Environmental Assessment Checklist

Project Name: Chief Looking Glass Limited Access Timber Permit
Proposed Implementation Date: March 2018
Proponent: Hamilton Unit, Southwestern Land Office, Montana DNRC
County: Ravalli

Type and Purpose of Action

Description of Proposed Action:

The Hamilton Unit of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the Chief Looking Glass Limited Access Timber Permit. The project is located approximately 2.5 miles northeast of Florence, 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	**T11N R20W Sec. 36**	**227**	**40**

Objectives of the project include:

- Reestablish and promote historic timber types
- Remove ponderosa pine infected with mountain pine beetle.
- Increase the growth and vigor of regeneration by thinning overstocked areas.
- Reduce fuel loading and ladder fuels by thinning suppressed and intermediate crown classes.
- Provided income for the Common Schools Trust.

Proposed activities include:

Action	Quantity
Proposed Harvest Activities	# Acres
Clearcut	
Seed Tree	
Shelterwood	
Selection	40
Commercial Thinning	
Salvage	
Total Treatment Acres	
Proposed Forest Improvement Treatment	# Acres
Pre-commercial Thinning	**3**
Planting	
Proposed Road Activities	# Miles

Action	Quantity
New permanent road construction	
New temporary road construction	
Road maintenance	
Road reconstruction	
Road abandoned	
Road reclaimed	
Other Activities	

Duration of Activities:	1 month
Implementation Period:	March, 2018

The lands involved in this proposed project are held in trust by the State of Montana. (Enabling Act of February 22, 1889; 1972 Montana Constitution, Article X, Section 11). The Board of Land Commissioners and the DNRC are required by law to administer these trust lands to produce the largest measure of reasonable and legitimate return over the long run for the beneficiary institutions (Section 77-1-202, MCA).

The DNRC would manage lands involved in this project in accordance with:

- The State Forest Land Management Plan (DNRC 1996),
- Administrative Rules for Forest Management (ARM 36.11.401 through 471),
- and all other applicable state and federal laws.

Project Development

SCOPING:

- DATE:
  - 12/20/2017
- PUBLIC SCOPED:
  - The scoping notice was posted on the DNRC Website: http://dnrc.mt.gov/public-interest/public-notices
  - Adjacent landowners
- AGENCIES SCOPED:
  - MT Fish, Wildlife, & Parks
- COMMENTS RECEIVED:
  - How many: 3
  - Concerns:
    (1) 2 landowners were supportive of the project.
    (2) 1 landowner express concerns about effects/mitigations to wildlife, riparian areas, recreation, and timber harvesting activities/logging traffic.
  - Results (how were concerns addressed):
    - The concerned landowner was contacted by email and phone. The unit forester explained the prescription for the project and offered a field day to walk the project area and discuss concerns.

DNRC specialists were consulted, including: Garrett Schairer (wildlife biologist), Gary Frank (Deputy Bureau Chief, [hydrology/soils])

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:

- **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.

- **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.
    - DNRC would utilize an existing ford located on private property to the east of the project area. This ford would be used for the hauling of approximately 15 -18 loads of timber.
    - Patrick Saffel (DFWP) was contacted about the need for a 124 permit for the existing ford. He stated that the DNRC could utilize the crossing under the 310-permit issued to Ottman Forestry.

ALTERNATIVES CONSIDERED:

No-Action Alternative: No harvest of merchantable timber would take place. No thinning of sub-merchantable timber would take place. No revenue would be generated for the Common Schools Trust.

Action Alternative: DNRC would harvest approximately 100 MBF from approximately 40 acres. Single tree selection (thin from below) would be used for harvest in the merchantable timber. The focus on "leave" trees would be the large, mature overstory pine. Slash would be piled and burned postharvest. Approximately 3 acres of regeneration would be thinned.

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:

Current Stand Conditions
The current forest is composed of pure stands of ponderosa pine mixed with cottonwood and brush species near riparian areas. The ponderosa pine stands are multi-aged, composed of a large (16" – 20" + DBH) dominant/codominant layer, an intermediate layer (8" – 16" DBH), and an understory layer of regeneration and grasses. There is a grassy meadow (8 -10 acres) located in the southeast portion of the area. This meadow is surrounded by areas of thick regeneration containing seedlings and saplings. The riparian areas consist of two main channels (one near the northern boundary, and one on the southern boundary). These areas also contain some older, dry remnant channels next to the main channels. Cottonwood, along with an understory of brush species and grasses, dominate these areas.

Forest Health:
Scattered single ponderosa pine trees show evidence of bark beetle infestation. Scattered single trees exhibit varying degrees of poor vigor (declining crowns) and/or form (forked tops, broken tops, bole defects). As stated above, there are thick patches of regeneration surrounding the meadow. The smallest trees in this unit show signs of stagnant/slow growth due to suppression by the larger trees.

Noxious weeds:
There is a small amount of knapweed scattered in some of the grassy openings. A few pockets of houndstongue were observed mainly in the northern part of the project area (less than 1-acre total).

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				
Old Growth	X				X				X					
Action														
Noxious Weeds		X				X				X			Y	2
Rare Plants	X				X				X					
Vegetative community		X				X				X				1
Old Growth	X				X				X					

Comments:

1. The goal of this harvest/thinning is to reduce fuels and mimic stand conditions present in low elevations pine stands that were historically impacted by a frequent fire regime. These fires would typically consume understory fuels, seedlings, saplings, and trees in the intermediate layer. This would result in stands of well-spaced, large ponderosa pine that are more fire resilient.
2. Timber harvest may lead to an increase in the occurrence of noxious weeds.

Vegetation Mitigations:

- Noxious weeds would be monitored following harvest.
- Noxious weeds would be sprayed postharvest to limit spread of existing weeds.
- Site adapted grass would be planted in disturbed areas (skid trails, haul routes, and burn pile areas following burning).

SOIL DISTURBANCE AND PRODUCTIVITY:

Soil Disturbance and Productivity Existing Conditions:

The soils are a complex of Riverun/Gash series stratified coarse sands and sandy gravels with shallow topsoils forming in alluvial and floodplain deposits of the Bitterroot River with moderate erosivity. The topography is primarily flat with small undulations adjacent to the Sin-tin-tin-em-ska Creek and Bitterroot River overflow channels found in the analysis area. There is no especially unique or unstable terrain on the project site.

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					

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

Comments:

1. The risk of harvest impacts from disturbance in the form of erosion, displacement, and compaction are expected to be low, due to proposed harvesting and hauling operations limited to frozen, snow covered, or dry ground conditions. DNRC soil monitoring on previous projects has confirmed that very low disturbance or erosion occurred with winter or dry soil harvest operations.
2. Defected wood and large unmerchantable pieces of trees would be left in the woods as well as tree tops up to 5 inches in diameter to provide coarse woody debris (CWD) for moisture retention and nutrient recycling. Additionally, some blown down trees would be left in the SMZ for the same purpose and other blowdown sustained on these sections, but outside the project area, would also be left.
3. No new road construction or excavation is proposed in the floodplain. Most of the existing haul route is gravel surfaced supporting all season use. Road use with the proposed harvest area would primarily be primitive trails with no excavation or fill. All roads and heavily disturbed areas would be grass seeded after use.

Soil Mitigations:

- Harvesting and hauling operations limited to frozen, snow covered, or dry ground conditions.

WATER QUALITY AND QUANTITY:

Water Quality and Quantity Existing Conditions:

The project area is located on alluvial terrace west of the Bitterroot River and an old oxbow channel crosses the northeast corner of the parcel. The general area contains several relict and overflow channels and meander features that may be active during flood events or during

periods with high water table, and meet the definition of a stream contained in the Montana Streamside Management Law and Rules.

The proposed blowdown salvage, harvest, and thinning area is located on the higher terrace sites that are relatively dry, and not occupied by wetland vegetation. However, several depressions and low spots adjacent to the harvest unit are occupied by cottonwood, aspen, dogwood, and sedge vegetation communities. One area to the west of the proposed harvest area is considered an adjacent wetland and the SMZ should be extended to include this area.

The proposed haul route would use an existing gravel surfaced, all season road that crosses private land and would also utilize an existing ford crossing of an actively flowing side/overflow channel of the Bitterroot River. The ford and approaches have been armored with 1-3" diameter angular rock to prevent rutting, excessive disturbance, and sedimentation.

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**				**N/A**	

Comments:

1. Access and log hauling would primarily utilize existing roads located on gentle and well-drained terrain. Most of the existing haul route is gravel surfaced and no excavated road construction is proposed. Therefore, there is minimal risk of excessive disturbance, off-site erosion and sediment delivery. The limited use of the existing armored ford crossing (approximately 20 truckloads) and proposed harvest during winter or dry site conditions are not expected to impact downstream water quality. No timber harvests or equipment operations are planned within the SMZ or immediate vicinity of the Bitterroot River. In addition, no timber harvests or equipment operations are planned within the SMZ or extended SMZ for adjacent wetlands, on side/overflow channels to the Bitterroot River. Due to the gentle topography of this harvest area, the required minimum SMZ distances are 50' except where the SMZ would be extended to incorporate any adjacent wetland areas. Based on the harvest design, use of existing roads, and proposed operations during winter and/or dry site conditions, there is minimal risk of direct, indirect or cumulative effects to water quality or impacts to downstream beneficial uses.

Water Quality & Quantity Mitigations:

- All BMP's, and requirements for SMZ's and Wetland Management Zones (WMZ), would be applied and administered during harvest operations.
- Use of existing armored ford crossing of side/overflow channel would be limited to approximately 20 truckloads.

- All proposed harvest operations would be conducted during winter or dry site conditions to minimize disturbance and risks of soil disturbance, off-site erosion, and sediment delivery. Harvest operation would be curtailed during wet periods or during high-water table to avoid excessive soil disturbance.
- No excavated road construction is proposed.

FISHERIES:

Fisheries Existing Conditions: The Bitterroot River flows through the east half of DNRC section 24 and the river supports a cold-water fishery that includes both bull trout and westslope cutthroat trout. Bull trout are currently listed as a threatened species under the Endangered Species Act and westslope cutthroat trout is a sensitive species. The proposed haul route utilizes a gravel surfaced private access road to the northwest corner of the state parcel. The access road includes an existing armored ford crossing of a perennial overflow/side channel to the Bitterroot River.

No-Action:
No direct or indirect impacts would occur to affected fish species or affected fisheries resources beyond those described in Fisheries Existing Conditions. Cumulative effects (other related past and present factors; other future, related actions; and any impacts described in Fisheries Existing Conditions) would continue to occur.

Action Alternative (see Fisheries table below):

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

Comments:

1. The proposed harvest would comply with the Watershed, Fisheries, and Threatened and Endangered Species Resource Management Standards contained in the Forest Management ARM. No timber harvest or new road construction is planned in SMZ or in the immediate vicinity of the Bitterroot River. Use of the existing armored ford crossing of the overflow/side channel would be limited to approximately 20 loads of logs. Based on this harvest design and limiting operation to winter or dry site conditions, there is minimal risk of direct, indirect, or cumulative effects to fish habitat.

Fisheries Mitigations:

- No timber harvest or road construction within SMZs or immediate vicinity of Bitterroot River.
- Use of existing armored ford of overflow channel limited to approximately 20 loads of logs.
- Harvest operation limited to winter or dry site condition.

WILDLIFE:

Wildlife Existing Conditions:

The project area contains a mixture of ponderosa pine and non-forested habitat types along with some black cottonwood in the riparian areas along the Bitterroot River and associated streams and wetlands. Generally, wildlife that use dry ponderosa pine stands and/or deciduous riparian habitats in western Montana could use the project area, and these habitats likely support a variety of wildlife from more common species, such as beaver, raccoon, red squirrels, chickadees, osprey, deer, elk, and great blue herons, to less common species such as pileated woodpeckers, bald eagles, and Lewis's woodpecker. Grizzly bears may infrequently pass through the area, and extensive use is unlikely. Potential habitat exists for flammulated owls (140 acres) and pileated woodpeckers (129 acres) in the project area. The project area is in the home range of the Carlton bald eagle territory. Gray wolves have been documented 2 miles to the east and west of the project area, but have not been located in the valley bottom near the project area. Similarly, Townsend's big-eared bats have been documented to the east of the project area in the Sapphire Mountains, but not in the valley bottom near the project area. Big game winter range exists in the project area, but no big game security habitats exist in the project area.

No-Action:

No potential for disturbance to wildlife would be anticipated. No timber management activities would be conducted, thus no appreciable changes to existing habitats would occur. Generally, no change in the suite of species using the project area would be expected. Continued maturation could improve pileated woodpecker habitats, and big game winter range attributes,

but could reduce habitat quality for flammulated owls over the long term. Generally, negligible direct, indirect, or cumulative effects would occur.

Action Alternative (see Wildlife table below):
Approximately 40 acres (17% of the project area) of existing mature ponderosa pine stands would be harvested. Generally, no change in the suite of species using the project area would be expected. Proposed treatments would reduce habitat for those species relying on mature, closed-canopied ponderosa pine stands in a portion of the project area. In general, habitats for those species adapted to more-open forest conditions similar to historic, low-intensity, underburns would increase in the project area, meanwhile habitats for wildlife species that prefer dense, mature forest conditions created by fire exclusion would be reduced in the project area. No changes in legal motorized public access would occur in the project area. Contract stipulations would minimize the presence of human-related attractants for the duration of the proposed activities. Proposed activities would occur in the late winter and prior to the start of the nesting/young rearing seasons for most species, thus minimizing potential disturbance during that important portion of the year. Some disturbance to any resident species in the area could occur, displace these individuals. Disturbance to wildlife would be of short duration and would be expected to revert to levels similar to the existing conditions following proposed activities.

Wildlife	Effects								Can Impact be Mitigated?	Comment Number
	Direct and Indirect				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High		
Threatened and Endangered Species										
Grizzly bear *(Ursus arctos)* Habitat: Recovery areas, security from human activity		**X**				**X**			**Y**	**W-1**
Canada lynx (*Felix lynx)* Habitat: Subalpine fir habitat types, dense sapling, old forest, deep snow zone	**X**				**X**					**W-2**
Yellow-Billed Cuckoo (*Coccyzus americanus*) Habitat: Deciduous forest stands of 25 acres or more with dense understories		**X**				**X**				**W-3**

Wildlife	Effects								Can Impact be Mitigated?	Comment Number
	Direct and Indirect				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High		
and in Montana these areas are generally found in large river bottoms										
Sensitive Species										
Bald eagle *(Haliaeetus leucocephalus)* Habitat: Late-successional forest less than 1 mile from open water		**X**				**X**			**Y**	**W-4**
Black-backed woodpecker *(Picoides arcticus)* Habitat: Mature to old burned or beetle-infested forest	**X**				**X**					**W-2**
Coeur d'Alene salamander *(Plethodon idahoensis)* Habitat: Waterfall spray zones, talus near cascading streams	**X**				**X**					**W-2**
Columbian sharp-tailed grouse *(Tympanuchus Phasianellus columbianus)* Habitat: Grassland, shrubland, riparian, agriculture	**X**				**X**					**W-2**
Common loon *(Gavia immer)* Habitat: Cold mountain lakes, nest in emergent vegetation	**X**				**X**					**W-2**

Wildlife	Effects								Can Impact be Mitigated?	Comment Number
	Direct and Indirect				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High		
Fisher *(Martes pennanti)* Habitat: Dense mature to old forest less than 6,000 feet in elevation and riparian	**X**				**X**					**W-2**
Flammulated owl *(Otus flammeolus)* Habitat: Late-successional ponderosa pine and Douglas-fir forest		**X**				**X**			**Y**	**W-5**
Gray Wolf *(Canis lupus)* Habitat: Ample big game populations, security from human activities		**X**				**X**			**Y**	**W-6**
Harlequin duck *(Histrionicus histrionicus)* Habitat: White-water streams, boulder and cobble substrates	**X**				**X**					**W-2**
Mountain plover (*Charadrius montanus*) Habitat: short-grass prairie & prairie dog towns	**X**				**X**					**W-2**
Northern bog lemming *(Synaptomys borealis)* Habitat: Sphagnum meadows, bogs, fens with thick moss mats	**X**				**X**					**W-2**
Peregrine falcon	**X**				**X**					**W-2**

Wildlife	Effects								Can Impact be Mitigated?	Comment Number
	Direct and Indirect				Cumulative					
	No	Low	Mod	High	No	Low	Mod	High		
(Falco peregrinus) Habitat: Cliff features near open foraging areas and/or wetlands										
Pileated woodpecker *(Dryocopus pileatus)* Habitat: Late-successional ponderosa pine and larch-fir forest		**X**				**X**			**Y**	**W-7**
Townsend's big-eared bat *(Plecotus townsendii)* Habitat: Caves, caverns, old mines	**X**				**X**					**W-8**
Wolverine *(Gulo gulo)* Habitat: Alpine tundra and high-elevation boreal forests that maintain deep persistent snow into late spring	**X**				**X**					**W-2**
Big Game Species										
Elk		**X**				**X**			**Y**	**W-9**
Whitetail Deer		**X**				**X**			**Y**	**W-9**
Mule Deer		**X**				**X**			**Y**	**W-9**
Moose		**X**				**X**			**Y**	**W-9**
Other	**X**				**X**					

Comments:

W-1 The project area is 23 miles south of the Northern Continental Divide Ecosystem grizzly bear recovery area, but is only 6 miles from the Bitterroot Ecosystem grizzly bear recovery area. While this area is not thought to support grizzly bears, there have been a couple of relatively recent observations that indicate grizzly bears may occasionally be found in the vicinity. Individual animals may infrequently use the project area while dispersing or possibly foraging.

Proposed activities would occur during the denning period, thus no potential for disturbance to grizzly bears would be anticipated. Slight reductions in hiding cover could alter any grizzly bear use of the project area, but given the size of the proposed project, the proximity to human residences, agricultural activities, popular recreational sites, and other forms of human disturbance, use by grizzly bears unlikely. No changes in human access, open road densities, or grizzly bear security habitats would occur.

W-2 The project area is either out of the range of the normal distribution for this species or suitable habitat is not present. Thus, no direct, indirect, or cumulative effects would be anticipated.

W-3 There are approximately 17 acres of cottonwood and deciduous riparian habitats in the project area, and while this is likely not large enough for use by yellow-billed cuckoos, they might be suitable habitats when considered in conjunction with any available habitats on adjacent ownerships. No activities would occur in any of these riparian deciduous or cottonwood habitats, thus no changes in potential habitats would occur. While there are no documented records of breeding yellow-billed cuckoos in Montana, proposed activities would occur outside of the nesting season, so potential disturbance to yellow-billed cuckoos would not be anticipated. Thus, no direct, indirect, or cumulative effects to yellow-billed cuckoos would be anticipated.

W-4 The project area is roughly 1 mile from the Carlton bald eagle nest; the proposed project area is in the home range of this territory. Proposed activities would occur during the early portion of the bald eagle nesting season, but given the distance from the nest and the relative flat nature of the area, the nest would be screened from proposed activities by existing vegetation. The territory experiences considerable disturbance within the home range area, including human residences, agricultural activities, popular recreational sites, Highway 93, Montana Rail Link railroad, and other forms of human disturbance. Minor levels of disturbance to bald eagles in this territory could occur with any activities conducted during the nesting period. Negligible reductions in the availability of large snags or emergent trees that could be used as nest or perch trees could occur in the home range.

W-5 There are approximately 144 acres of potential flammulated owl habitats in dry ponderosa pine stands across the project area. Portions of the cumulative effects analysis area have been harvested in the recent past, potentially improving flammulated owl habitat by creating foraging areas and reversing a portion of the Douglas-fir encroachment and opening up stands of ponderosa pine; however, retention of large ponderosa pine and/or Douglas-fir was not necessarily a consideration in some of these harvest units, thereby minimizing the benefits to flammulated owls. Proposed activities would occur outside of the flammulated owl nesting season, so disturbance to flammulated owls would not be expected. Since some snags and numerous large ponderosa pine trees would be retained, loss of nest trees would be expected to be minimal. Proposed activities on 40 acres of potential flammulated owl habitats would open the canopy while favoring ponderosa pine. Proposed pre-commercial thinning could improve flammulated owl foraging habitats, while contributing to an increased representation of ponderosa pine in the future in those stands, which would improve potential flammulated owl habitat quality. The more open stand conditions, the retention of fire adapted tree species, and

the maintenance of snags would move the project area toward historical conditions, which is preferred flammulated owl habitat.

W-6 Although the project area has not been included in the annual home ranges of any known wolf packs, there are wolf packs on either side of the valley and occasional use could occur. Extensive use would not be expected given the levels of human disturbance in the vicinity including human residences, agricultural activities, popular recreational sites, Highway 93, Montana Rail Link railroad, and other forms of human disturbance. No known den or rendezvous sites occur in the project area. Big game species exist in the vicinity of the project area much of the year and winter range exists in the project area. Wolves using the area could be disturbed by proposed activities and are most sensitive at den and rendezvous sites, which are not known to occur in the project area or within 1 mile of the project area. Should either a den or rendezvous site be identified within 1 mile of the project area, a DNRC biologist would be consulted to determine if additional mitigations would be necessary. In the short-term, the proposed activities could lead to slight shifts in big game use, which could lead to a shift in wolf use of the area. Proposed activities would alter canopy closure, summer big game habitat, and big game winter range habitat, which could alter some big game use of the area, but would not be expected to appreciably alter wolf prey abundance.

W-7 Roughly 129 acres of pileated woodpecker nesting habitat exist in the project area; another 32 acres of potential foraging habitats exist in the project area. Disturbance to pileated woodpeckers would not be expected with proposed activities occurring outside of the nesting season. Roughly 40 acres of potential nesting habitats would be opened up with proposed treatments. Some potential continued use as foraging habitats would be possible depending on density of trees retained. Elements of the forest structure important for nesting pileated woodpeckers, including snags, coarse woody debris, numerous leave trees, and snag recruits would be retained in the proposed harvest areas. Since pileated woodpecker density is positively correlated with the amount of dead and/or dying wood in a stand (McClelland 1979), pileated woodpecker densities in the project area would be expected to be reduced on 40 acres.

W-8 Townsend’s big-eared bats have been documented to the east of the project area in the Sapphire Mountains. However, no suitable caves or mine tunnels are known to occur in the project area or immediate vicinity. Thus, no direct, indirect or cumulative effects to Townsend's big-eared bats would be anticipated as a result of either alternative.

W-9 Montana Department of Fish, Wildlife, and Parks identified white-tailed deer (240 acres) winter range in the project area. This winter range is part of a larger winter range in the area. Ponderosa pine stands in the project area are providing attributes facilitating some use by wintering big game. Proposed activities would occur in the later parts of the winter period. Disturbance during the winter created by mechanized logging equipment and trucks could temporarily displace big game animals during periods of operation in the near term; however, winter logging provides felled tree tops, limbs, and slash piles that could concentrate feeding big game. No long-term effect to winter range carrying capacity or factors that would create long-term displacement or reduced numbers of big game would be anticipated. Proposed activities would reduce canopy closure on roughly 40 acres of white-tailed deer winter range. Following proposed activities, the capacity of these stands to intercept snow and provide thermal cover for big game would be reduced, reducing habitat quality for wintering big game. Proposed activities

would not prevent big game movement through the project area appreciably in winter and could stimulate browse production in the units. Potential big game security habitat does not exist in the project area, and no changes to the availability of this resource would be anticipated.

Wildlife Mitigations:

- A DNRC biologist will be consulted if a threatened or endangered species is encountered to determine if additional mitigations that are consistent with the administrative rules for managing threatened and endangered species (ARM 36.11.428 through 36.11.435) are needed.
- Motorized public access will be restricted at all times on restricted roads that are opened for harvesting activities; signs will be used during active periods and a physical closure (gate, barriers, equipment, etc.) will be used during inactive periods (nights, weekends, etc.). These roads and skid trails would then be reclosed to reduce the potential for unauthorized motor vehicle use.
- Snags, snag recruits, and coarse woody debris would be managed according to *ARM 36.11.411* through *36.11.414*, particularly favoring western larch and ponderosa pine. Clumps of existing snags could be maintained where they exist to offset areas without sufficient snags. Coarse woody debris retention would emphasize retention of downed logs of 15-inch diameter or larger.
- Contractors and purchasers conducting contract operations would be prohibited from carrying firearms while on duty.
- Food, garbage, and other attractants would be stored in a bear-resistant manner.
- Minimize potential disturbance to numerous nesting birds by completing activities prior to April 1.

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**									
Dust	**X**				**X**									
Action														
Smoke		**X**				**X**				**X**			**Y**	**1**
Dust		**X**				**X**				**X**				

Comments:

1. 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).

Air Quality Mitigations:

- Only burn on days approved by the Montana/Idaho Airshed group and DEQ.
- Conduct test burn to verify good dispersal.
- Slower speed limits may be included in contracts as necessary to reduce dust.

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	**X**				**X**				**X**					**1**
Aesthetics		**X**				**X**				**X**				**2**
Demands on Environmental Resources of Land, Water, or Energy		**X**				**X**				**X**				

Comments:

1. If previously unknown cultural or paleontological materials are identified during project related activities, all work would cease until a professional assessment of such resources can be made.
2. Impacts to aesthetics would be expected to be minimal. The harvest is focused as a "thin from below" prescription. As such, the largest trees in the overstory would remain largely intact. Vegetations conditions within the riparian areas would remain unchanged. The resulting stand structure would mimic conditions historically present in low elevation ponderosa pine stands. Disturbed areas would be grass seeded.

OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

- 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					
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					
Quantity and Distribution of Employment		X				X				X				2
Local Tax Base and Tax Revenues		X				X				X				2
Demand for Government Services	X				X				X					
Access To and Quality of		X				X				X				3

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		
Recreational and Wilderness Activities														
Density and Distribution of population and housing	X				X				X					
Social Structures and Mores	X				X				X					
Cultural Uniqueness and Diversity	X				X				X					

Comments:

1. Log truck traffic in the area would increase for the duration of the timber sale, which could cause a low impact to human safety.
2. This project would provide approximately 1-2 weeks of employment for a small logging crew.
3. Recreation in the area would be affected by the operation of harvest equipment. This effect would be temporary during harvest activities. No additional closures on roads accessible by the public would be implemented.

Mitigations:

- If necessary, a slower speed limit may be included in the timber harvest contract.

Locally Adopted Environmental Plans and Goals:

- None

Other Appropriate Social and Economic Circumstances:

Costs, revenues and estimates of return are estimates intended for relative comparison of alternatives. They are not intended to be used as absolute estimates of return. The estimated stumpage is based on comparable sales analysis. This method compares recent sales to find a market value for stumpage. These sales have similar species, quality, average diameter, product mix, terrain, date of sale, distance from mills, road building and logging systems, terms of sale, or anything that could affect a buyer's willingness to pay.

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

Action: The timber harvest would generate additional revenue for the Common Schools Trust. The estimated return to the trust for the proposed harvest is $11,200 based on an estimated harvest of 100,00 board feet (700 tons) and an overall stumpage value of $16.00 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.

McClelland, B.R. 1979. The pileated woodpecker in forests of the Northern Rocky Mountains. Pages 283-299 *in* Role of insectivorous birds in forest ecosystems. Academic Press.

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: Thayer Jacques
Title: Hamilton Unit Forester
Date: March 2018

Finding

Alternative Selected

I select the Action Alternative.
DNRC will harvest approximately 100 MBF from approximately 40 acres of state trust land. Single tree selection (thin from below) will be used for harvest in the merchantable timber. The focus on “leave” trees would be the large, mature overstory pine. Slash would be piled and burned postharvest. Approximately 3 acres of dense regeneration will be thinned.

This alternative will take advantage of an opportunity for access to isolated trust lands through adjacent private land, and will provide $11,200 in revenue to the Common School trust.
The goal of this harvest/thinning is to improve forest health, reduce fuels and mimic stand conditions present in low elevations pine stands that were historically impacted by a frequent fire regime.

Significance of Potential Impacts

Implementation of this alternative as proposed, will not result in significant impacts.

Need for Further Environmental Analysis

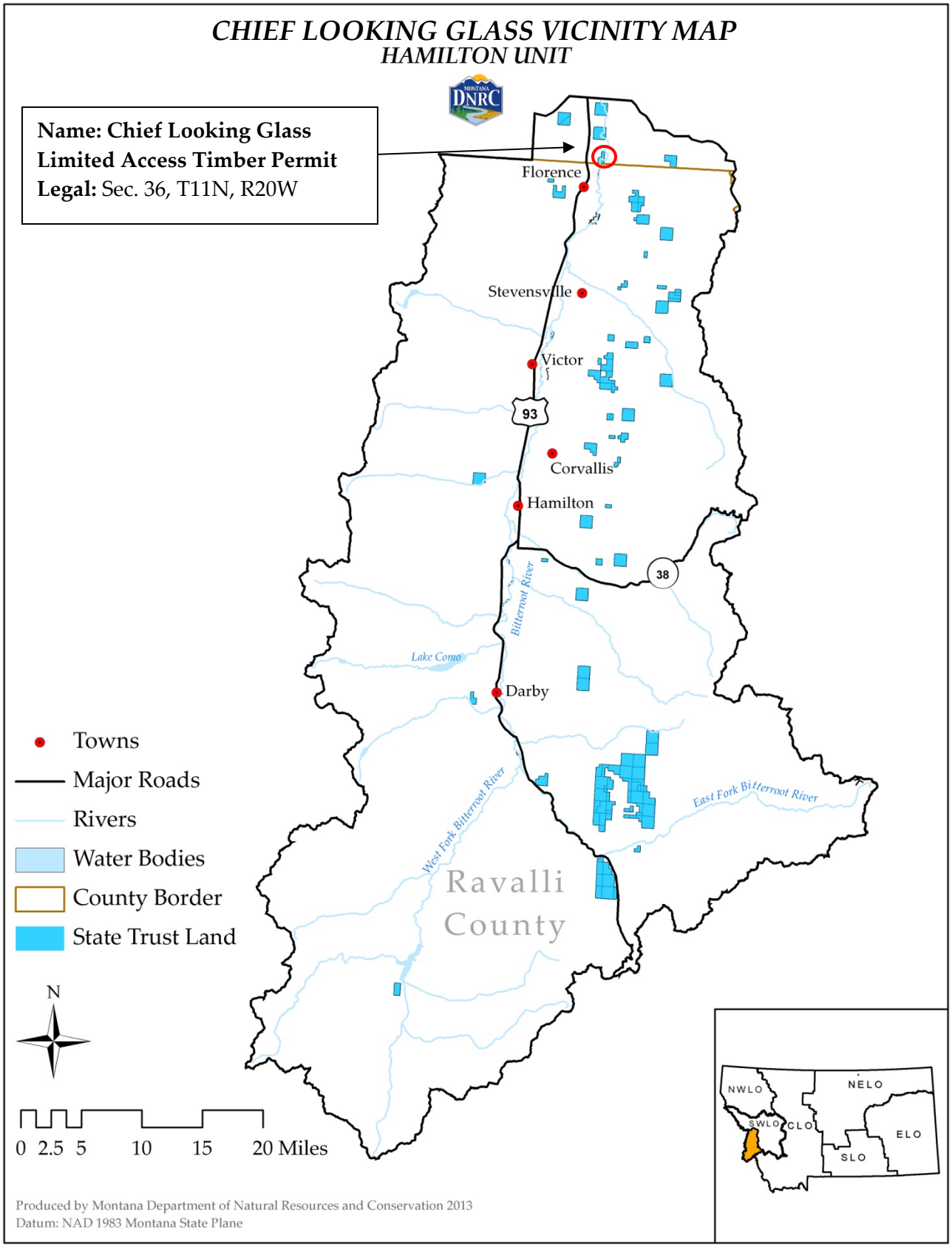
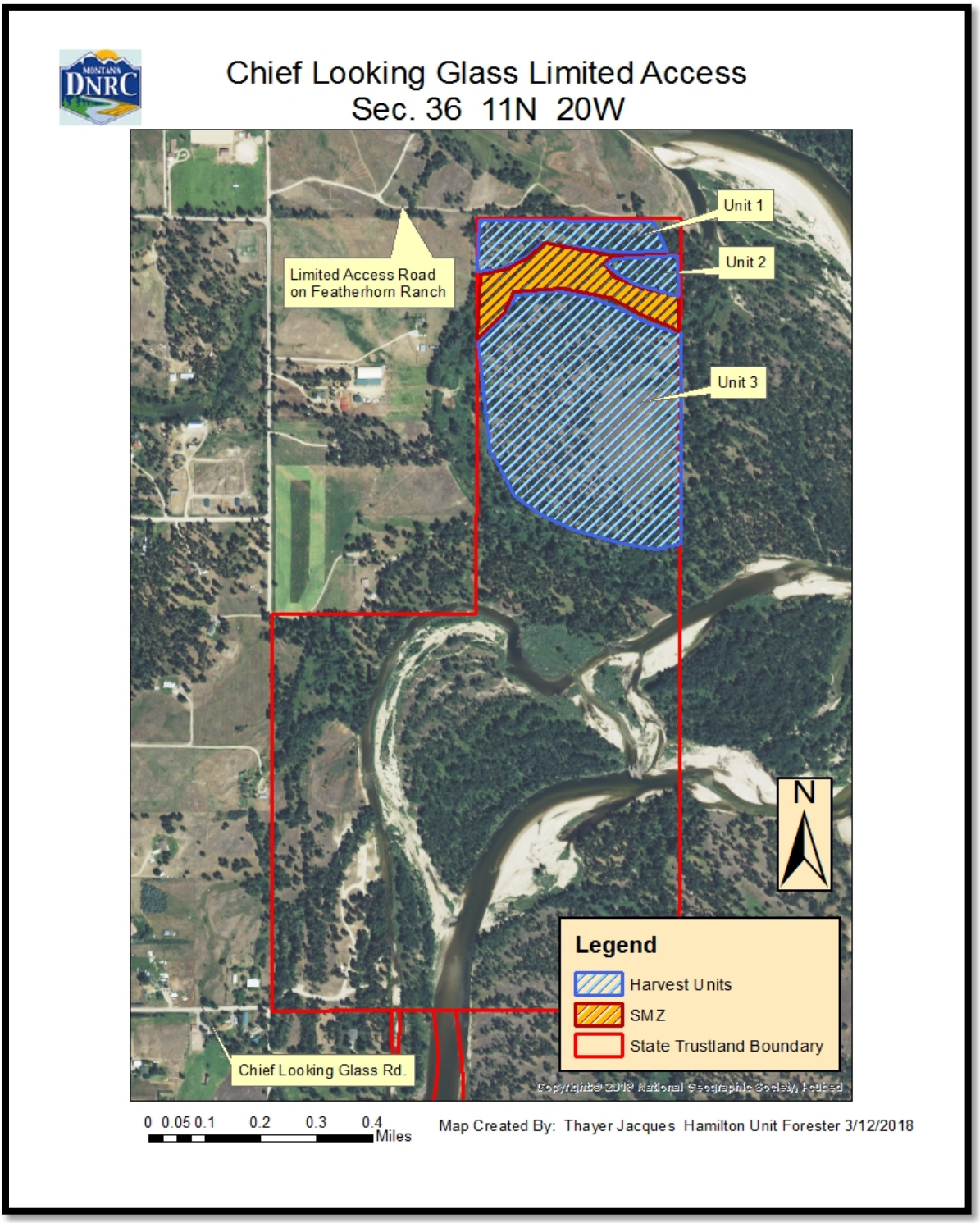
	EIS		More Detailed EA	X	No Further Analysis

Environmental Assessment Checklist Approved By:

Name: Robert H Storer
Title: Trust Lands Program Manager
Date: March 16, 2018
Signature: /s/ Robert H Storer

Attachment A- Maps

A-1: Timber Sale Vicinity Map



A-2: Timber Sale Harvest Units