

Environmental Assessment Checklist

Project Name: Sweet and Sour Timber Permit
Proposed Implementation Date: July 2022
Proponent: Dillon Unit, Central Land Office, Montana DNRC
County: Madison

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 Sweet and Sour Timber. The project is located 13 air miles southeast of Dillon, Montana, (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	T8S R7W 36	639	115
Public Buildings			
MSU 2 nd 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:

- Sanitize forest stands of insects and disease infected trees
- Promote forest resilience while reducing the probability of uncharacteristically severe wildfire
- Emulate historic disturbance regimes to promote future stand structure and species composition that would be similar to historic conditions
- Generate revenue for the Common School Trust through timber harvest

Proposed activities include:

Seed Tree	8
Shelterwood	4
Selection	
Old Growth Maintenance/Restoration	
Commercial Thinning	36
Salvage	
Overstory Removal	30
Clearcut	23
Total Treatment Acres	101
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning	
Site preparation/scarification	
Planting	
Conifer Encroachment Removal	14
Total Treatment Acres	14
Proposed Road Activities	# Miles
New permanent road construction	
New temporary road construction	0.16
Road maintenance	2.02
Road reconstruction	
Road abandoned	
Road reclaimed	
Other Activities	

Duration of Activities:	Year-round
Implementation Period:	July 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:
 - March 24, 2021
- PUBLIC SCOPED:
 - Sauerbier Ranches Inc.
 - Geoduck Land & Cattle LLC
 - Ruby Dell Ranch
- AGENCIES SCOPED:
 - Madison County Commissioners
 - Patrick Rennie – MT DNRC Archeologist
 - Dean Waltee – MTFWP Wildlife Biologist
 - Matt Jaeger – MTFWP Fisheries Division
 - Bureau of Land Management
- COMMENTS RECEIVED:
 - How many: No Comments Received
 - Concerns: N/A
 - Results: N/A

DNRC specialists were consulted, including:

Jeff Schmalenberg, Resource Management and Planning Section Supervisor
Mike Anderson, Fisheries Biologist
Emilia Grzesik, Forest Management Planner
Patrick Rennie, 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 2010). As a member, DNRC must submit a list of planned burns to the Airshed Group's Smoke Monitoring Unit describing the type of burn to be conducted, the size of the burn in acres, the estimated fuel loading in tons/acre, and the location and elevation of each burn site. The Smoke Monitoring Unit provides timely restriction messages by airshed. DNRC is required to abide by those restrictions and burn only when granted approval by the Smoke Monitoring Unit when forecasted conditions are conducive to good smoke dispersion.
- **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:
 - Replacement of an existing culvert on a Class 2 stream and the installation and removal of a temporary culvert on a Class 3 stream.

ALTERNATIVES CONSIDERED:

No-Action Alternative: Timber harvest would not occur, and no revenue would be generated for the Common School Trust. The road system would not be upgraded to meet Best Management Practices (BMP's).

Action Alternative: Approximately 500 thousand board feet of timber would be harvested from 151 acres and would generate income for the Common School Trust. Access to the project area would be improved by upgrading roads to meet BMP's. Forest health and vigor of the residual forest would be improved.

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:

Harvest Unit	Habitat Group	Fire Regime	Current Cover Type	Age Class (years)	DFC	RX	Acres
1	Warm and dry (eastside)	Mixed	Douglas Fir	100-149	Douglas Fir	Seed Tree	23
2	Warm and dry (eastside)	Mixed	Douglas Fir	100-149	Douglas Fir	Shelterwood Harvest	4
3	Warm and moist (eastside)	Mixed	Douglas Fir	100-149	Douglas Fir	Commercial Thinning	21
4	Warm and dry (eastside)	Low-to-mixed	Douglas Fir	100-149	Douglas Fir	Commercial Thinning	9
5	Warm and dry (eastside)	Low-to-mixed	Douglas Fir	100-149	Douglas Fir	Commercial Thinning	6
6	Warm and dry (eastside)	Low-to-mixed	Douglas Fir	100-149	Douglas Fir	Commercial Thinning	22
7	Warm and dry (eastside)	Low-to-mixed	Douglas Fir	100-149	Douglas Fir	Overstory Removal	22
8	Warm and dry (eastside)	Low-to-mixed	Douglas Fir	100-149	Douglas Fir	Seed Tree	8
9	Warm and dry (eastside)	Low	Douglas Fir	0-39	Sage – Steppe	Conifer Encroachment Removal	14

Fire Hazard/Fuels: Fuel hazards are exacerbated by high mortality rates throughout the majority of the project area. Insect infestations have led to an abundance of dead-standing and downed timber that poses hazardous fuels conditions. The current arrangement and volume of ground fuels and dead-standing timber dramatically increases probability of uncharacteristically high fire intensity and would pose safety and tactical concerns for fire management operations. The

project area is not within the wildland-urban interface, as the nearest municipality, Dillon, Montana, is 13 air miles away.

Insects and Diseases: Douglas-bark beetle and associated spruce budworm infestations occur frequently throughout the project area.

Sensitive/Rare Plants:
Low Beardtongue (*Penstemon humilis*)

Noxious Weeds: Canada Thistle (*Cirsium arvense*), Spotted Knapweed (*Centaurea stoebe*), Houndstounge (*Cynoglossum officinale*)

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														
Current Cover/DFCs			x				x				x		N/A	
Age Class			x				x				x		N/A	
Old Growth	x				x				x					
Fire/Fuels				x			x				x		N/A	
Insects/Disease			x				x				x		N/A	
Rare Plants	x				x				x					
Noxious Weeds	x				x				x					
Action														
Current Cover/DFCs	x				x				x					
Age Class	x				x				x					
Old Growth	x				x				x					
Fire/Fuels		x				x				x			Y	1
Insects/Disease	x				x				x					
Rare Plants		x			x				x				Y	3
Noxious Weeds			x			x				x			Y	2

Comments:

1. Short term fuel accumulations will occur due logging operations through the harvest of green standing trees. Harvest of dead and downed timber will not result in a net increase in fuel accumulations
2. Timber harvest and associated road work may lead to an increase in the occurrence of noxious weeds.
3. According to a Montana Natural Heritage Species of Concern report, is one plant species of concern that may occur in the project area.

Vegetation Mitigations:

1. Excess logging slash that is not necessary for soil erosion mitigation will be piled and burned in accordance to Logging Slash Reduction Laws

2. DNRC plans to complete herbicide treatments of noxious weeds on the state parcel and segments of the access roads on adjacent ownerships to control existing weed infestations. All equipment would be washed and inspected prior to start of work. All new roads would be reseeded to site adapted grass to reduce the threat of noxious weed spread. Project areas would be monitored for noxious weeds after harvest operations are complete and herbicide treatments may be applied if needed.

3. Low Beardtongue (*Penstemon humilis*) is identified as a plant species of concern by the Montana Natural Heritage Program. Low beardtongue is not known to occur within the harvest units, as it primarily occurs in grassland and sagebrush habitats. It is expected that the Action Alternative will have little to no impact on this species due to a lack of suitable habitat in the proposed harvest area. Any discovery of this species in the project area will prompt a change in operational strategy as necessary.

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions: The project area consists of soils developed from Loamy colluvium and/or residuum weathered from gneiss. Soils are predominately gravelly loams with higher sand component lower on hillslopes. Forest sands are moderately productive on northern aspects with productivity limited by precipitation and limited growing degree days due to elevation. Previous forest management within the project area consists of approximately 40 acres and has regenerated adequately with no resulting loss in productivity from soil disturbance. Coarse woody debris within harvest units is consistent with volumes typically associated with the forest habitat types and ranges from 15-20 tons per acre. No sites of chronic upland erosion were observed, and slopes were generally stable with some historic evidence of small, rotational failures adjacent to incised stream corridors.

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	1
Nutrient Cycling	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		
Slope Stability		x				x			x				Yes	2
Soil Productivity		x			x					x			Yes	

Comments:

- 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. Erosion on disturbed soils and skid trails can be mitigated and controlled with standard soil and water conservation (BMP) techniques and practices.
- Areas of marginal slope stability and/or historic small rotational failures were avoided during project design. The likelihood of reactivation of these historic slumps is low and initiation of new failures is unlikely, but possible, if a high intensity precipitation event occurs shortly after a significant portion of the forest canopy is removed. Streamside buffers and BMP's for forestry will mitigate the probability for this to occur but can never eliminate the risk.

Soil Mitigations:

- 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.
- 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.
- 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 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 10-15 tons per acre 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:

The project area is entirely in the Upper Sweetwater Creek watershed (HUC 100200030201) tributary to Sweetwater Creek. Upper Sweetwater Creek (30 mi²) is 7% forested and 92% privately owned. The project area contains Class 2 and Class 3 stream segments and no surface water connectivity to downstream waters of Sweetwater Creek. As a result, no channels support a fishery in the project area or on waters crossed by the haul route and fisheries resources are dismissed from analysis in the project area.

Sweetwater Creek is classified as B-1 in the Montana Surface Water Quality Standards. The B-1 classification is for multiple beneficial-use waters, including consumption, growth and propagation of cold-water fisheries and associated aquatic life, and agricultural and industrial uses. Among other criteria for B-1 waters, no increases are allowed above naturally occurring concentrations of sediment or suspended sediment that will harm or prove detrimental to fish or wildlife. Naturally occurring includes conditions or materials present from runoff or percolation from developed land where all reasonable land, soil, and water conservation practices have been applied. Reasonable practices include methods, measures, and practices that protect present and reasonably foreseeable beneficial uses. DNRC has adopted Forestry Best Management Practices (BMPs) through its Nonpoint Source Management Plan as the principle means of controlling nonpoint source pollution from silvicultural activities.

Sweetwater Creek is currently listed under the 303d in 2020 (MDEQ 2020). Primary sources for the listing include irrigated crop production and rangeland grazing. A TMDL was developed and approved for the Sweetwater Creek watershed in 2007.

Water Quality and Quantity Existing Conditions: Primary effect mechanisms that may be impacting water quality in the project area include sediment delivery from road surfaces and road-stream crossings and streambank disturbance resulting from livestock hoof shear and trampling.

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	W-1
Water Quantity	x				x				x					
Action														
Water Quality		x				x				x			Y	W-2
Water Quantity	x				x				x				N/A	W-3

Comments:

W-1: Livestock grazing would continue to occur under the existing grazing license. Streambank hoof shear and stream channel disturbance would occur at existing levels and would continue to occur at existing levels regardless of selection of the No Action or Action Alternative.

W-2: Due to harvest systems utilized, location and size of harvest units relative to stream channels, implementation of Forest Management BMPs and the low precipitation levels observed in the project area, and project area surface water hydrologically disconnected from downstream waters supporting beneficial uses, there is a low risk of additional direct water quality impacts for the proposed actions. Considering these impacts in combination with past and current activities, the proposed action is not likely to elevate cumulative watershed effect beyond the existing condition.

W-3: Forest stands are not likely to be a major influence on the hydrology and flow regimes of streams in the project area. Anticipated harvest levels would manage approximately 8 percent of the forested acres in the Upper Sweetwater Creek watershed. This level of harvest, in concert with implementing BMP and streamside buffers, is not expected to result in measurable effects on the timing, magnitude, or duration of peak flows in disconnected downstream receiving waters of Sweetwater Creek.

Water Quality & Quantity Mitigations:

- Best Management Practices for Forestry would be implemented and monitored for effectiveness concurrent with all forest management activities.
- Implementation of Montana Administrative Rules for Forest Management and Streamside Management Zones.
- Implementation of Montana DNRCs Habitat Conservation Plan commitments for Riparian Management Zones and Sediment Delivery.
- Implement all requirements under Montana Streambed Protection Act per DNRC’s SPA 124 permit for this project.

WILDLIFE:

The project area is dominated by mature Douglas-fir stands and lodgepole pine with lesser amounts of Engelmann spruce and subalpine fir represented. Much of the existing forested area on the project area is present due to range encroachment during the last 150 years. Forested stands make up approximately 33% (211 acres) of the project area. Numerous small

to moderate-sized snags are found in forested portions of the project area. Coarse woody debris amounts are patchy and high in some locations due to the mature age of stands and recent high mortality. 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, 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 as fragmented and isolated patches within a broad grassland/shrubland matrix.

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 species would be expected as a result of the proposed activities. Conifer encroachment would be expected to dominate and potentially replace aspen stands, which could adversely affect wildlife species that use them, such as ruffed grouse and many cavity nesting species.

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 <i>(Ursus arctos)</i> Habitat: Recovery areas, security from human activity	x				x				x				Yes	1
Lynx (<i>Felis lynx</i>) Habitat: mosaics--dense sapling and old forest >5,000 ft. elev.		x				x				x			Yes	2
Sensitive Species														
Bald eagle <i>(Haliaeetus leucocephalus)</i> Habitat: Late-successional forest within 1 mile of open water	x				x				x				N/A	4
Wolverine (<i>Gulo gulo</i>) Habitat: high elevation areas that retain high snow levels in late spring		x				x			x				N/A	3
Black-backed woodpecker <i>(Picoides arcticus)</i> Habitat: Mature to old burned or	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		
beetle-infested forest														
Black-tailed prairie dog <i>(Cynomys ludovicianus)</i> Habitat: grasslands, short-grass prairie, sagebrush semi-desert	x				x				x				N/A	4
Flammulated owl <i>(Otus flammeolus)</i> Habitat: Late-successional ponderosa pine and Douglas-fir forest	x				x				x				N/A	4
Greater sage grouse <i>(Centrocercus urophasianus)</i> Habitat: sagebrush semi-desert		x				x				x			Yes	5
Peregrine falcon <i>(Falco peregrinus)</i> Habitat: Cliff features near open foraging areas and/or wetlands	x				x				x				N/A	4
Pileated woodpecker <i>(Dryocopus pileatus)</i> Habitat: Late-successional ponderosa pine and larch-fir forest	x				x				x				N/A	4
Fringed myotis <i>(Myotis thysanodes)</i> Habitat: low elevation ponderosa pine, Douglas-fir and riparian forest with diverse roost sites including outcrops, caves, mines	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		
Hoary bat <i>(Lasiurus cinereus)</i> Habitat: coniferous and deciduous forests and roost on foliage in trees, under bark, in snags, bridges	x				x				x				N/A	4
Townsend's big-eared bat <i>(Plecotus townsendii)</i> Habitat: Caves, caverns, old mines	x				x				x				N/A	4
Big Game Species														
Elk		x				x				x			Yes	6
Whitetail	x				x				x				N/A	
Mule Deer		x				x				x			Yes	6
Other														

Comments:

1. Grizzly bears could potentially travel through the project area. Human access levels in this general area are moderate due to the open road access. Cover and habitat connectivity associated with riparian areas would not be appreciable altered in the project area. Given the size and location of cover patches affected and removed, habitat connectivity would be diminished. 0.16 miles of new, temporary restricted road would be constructed to access the harvest units and facilitate control of weeds. Thus, some short-term and minor risk, to grizzly bears could occur given this additional road on the landscape for a period of up to 3 years. Given the scope and scale of the proposed activities, adverse direct, indirect and cumulative impacts to grizzly bears as a result of this project are expected to be low.
2. Within the 640-acre project area, 211 acres are forested. Of these forested acres, 211 acres are considered potential lynx habitat. There is currently approximately 122 acres of suitable lynx habitat in the project area, of which 67 would be treated and converted to temporary non-suitable habitat. Thus, approximately 55 acres of suitable habitat (45% of total potential habitat) would remain following harvest on the project area. It is estimated that the stands being reduced to temporary non-suitable condition would take approximately 20-25 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 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, affected forest patches are relatively isolated, that the

acreage treated is relatively small, and that cover, and habitat would be retained for habitat connectivity, minimal adverse direct, indirect, and cumulative effects to Canada lynx would be anticipated.

3. Wolverines could potentially travel through the project area occasionally, however, high elevation persistent snow zones and suitable denning habitat do not occur on the project area or cumulative effects analysis area. Thus, potential for adverse direct, indirect and cumulative effects to wolverines or their habitat would be low
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 located in Greater Sage-Grouse core habitat. This project will be reviewed by the Montana Sage Grouse Habitat Conservation Program in March of 2021. Proposed alteration and removal of coniferous forest vegetation would have minimal direct, indirect, or cumulative effects on greater sage grouse. To minimize potential negative effects to sage grouse associated with soil disturbance and noxious weed spread, control measures and seeding of roads with site-adapted grass seed would be required.
6. The project area provides suitable habitat for deer and elk. Under the proposed action, approximately 65 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 on approximately 36 following the proposed harvest. 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 on these habitats would be anticipated.

Wildlife Mitigations:

- A minimum of two snags and two snag recruitment trees 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 comprised of shade-tolerant tree species to provide habitat structure and maintain these tree species as a part of the stand species mix.
- Project work would be completed in an expeditious manner to minimize disturbance.
- Following project work, new, temporary roads would be reclaimed to prohibit motorized public access.
- To minimize negative effects associated with soil disturbance and noxious weed spread on sage grouse, control of noxious weeds and seeding of roads with site-adapted grass seed would be required.

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				N/A	
Dust	x				x				x				N/A	
Action														
Smoke		x				x				x			Yes	1
Dust		x				x				x			Yes	1

Comments:

- Smoke will be created from pile burning and dust may be created from log hauling operations.

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 considers the dust level as unacceptable where the haul route passes through areas frequented by the public, dust abatement may be stipulated.

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				N/A	
Aesthetics	x				x				x				N/A	
Demands on Environmental Resources of Land, Water, or Energy	x				x				x				N/A	
Action														
Historical or Archaeological Sites		x				x				x			yes	1
Aesthetics		x				x				x			yes	2
Demands on Environmental	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		
Resources of Land, Water, or Energy														

Comments:

1. Timber harvest activity and associated road work could disturb archaeological resources.
2. Timber harvest activity would cause both positive and negative impacts on aesthetics. Positive impacts include cleaning up dead standing timber and greening up of the hillsides with regeneration of both conifer and aspen stands. Negative impacts include visibility of road cuts, landings, slash piles and skid trails.

Mitigations:

1. Scoping letters were sent to those Tribes that requested to be notified of DNRC timber sales. The Northern Cheyenne THPO requested additional information and DNRC responded. 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 several previous cultural resource inventories have been conducted for the APE and no cultural or paleontological resources have been identified. Because of the lack of cultural resources in the APE, 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 project. However, 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. Negative impacts on aesthetics would be mitigated by dispersing grass seed on road surfaces and landing areas promptly following the completion of harvest 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.*

- None

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				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 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	
Action														
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	

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		
Access To and Quality of Recreational and Wilderness Activities	x				x				x				N/A	
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: No direct, secondary, or cumulative impacts are expected as a result of the action alternative.

Mitigations: N/A

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.*

- N/A

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 School Trust. The estimated return to the trust for the proposed harvest is \$42,350 based on an estimated harvest of 500,000 board feet (4,235 tons) and an overall stumpage value of \$10.00 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.

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: Riley Stevenson

Title: Unit Forester

Date: June 2022

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:

- Incorporate Best Management Practices (BMP's) in the maintenance of 2.02 miles of existing road on State Trust Lands.

- 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 <45%.
- 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.
- Retain at least 2 large snags and 2 large snag recruitment trees (largest size available) per acre within harvest units across the project area.
- 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.
- Retain at least one large log >15-inch diameter or of the largest diameter available per acre.

Need for Further Environmental Analysis

EIS

More Detailed EA

No Further Analysis

Environmental Assessment Checklist Approved By:

Name: Timothy Egan

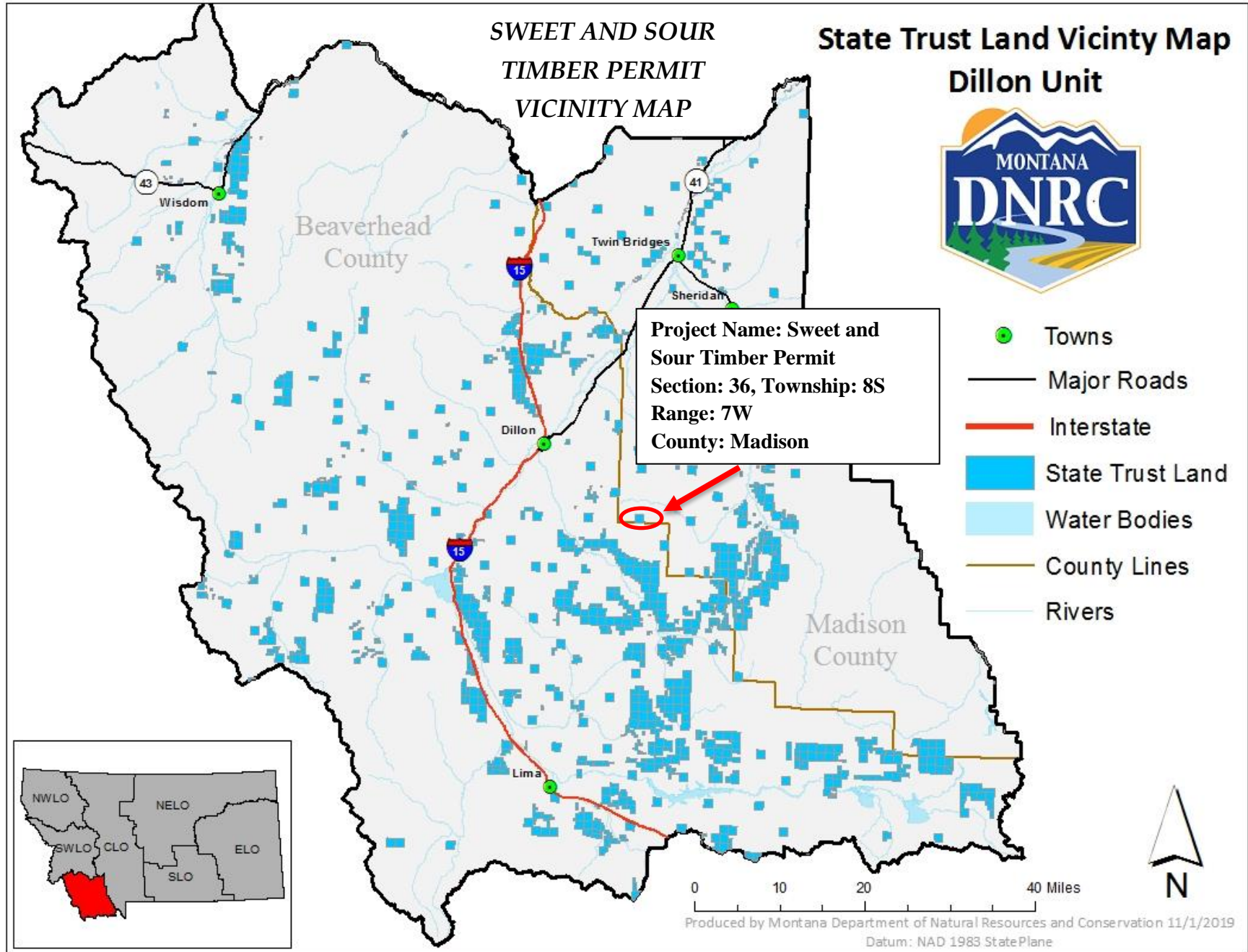
Title: Dillon Unit Manager

Date: July 21, 2022

Signature: /s/ Timothy Egan

Attachment A - Maps

A-1: Timber Sale Vicinity Map



A-2: Timber Sale Harvest Units

Sweet and Sour Timber Permit

