Thus, no direct, indirect or cumulative effects to habitat and associated wildlife species would be expected as a result of the proposed activities. Over time forest encroachment would continue to convert sagebrush/grasslands to forested vegetation community types.

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		
Threatened and Endangered Species														
Grizzly bear *(Ursus arctos)* Habitat: Recovery areas, security from		**X**				**X**				**X**			**Y**	**1**

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
human activity														
Canada lynx (*Felix lynx)* Habitat: Subalpine fir habitat types, dense sapling, old forest, deep snow zone		**X**				**X**				**X**			**Y**	**2**
Wolverine *(Gulo gulo)*	**X**				**X**				**X**				**N/A**	**3**
Sensitive Species														
Bald eagle *(Haliaeetus leucocephalus)* Habitat: Late-successional forest within 1 mile of open water	**X**				**X**				**X**				**N/A**	**4**
Black-backed woodpecker *(Picoides arcticus)* Habitat: Mature to old burned or beetle-infested forest	**X**				**X**				**X**				**N/A**	**4**
Black-tailed prairie dog (*Cynomys ludoviscianus*) Habitat: grasslands, short-grass prairie, sagebrush semi-desert	**X**				**X**				**X**				**N/A**	**4**
Flammulated owl *(Otus flammeolus)* Habitat: Late-successional ponderosa pine and Douglas-fir forest	**X**				**X**				**X**				**N/A**	**4**
Harlequin duck *(Histrionicus histrionicus)* Habitat: White-water streams, boulder and cobble substrates	**X**				**X**				**X**				**N/A**	**4**
Northern bog	**X**				**X**				**X**				**N/A**	**4**

Wildlife	Impact												Can Impact be Mitigated?	Comment Number
	Direct				Secondary				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High	No	Low	Mod	High		
lemming *(Synaptomys borealis)* Habitat: Sphagnum meadows, bogs, fens with thick moss mats														
Mountain plover (*Charadrius montanus*) Habitat: short-grass prairie & prairie dog towns	**X**				**X**				**X**				**N/A**	**4**
Peregrine falcon *(Falco peregrinus)* Habitat: Cliff features near open foraging areas and/or wetlands	**X**				**X**				**X**				**N/A**	**4**
Pileated woodpecker *(Dryocopus pileatus)* Habitat: Late-successional ponderosa pine and larch-fir forest	**X**				**X**				**X**				**N/A**	**4**
Greater Sage grouse (*Centrocercus urophasianus*) Habitat: sagebrush semi-desert		**X**				**X**				**X**			**Y**	**5**
Townsend's big-eared bat *(Plecotus townsendii)* Habitat: Caves, caverns, old mines	**X**				**X**				**X**				**N/A**	**4**
Big Game Species														
Elk		**X**				**X**				**X**			**Y**	**6**
Whitetail		**X**				**X**				**X**			**Y**	**6**
Mule Deer		**X**				**X**				**X**			**Y**	**6**
Other														

Comments:

1. The proposed project area lies 75 miles west of the Greater Yellowstone grizzly bear recovery zone and 40 miles west of Non-Recovery Occupied Habitat as defined by

Wittinger et al. (2002). However, grizzly bears could potentially travel through the project area. Cover and habitat connectivity associated with riparian areas would not be appreciable altered as no riparian timber harvesting would occur in the project area. Given the size and location of cover patches affected and removed, habitat connectivity would be diminished on 80 acres, however, forest patches on the project area are relatively isolated. Approximately 0.5 miles of existing road would be reconstructed. Given the scope and scale of the proposed activities, the likely low density of grizzly bears in the local area overall, and relatively marginal inherent habitat quality for grizzly bears, adverse direct, indirect and cumulative impacts to grizzly bears as a result of this project are expected to be low.

2. Within the 322-acre project area there are currently approximately 80 acres of suitable lynx habitat; all of which would be treated and converted to temporary non-suitable habitat. It is estimated that the stands being reduced to temporary nonsuitable condition would take approximately 15-20 years to regenerate to sufficient canopy heights to return these acres to a “suitable” habitat class. Patches of advanced regeneration comprised of shade-tolerant tree species where possible would be retained to provide habitat structure and maintain these tree species in harvested stands. Given that the project area lies along the edge of a grassland/forest ecotone, habitats are marginal, affected forest patches are relatively isolated, and that the acreage treated is relatively small minimal adverse direct, indirect, and cumulative effects to Canada lynx would be anticipated.
3. Suitable denning habitat for wolverines generally found at high elevation forest and Alpine habitat type capable of holding heavy snow in late spring is not present on the project area or within a mile of the project area. No adverse direct, indirect or cumulative effects to wolverines would be expected to occur as a result of this project.
4. This 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.
5. This project area is in Greater Sage-Grouse general habitat. This project was reviewed and approved by the Montana Sage Grouse Habitat Conservation Program on June 29, 2020. Proposed alteration and removal of coniferous forest vegetation would have minimal direct, indirect, or cumulative effects on greater sage grouse. Conifer encroachment removal treatments on rangelands could provide minor long-term benefit to sage grouse and would be cumulative to similar activities that may occur on neighboring Bureau of Land Management lands. To minimize potential negative effects to sage grouse associated with soil disturbance and spread of invasive and noxious plant species, disturbed areas would be reclaimed and weed control measures would be implemented.
6. The project area provides suitable habitat for deer and elk. Under the proposed action, 80 acres of mature forest would have tree density and associated crown cover reduced, which could influence local use of the area by big game for several decades. Relatively well stocked stands would remain across lands to the west of the project area on USFS lands following the proposed harvest, which would continue to provide considerable hiding and security cover. Given the location, size and type of the proposed activity, and

habitat attributes found on the project area, minor adverse direct, indirect and cumulative effects to deer and elk associated with cover removal would be anticipated.

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.
- Retain at least one large log >15-inch diameter and >20 feet long (or of the largest diameter available) per acre to comply with lynx HCP commitment LY-HB2(1).
- Retain patches of advanced regeneration (up to 10% cover) comprised of shade-tolerant tree species to provide habitat structure where possible in seed tree harvest units and maintain these tree species as a part of the stand species mix.
- Following project work, roads would remain closed to motorized public access.
- Reclaim disturbed areas after logging and control noxious weeds, including cheatgrass and Japanese brome, to minimize adverse effects to sage grouse.
- Contact DNRC wildlife biologist should any threatened or endangered species be encountered within the proposed project area.
- Human or pet food, livestock food, garbage, and other attractants would be stored in a bear resistant manner. Burnable attractants (such as food leftovers or bacon grease) will not be buried, discarded, or burned in an open campfire.
- Written brochures that describe risks and concerns regarding humans living and working in bear habitat would be provided to contractors and their employees conducting forest management activities prior to start of operations.
- DNRC employees and contractors and their employees would be prohibited from carrying firearms while on duty, unless the person is specifically authorized to carry a firearm under DNRC Policy 3-0621.
- Contact DNRC wildlife biologist should a bald eagle nest, peregrine falcon nest site, or goshawk nest be encountered within ½ mile of the proposed project.

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		
No-Action														
Smoke	**x**				**x**				**x**					
Dust	**x**				**x**				**x**					
Action														
Smoke		**x**				**x**			**x**				**Y**	**1**
Dust		**x**				**x**			**x**				**Y**	**2**

Comments:

1. Slash consisting of tree limbs and tops and other vegetative debris would be piled throughout the project area during harvesting. Slash would ultimately be burned after harvesting operations have been completed. Burning would introduce particulate matter

into the local airshed, temporarily affecting local air quality. Over 70% of emissions emitted from prescribed burning is less than 2.5 microns (National Ambient Air Quality PM 2.5). High, short-term levels of PM 2.5 may be hazardous. Within the typical column of biomass burning, the chemical toxics are: Formaldehyde, Acrolein, Acetaldehyde, 1,4 Butadiene, and Polycyclic Organic Matter.

2. Timber harvesting and log hauling could create dust, which may affect local air quality. However, because the dust would be localized to skid trails and haul roads and the project is relatively small and located in a remote area, effects to air quality are expected to be low. The greatest impact of dust would be along the county road where it passes by various residences.

Air Quality Mitigations:

- Burning within the project area would be short in duration and would be conducted when conditions favor good to excellent ventilation and smoke dispersion as determined by the Montana Department of Environmental Quality and the Montana/Idaho Airshed Group. The DNRC, as a member of the Montana/Idaho Airshed Group, would burn only on approved days.
- If the Forest Officer considered the dust level as unacceptable where the haul route passes by residences, haul timing restrictions and/or speed restrictions may be put in place to minimize dust. Hauling on this project may also be coordinated with hauling on the adjacent BLM Lake Canyon Timber Sale.

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		
No-Action														
Historical or Archaeological Sites	**x**				**x**				**x**					
Aesthetics	**x**				**x**				**x**					
Demands on Environmental Resources of Land, Water, or Energy	**x**				**x**				**x**					
Action														
Historical or Archaeological Sites													**Y**	**1**
Aesthetics		**x**			**x**				**x**				**Y**	**2**
Demands on Environmental Resources of Land, Water, or Energy		**x**				**x**				**x**			**Y**	**3**

Comments:

1. The DNRC Archaeologist examined this parcel for cultural resources in July 2020 and no cultural or paleontological artifacts were found. In 2019, a rock cairn was found (site 24BE2494), and the site examined by the DNRC archeologist. The cairn was thought to be recently constructed and therefor of no historical significance. It is highly unlikely that the cairn will be disturbed by project activities. If previously unknown cultural or paleontological materials are identified during project related activities, all work will cease until a professional assessment of such resources can be made.

2. Under the No Action Alternative there would be no changes to aesthetics.

   Under the action alternative there would be very small impacts to aesthetics in the form of stumps, landing piles, possible small slash piles and possible slashed conifers lying on the landscape. Due to the local topography and location of the cutting units relative to the Lake Canyon road, visibility of logging activity would be limited. Some areas of conifer encroachment reduction would be more visible than others, particularly areas immediately adjacent to the open road. Negative impacts would be of relatively short duration as slash piles would be burned, landings grass seeded, and skid trails re-vegetate. Thus, direct impacts to aesthetics would be expected to be low in nature and secondary and cumulative impacts to be low give the projects small size and placement on the landscape.

3. The project area is leased for grazing. It is not expected that cattle would be displaced by logging operations and once harvest is complete, more area will come into grass production with a reduction in canopy cover.

Mitigations:

- If previously unknown cultural or paleontological materials are identified during project related activities, the DNRC archaeologist would be immediately contacted and all work would cease until a professional assessment of such resources can be made.
- For aesthetics, road cuts would be grass seeded promptly following construction and roads and landing would be grass seeded upon completion of sale activities.

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.*

- BLM Lake Canyon Timber Sale (2020)

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		
No-Action														
Health and Human Safety	**x**				**x**				**x**					
Industrial, Commercial and Agricultural Activities and Production	**x**				**x**				**x**					
Quantity and Distribution of Employment	**x**				**x**				**x**					
Local Tax Base and Tax Revenues	**x**				**x**				**x**					
Demand for Government Services	**x**				**x**				**x**					
Access To and Quality of Recreational and Wilderness Activities	**x**				**x**				**x**					
Density and Distribution of population and housing	**x**				**x**				**x**					
Social Structures and Mores	**x**				**x**				**x**					
Cultural Uniqueness and Diversity	**x**				**x**				**x**					
Action														
Health and Human Safety		**x**			**x**				**x**				**Y**	**1**
Industrial, Commercial and Agricultural Activities and Production		**x**			**x**				**x**				**Y**	**2**
Quantity and Distribution of Employment	**x**				**x**				**x**					
Local Tax Base and Tax Revenues	**x**				**x**				**x**					
Demand for Government Services	**x**				**x**				**x**					
Access to and Quality of Recreational and Wilderness Activities		**x**				**x**			**x**				**Y**	**3**
Density and	**x**				**x**				**x**					

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		
Distribution of population and housing														
Social Structures and Mores	x				x				x					
Cultural Uniqueness and Diversity	x				x				x					

Comments:

1. Some minor additional short-term risk to health and human safety could be present related to increases in logging traffic during operations.
2. The project area is leased for grazing. It is expected that the project would have all positive impacts to grass production and grazing.
3. The Lake Canyon Road is one of the very few public access points to public lands west of the Medicine Lodge Road. However, due to the remote location recreation use outside of the big game general rifle season is low. Recreationist traveling the Lake Canyon Road could encounter log trucks. Due to the small size of the project and short duration, direct and indirect impacts are expected to be low and no cumulative impacts are expected.

Mitigations:

- Signs at appropriate locations on public roads would be used to warn motorists and residents of potential presence of log truck traffic.

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.*

- Not applicable

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 $9,309 based on an estimated harvest of 1,070 tons and an overall stumpage value of $8.70 per ton. 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.

DNRC. 2010. Montana Department of Natural Resources and Conservation Forested State Trust Lands Habitat Conservation Plan: Final EIS, Volume II, Forest Management Bureau, Missoula, Montana.

Heyerdahl, Emily, R.F. Miller, and R.A. Parsons. 2006. History of fire and Douglas-fir establishment in a savanna and sagebrush-grassland mosaic, southwestern Montana, USA. Forest Ecology and Management. 230: 107-118.

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: Jason Glenn
Title: Dillon Unit Forester
Date: July 27, 2020

Finding

Alternative Selected

Upon review of the Checklist EA and attachments, I find the Action Alternative, as proposed, meets the intent of the project objectives as stated in the *Type and Purpose of Action*. The lands involved in this project are held by the State of Montana in trust for the support of specific beneficiary institutions and DNRC is required by law to administer these trust lands to produce the largest measure of reasonable and legitimate return over the long run (*Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X Section 11; and, 77-1-212 MCA*). The Action Alternative was designed to be in full compliance of the State Forest Lands Manage Plan (SFLMP), the Administrative Rules for Forest Management (Forest Management Rules; ARM 36.11.401 through 471), as well as other applicable state and federal laws.

Significance of Potential Impacts

The identified resource management concerns have been fully addressed in the environmental analysis that was conducted. Specific project design features and various recommendations of the resource management specialists have been implemented to ensure that this project will fall within the limits of acceptable environmental change. For example, the project is designed to:

- Retain coarse woody debris to be left on site in amounts recommended by Graham, et.al (1994) and fine debris as much as practicable, maintaining nutrient cycling in harvest units, helping maintain soil productivity, as well as to provide habitat substrates for wildlife.
- Limit the area of adverse soil impacts, equipment operations would be limited to periods when soils are dry (<20% soil moisture), frozen or snow covered (12" packed or 18" unconsolidated) as well as limited to slopes <40%.
- Keep skid trails to 20 percent or less of the harvest unit acreage. Provide for drainage in skid trails and roads concurrently with operations.
- Implement mitigation measures to reduce the proliferation of weeds including requiring all off-road equipment to be washed prior to operation on site, sowing grass seed on roads after harvest, and applying herbicide along roadsides and on spots of weed outbreaks.
- Reclaim disturbed areas after logging and control noxious weeds, including cheatgrass and Japanese brome, to minimize adverse effects to sage grouse.
- Retain at least 1 large snag and 1 large snag recruitment tree (largest size available) per acre within harvest units across the project area.
- Retain at least one large log >15-inch diameter and >20 feet long (or of the largest diameter available) per acre to comply with lynx HCP commitment LY-HB2(1).
- Retain patches of advanced regeneration comprised of shade-tolerant trees species to provide habitat structure and maintain these tree species as a part of the stand species mix.

Need for Further Environmental Analysis

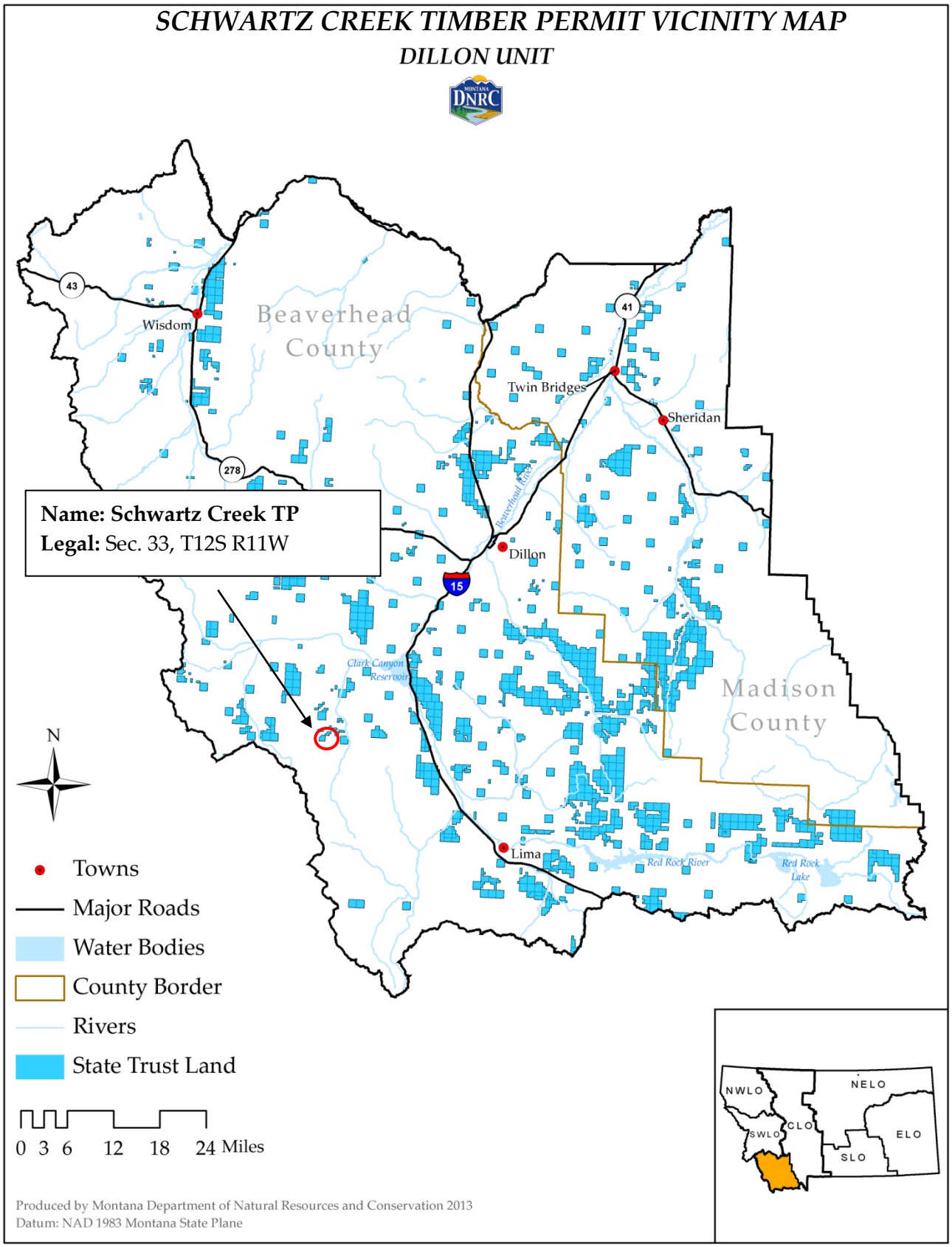
☐	EIS	☐	More Detailed EA	☒	No Further Analysis

Environmental Assessment Checklist Approved By:

Name: Tim Egan
Title: Dillon Unit Manager
Date: July 27, 2020
Signature: /s/ Tim Egan

Attachment A - Maps

A-1: Timber Sale Vicinity Map



A-2: Timber Sale Harvest Units