# Environmental Assessment Checklist

**Project Name: Lincoln County Forest Management Project**
**Proposed Implementation Date: September 2025**
**Proponent: Stillwater Unit, Northwest Land Office, Montana DNRC**
**County: Lincoln County**

## Type and Purpose of Action

### Description of Proposed Action:

The Stillwater Unit of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the Lincoln County Forest Management Project. The project is located approximately 7-10 miles north, west and south of Eureka, Montana in Lincoln County (refer to Attachments vicinity map **A-1** and project maps **A-2** through **A-9**) and includes the following sections:

| Beneficiary | Legal Description | Total Acres | Treated Acres |
|---|---|---|---|
| Common Schools | **Sec 16 T35N R26W<br>Sec 16 T36N R27W<br>Sec 36 T36N R27W<br>Sec 36 T36N R28W<br>Sec 16 T37N R27W<br>Sec 16 T37N R28W** | **3,275.2** | **919.5** |

Objectives of the project include:

- Contribute approximately 5.5 million board feet (MMbf) to the annual targets of timber-harvest volumes of DNRC and Northwestern Land Office. DNRC is required by state law (MC77-5-221 through 223) to sell approximately 60 MMbf of timber annually and continue to produce revenue over time.
- Generate revenue for the appropriate school trust (Common Schools-K-12).
- Continue to apply silvicultural prescriptions in the Lincoln County Project area to promote biodiversity as called for in the State Forest Land Management Plan (1996).
- Improve the long-term productivity of timber stands and reduce the incidence and risk of insect and disease damage through silvicultural treatments designed to reduce stand density and improve forest health and regenerate stands displaying poor vigor and growth.
- Maintain thermal cover for ungulate winter range, reduce conifer encroachment in native meadows, and manage invasive weed and grass populations on the Sophie Lake section (Section 16 T37N R27W).

- Address invasive weed infestations in the project area through the use of herbicide treatment.
- Reduce the risk and severity of wildland fire in stands adjacent to private and public property by reducing fuel loading and stand density through silvicultural treatments.
- Apply Best Management Practices (BMPs) to meet design criteria that are necessary to promote long-term water quality during logging and road improvement operations.
- Identify areas of unauthorized, motorized off-road use and opportunities to improve long-term transportation systems for forest management, fire suppression activities, and administrative uses.

Proposed activities include:

| Action | Quantity |
|---|---|
| **Proposed Harvest Activities** | # Acres |
| Seed Tree | **92.8** |
| Shelterwood | **574.4** |
| Individual Tree Selection | **196.1** |
| Commercial Thinning | **56.2** |
| **Total Treatment Acres** | **919.5** |
| **Proposed Forest Improvement Treatment** | # Acres |
| Pre-commercial Thinning | **203.4** |
| Site preparation/scarification | **653.3** |
| Planting | **667.2** |
| High Hazard Reduction Piling | **78.2** |
| **Proposed Road Activities** | # Miles |
| New temporary road construction | **1.4** |
| Road maintenance | **41.1** |
| Road reconstruction | **1.0** |
| Road reclamation | **2.6** |

| | |
|---|---|
| **Duration of Activities:** | 7 years |
| **Implementation Period:** | Sept 2025 – Sept 2032 |

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 21, 2025
- PUBLIC SCOPED:
  - The scoping notice was posted on the DNRC Website: https://dnrc.mt.gov/News/scoping-notices
  - The initial proposal, along with maps, was sent to agencies, individuals, licensees, and other organizations interested in DNRC's management activities. A notification was also published on the Tobacco Valley News website.
- AGENCIES SCOPED:
  - Montana Fish, Wildlife and Parks
  - USFS Kootenai National Forest
  - All Montana Tribal Organizations
- COMMENTS RECEIVED:
  - How many: Six public comments by mail/email and one comment via phone.
  - Concerns:
    1. Comment in support of active forest management were received from timber industry representatives with additional emphasis on economics, forest improvement, Streamside Management Zone (SMZ) management, and fuels reduction in the Wildland Urban Interface (WUI).
    2. Comment was received from Lincoln Electric regarding timber management adjacent to overhead powerlines and their right-of-way.
    3. Comment received by phone for an adjacent neighbor of the Young Creek Section (Sec 16 T37N R28W) with interest in forest improvement contracts and potential purchase of DNRC timber sales.
    4. Comment received from MT Fish, Wildlife and Parks regarding big game habitat, with additional emphasis on their wintering range, and wildlife habitat fragmentation.
    5. Comment from adjacent landowner of the Black Lake Section (Sec 16 T36N R27W) with concerns of big game habitat, noxious weeds, and forest habitat management with emphasis on economic viability.
    6. Comment from adjacent landowner of the Sophie Lake Section (Sec 16 T37N R27W) in support of active forest management with additional emphasis on big game habitat, noxious weeds, soil impacts, and fuels mitigation.
  - Results: The public concerns were incorporated into project planning and design or have been explained in this document. Mitigations are listed by resource to describe the actions that would be taken to reduce some impacts.
    1. This project will not require a specific harvesting method. Additionally, there is no riparian area management included in this project.
    2. Any work adjacent to powerline infrastructure would be coordinated with the applicable power company.

3. This comment is outside of the scope of this project. Will follow up by sending a copy of MEPA when completed.

4. Detailed analysis of potential impacts to big game species can be found in comment WI-9 Big Game within the Wildlife Analysis. Mitigations can be found under Wildlife Mitigations within the Wildlife Analysis.

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   Weed populations would be monitored, and herbicide treatments on haul roads and project area would be scheduled through the Stillwater Unit's weed management program pre- and post-harvest operations. See Vegetation Mitigations for specific Noxious Weeds Mitigations.

   The State Forest Land Management Plan (SFLMP, Record of Decision (ROD), 1996) requires DNRC to implement a comprehensive set of resource management standards to address biodiversity. Specific measures and requirements were later codified in ARMs in 2003 and have since been revised as recently as December 2020. The ARMs pertaining to biodiversity (36.11.404 through 36.11.419) address important coarse filter considerations and ecological attributes such as, land types, disturbance regimes, forest cover type, age class, fragmentation, patch size, patch shape, patch connectivity, linkage, stand structure, and old-growth amounts, which are applied as appropriate to each local project and area. These ARMs also contain important measures that are applied to ensure that attributes such as large snags and coarse woody debris are retained on all lands managed by DNRC, these support habitat needs of numerous species of wildlife. The Lincoln County Forest Management Project was designed to comply with all measures that support biodiversity as required by the SFLMP, Forest Management ARMs and DNRC's Forest Management HCP.

   The Other Appropriate Social and Economic Circumstances section has insight into the estimated costs, revenues, and estimates of return of the Action Alternative.

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   Weed populations would be monitored, and herbicide treatments on haul roads and project area would be scheduled through the Stillwater Unit's weed management program pre- and post-harvest operations. See Vegetation Mitigations for specific Noxious Weeds Mitigations.

   Existing soil conditions, anticipated impacts, and proposed mitigations are disclosed in the Soil Disturbance and Productivity Analysis in comments S-1 through S-3 and the Soil Mitigations section.

   Existing vegetation, anticipated impacts, and proposed mitigations are disclosed in the Vegetation Analysis in comment V-4 and the Vegetation Mitigations.

DNRC specialists on the Interdisciplinary Team (ID Team) were consulted. The ID Team considered all the internal and external issues and determined that one action alternative could be developed and reviewed in this EA.
DNRC specialists consulted, include:

- Sam Bracken (Forester and Project Lead),
- Sophia Ackerman-Mero (Forester and Project Lead),
- Justin Cooper (Wildlife Biologist),
- Tony Nelson (Hydrologist),
- Mike Anderson (Fisheries Biologist),
- Patrick Rennie (Archeologist).

Internal and external issues and concerns incorporated into project planning and design 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 Forest Service (USFS)-** DNRC has existing agreements for easements and access as described in the Barnaby/Jim, Alkali Lake, Frank Lake, and Pinkham Cost-Share Agreements. Two temporary road use permits have been requested from the USFS Kootenai National Forest to access the Young Creek and Sophie Lake sections.

- **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 https://dnrc.mt.gov/TrustLand/about/planning-and-reports.

- **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 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.

## ALTERNATIVES CONSIDERED:

**No-Action Alternative**: Under this alternative, no timber would be harvested and therefore no revenue would be generated from the project area for the Common Schools trust at this time and no pre-commercial thinning would occur. Salvage logging, firewood cutting, recreational use, fire suppression, noxious weed management and additional requests for permits and ongoing management may still occur. Natural events such as plant succession, tree mortality due to insects and diseases, windthrow, down fuel accumulation, in-growth of ladder fuels and wildfires may still occur.

**Action Alternative:**
Under this action alternative, a commercial timber harvest would occur on 919.5 acres, removing approximately 5.5 MMbf of timber. This volume would be harvested utilizing ground-based equipment on all 919.5 acres. Mechanical piling and scarification would be performed on ground-based harvesting units post-harvest to reduce slash fuel loading and reduce brush competition, allowing for natural regeneration or planting sites. Specific harvest unit data is provided in **Attachment B – Lincoln County Forest Management Project Prescription Table**; using this table and the associated maps in **Attachment A - Maps** will provide further details for this project.

An even-aged management strategy would be applied across the 667.2 acres of harvested units to promote DNRC's desired future conditions (ARM 36.11.405). The DNRC's desired future condition would be obtained through seed tree and shelterwood harvest, in which 4 to 13 trees per acre would be retained for seed source, thus promoting healthy regeneration of the desired species mix. Intermediate harvest using commercial thin treatment on 56.2 acres would promote and enhance the vigor of established stands with the desired species mix. An uneven-aged management strategy of individual tree selection harvest would be applied across 196.1 acres.

Pre-commercial thinning (PCT) of overstocked sapling-sized stands would take place on 203.4 acres. These stands would be thinned to approximately 14-foot spacing to allow for optimal tree growth, desired species composition, and stand density. No additional road maintenance would be associated with the PCT units, as the access would be the same as the roads utilized in the commercial harvest.

Post-harvest treatments applied under this alternative to ensure successful regeneration of units, as well as high hazard fuels reduction within the wildland urban interface (WUI) and open roads, are as follows:

- Mechanical high hazard reduction piling would occur on approximately 78.2 acres.
- Mechanical piling and scarification would occur on up to 653.3 acres to create seedbeds that would be receptive to natural and planted trees.
- Post-harvest tree planting would occur on up to 667.2 acres.

Road maintenance and BMP improvements would be performed on approximately 41.1 miles of existing roads. Additionally, there would be approximately 1 mile of road reconstruction, 1.4 miles of new temporary roads to facilitate harvest operations, and 2.6 miles of road reclamation. Approximately 5 miles of open road would be transitioned to restricted roads on the Alkali Lake section (Sec 36 T36N R27W) to improve wildlife security and resource protection.

# 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:** Historical records show that logging activities have taken place in most sections of the project area, beginning in the 1920s and continuing with some repeated entries in the following decades. Recently, timber sales such as the Young/Sophie, Young Creek Fire Salvage, Fort Pinkham, Alkali, and Glen Mud Barnaby, along with a few timber permits, have been conducted in this area. The prescriptions implemented ranged from regeneration harvests to improvement cuts and salvage operations. Throughout the project area, remnants and signs of past management are evident and have influenced the current stand composition we observe today.

In the Young Creek, Alkali Lake, Black Lake, and Barnaby sections, the current species mix is predominantly Douglas-fir, followed by a smaller percentage of western larch. The remaining composition is ponderosa pine, and trace amount of lodgepole pine. In the Pinkham Creek section, the species composition is predominantly western larch, followed by a slightly smaller percentage of Douglas-fir, with the remaining composition consisting of ponderosa pine. Lastly, in the Sophie Lake section, the current species composition is primarily ponderosa pine, with a small percentage of Douglas-fir.

In all sections of the project area, the south and west aspects of these areas are generally free from understory competition, featuring mainly grasses and brush as ground cover. Thick pockets of advanced Douglas-fir regeneration are commonly found on the north and east aspects. The stands are medium to well-stocked with sawtimber-sized trees and exhibit a multi-storied structure with various age classes. Stocking levels vary throughout the stands due to past harvesting operations.

| Harvest Unit | Habitat Group | Fire Regime | Current Cover Type | Age Class (years) | Desired Future Condition (DFC) | Silvicultural Prescription (RX) | Acres |
|---|---|---|---|---|---|---|---|
| Y-1 | Moderately warm and dry (westside) | Mixed | Douglas Fir | 100-149 | Western Larch/Douglas Fir | Shelterwood Harvest | 132.9 |
| Y-2 | Moderately warm and dry (westside) | Mixed | Douglas Fir | 100-149 | Western Larch/Douglas Fir | Shelterwood Harvest | 123.2 |
| S-1 | Moderately warm and dry (westside) | Low-to-mixed | Ponderosa Pine | 40-99 | Ponderosa Pine | Individual/Select Tree Harvest | 120.3 |
| S-2 | Moderately warm and dry (westside) | Low-to-mixed | Ponderosa Pine | 100-149 | Ponderosa Pine | Individual/Select Tree Harvest | 40.9 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| S-3 | Moderately warm and dry (westside) | Mixed | Douglas Fir | 100-149 | Ponderosa Pine | Shelterwood Harvest | 17.7 |
| S-4 | Moderately warm and dry (westside) | Mixed | Douglas Fir | 40-99 | Ponderosa Pine | Shelterwood Harvest | 19.7 |
| S-5 | Moderately warm and dry (westside) | Low-to-mixed | Ponderosa Pine | 100-149 | Ponderosa Pine | Individual/Select Tree Harvest | 34.9 |
| BL-1 | Moderately cool and moist (westside) | Mixed | Douglas Fir | 40-99 | Western Larch/Douglas Fir | Shelterwood Harvest | 30.2 |
| P-1 | Moderately warm and dry (westside) | Mixed | Douglas Fir | 150-199 | Western Larch/Douglas Fir | Seed Tree | 63.7 |
| P-2 | Moderately warm and dry (westside) | Mixed | Douglas Fir | 150-199 | Western Larch/Douglas Fir | Seed Tree | 29.1 |
| A-1 | Moderately warm and dry (westside) | Mixed | Douglas Fir | 100-149 | Ponderosa Pine | Shelterwood Harvest | 11.0 |
| A-2 | Moderately warm and dry (westside) | Mixed | Douglas Fir | 100-149 | Ponderosa Pine | Shelterwood Harvest | 8.3 |
| A-3 | Moderately warm and dry (westside) | Mixed | Douglas Fir | 40-99 | Ponderosa Pine | Shelterwood Harvest | 15.7 |
| A-4 | Moderately warm and dry (westside) | Mixed | Douglas Fir | 40-99 | Western Larch/Douglas Fir | Shelterwood Harvest | 36.3 |
| A-5 | Moderately cool and moist (westside) | Mixed | Douglas Fir | 40-99 | Western Larch/Douglas Fir | Shelterwood Harvest | 5.0 |
| A-6 | Moderately cool and moist (westside) | Mixed | Douglas Fir | 40-99 | Western Larch/Douglas Fir | Shelterwood Harvest | 34.2 |
| A-7 | Moderately warm and dry (westside) | Mixed | Douglas Fir | 100-149 | Western Larch/Douglas Fir | Shelterwood Harvest | 27.4 |
| A-8 | Moderately warm and dry (westside) | Low-to-mixed | Douglas Fir | 100-149 | Western Larch/Douglas Fir | Shelterwood Harvest | 83.7 |
| A-9 | Moderately warm and dry (westside) | Mixed | Douglas Fir | 100-149 | Ponderosa Pine | Commercial Thinning | 9.0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A-10 | Moderately warm and dry (westside) | Mixed | Douglas Fir | 100-149 | Western Larch/Douglas Fir | Commercial Thinning | 32.8 |
| A-11 | Moderately warm and dry (westside) | Mixed | Douglas Fir | 40-99 | Western Larch/Douglas Fir | Commercial Thinning | 14.4 |
| B-1 | Moderately warm and dry (westside) | Mixed | Western Larch/Douglas Fir | 40-99 | Western Larch/Douglas Fir | Shelterwood Harvest | 7.3 |
| B-2 | Moderately warm and dry (westside) | Mixed | Douglas Fir | 100-149 | Western Larch/Douglas Fir | Shelterwood Harvest | 21.8 |
| **Precommercial Thinning Unit** | **Habitat Group** | **Fire Regime** | **Current Cover Type** | **Age Class (years)** | **Desired Future Condition (DFC)** | **Silvicultural Prescription (RX)** | **Acres** |
| S-B | Moderately warm and dry (westside) | Low-to-mixed | Ponderosa Pine | 40-99 | Ponderosa Pine | Precommercial Thinning | 9.3 |
| S-C | Moderately warm and dry (westside) | Low-to-mixed | Ponderosa Pine | 40-99 | Ponderosa Pine | Precommercial Thinning | 18.2 |
| S-F | Moderately warm and dry (westside) | Low-to-mixed | Ponderosa Pine | 40-99 | Ponderosa Pine | Precommercial Thinning | 168.2 |
| S-G | Moderately warm and dry (westside) | Low-to-mixed | Ponderosa Pine | 40-99 | Ponderosa Pine | Precommercial Thinning | 5.6 |
| B-C | Moderately warm and dry (westside) | Mixed | Douglas Fir | 40-99 | Western Larch/Douglas Fir | Precommercial Thinning | 2.1 |

Fire Hazard/Fuels: All sections of the Lincoln County Forest Management Project are located within the Wildland Urban Interface (WUI), as designated in the Lincoln County Community Wildfire Protection Plan and has mixed levels of fuel loading throughout. Stands located on southern or western aspects are generally more open timber fuel types with timber litter and sporadic understory regeneration and ladder fuels. Eastern and northern aspects see an increase in presence of fuel loading, ladder fuels, timber litter, and fuel continuity. One objective for this project is to reduce fuel loadings within the WUI, as well as create pre-planned shaded fuel-breaks, and implement high hazard fuels reduction piling along private property lines and main roads. This would help improve public and firefighter safety should wildfire occur within the general area.

Insects and Diseases: A multitude of forest insects and diseases are relatively common within this project area. Armillaria root disease (*Armillaria ostoyae)*, indian paint fungus (*Echinodontium tinctorium)*, Douglas-fir beetle (*Dendroctonus pseudotsuga)*, and fire engraver (*Scolytus ventralis)* have been observed.

Sensitive/Rare Plants: No sensitive/rare plants were identified during field reconnaissance or within the Montana Natural Heritage Program in the Young Creek, Sophie Lake, Pinkham Creek, and Barnaby sections. The Montana Natural Heritage Program has identified Spalding's Catchfly *(Silene spaldingii)* in the Black Lake section, and Nevada Clubrush *(Amphiscirpus nevadensis)* in the Alkali Lake section.

Noxious Weeds: Within all the sections across the project area, spotted knapweed (*Centaurea maculosa*), St. Johnswort *(Hypericum aurantiacum),* and oxeye daisy (*Chrysanthemum leucanthemum*) are present mainly along existing roads. Canada thistle (*Cirsium arvense*) is present in the Young Creek and Sophie Lake sections. Orange hawkweed (*Hieracium aurantiacum)* is present in the Young Creek, Pinkham Creek, Alkali Lake, and Barnaby sections. Incursions of orange hawkweed into forested sites have been observed. Houndstongue *(Gynoglos sum officianle L.)* is present in the Pinkham Creek and Alkali Lake sections.

| 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 | | | | | |
| Age Class | X | | | | X | | | | X | | | | | |
| Old Growth | X | | | | X | | | | X | | | | | |
| Fire/Fuels | X | | | | X | | | | | X | | | | |
| Insects/Disease | X | | | | X | | | | | X | | | | |
| Rare Plants | X | | | | X | | | | X | | | | | |
| Noxious Weeds | X | | | | X | | | | X | | | | | |
| ***Young Creek*** | | | | | | | | | | | | | | |
| ***Action*** | | | | | | | | | | | | | | |
| Current Cover/DFCs | | | X | | | X | | | | X | | | | V-1 |
| Age Class | | | X | | | X | | | | X | | | | V-2 |
| Old Growth | X | | | | X | | | | X | | | | | V-3 |
| Fire/Fuels | | X | | | | X | | | | X | | | Y | V-4 |
| Insects/Disease | | X | | | | X | | | | X | | | Y | V-5 |
| Rare Plants | X | | | | X | | | | X | | | | | |
| Noxious Weeds | | X | | | | X | | | | X | | | Y | V-7 |
| ***Sophie Lake*** | | | | | | | | | | | | | | |
| ***Action*** | | | | | | | | | | | | | | |
| Current Cover/DFCs | | X | | | | X | | | | X | | | | V-1 |
| Age Class | | X | | | | X | | | | X | | | | V-2 |
| Old Growth | X | | | | X | | | | X | | | | | V-3 |
| Fire/Fuels | | X | | | | X | | | | X | | | Y | V-4 |
| Insects/Disease | | X | | | | X | | | | X | | | Y | V-5 |
| Rare Plants | X | | | | X | | | | X | | | | | |
| Noxious Weeds | | X | | | | X | | | | X | | | Y | V-7 |

| Vegetation | Impact | | | | | | | | | | | | Can Impact Be Mitigated? | Comment Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Direct | | | | Secondary | | | | Cumulative | | | | | |
| | No | Low | Mod | High | No | Low | Mod | High | No | Low | Mod | High | | |
| ***Black Lake*** | | | | | | | | | | | | | | |
| ***Action*** | | | | | | | | | | | | | | |
| Current Cover/DFCs | | | X | | | X | | | | X | | | | V-1 |
| Age Class | | | X | | | X | | | | X | | | | V-2 |
| Old Growth | X | | | | X | | | | X | | | | | V-3 |
| Fire/Fuels | | X | | | | X | | | | X | | | Y | V-4 |
| Insects/Disease | | X | | | | X | | | | X | | | Y | V-5 |
| Rare Plants | X | | | | X | | | | X | | | | Y | V-6 |
| Noxious Weeds | | X | | | | X | | | | X | | | Y | V-7 |
| ***Pinkham Creek*** | | | | | | | | | | | | | | |
| ***Action*** | | | | | | | | | | | | | | |
| Current Cover/DFCs | | | X | | | X | | | | X | | | | V-1 |
| Age Class | | | X | | | X | | | | X | | | | V-2 |
| Old Growth | X | | | | X | | | | X | | | | | V-3 |
| Fire/Fuels | | X | | | | X | | | | X | | | Y | V-4 |
| Insects/Disease | | X | | | | X | | | | X | | | Y | V-5 |
| Rare Plants | X | | | | X | | | | X | | | | | |
| Noxious Weeds | | X | | | | X | | | | X | | | Y | V-7 |
| **Alkali Lake** | | | | | | | | | | | | | | |
| ***Action*** | | | | | | | | | | | | | | |
| Current Cover/DFCs | | | X | | | X | | | | X | | | | V-1 |
| Age Class | | | X | | | X | | | | X | | | | V-2 |
| Old Growth | X | | | | X | | | | X | | | | | V-3 |
| Fire/Fuels | | X | | | | X | | | | X | | | Y | V-4 |
| Insects/Disease | | X | | | | X | | | | X | | | Y | V-5 |
| Rare Plants | X | | | | X | | | | X | | | | Y | V-6 |
| Noxious Weeds | | X | | | | X | | | | X | | | Y | V-7 |
| **Barnaby** | | | | | | | | | | | | | | |
| ***Action*** | | | | | | | | | | | | | | |
| Current Cover/DFCs | | | X | | | X | | | | X | | | | V-1 |
| Age Class | | | X | | | X | | | | X | | | | V-2 |
| Old Growth | X | | | | X | | | | X | | | | | V-3 |
| Fire/Fuels | | X | | | | X | | | | X | | | Y | V-4 |
| Insects/Disease | | X | | | | X | | | | X | | | Y | V-5 |
| Rare Plants | X | | | | X | | | | X | | | | | |
| Noxious Weeds | | X | | | | X | | | | X | | | Y | V-7 |

*Comments:*

**V-1:** The Action Alternative would harvest approximately 5.5 million board feet (MMbf) over 919.5 acres. The silvicultural prescriptions implemented within these stands would maintain or help transition current cover types to the desired future conditions (*ARM 36.11.405*).

716.1 acres of Douglas-fir (DF) cover type would be transitioned to 634.7 acres of western larch/Douglas-fir (WL/DF) and 81.4 acres of ponderosa pine (PP) cover types. 196.1 acres of ponderosa pine cover type and 7.3 acres of western larch/Douglas-fir cover type would remain the same cover type. See table below for specific changes to current cover type for each section within the project area. Mechanical scarification would occur on 653.3 acres following harvest to create seedbeds that would be receptive to natural regeneration and planted trees. This would allow the vegetative community to grow a desirable species mix that would be productive into the future.

| Section | Acres | Current Cover Type | Under the Action Alternative: Desired Future Condition (DFC) | Under the Action Alternative: Acres moved toward DFC | Percent Change in Acres |
|---|---|---|---|---|---|
| Young Creek | 256.1 | DF | WL/DF | 256.1 | 100% |
| Sophie Lake | 233.5 | PP *(196.1 ac)* *and* DF *(37.4 ac)* | PP | 37.4 | 16% |
| Black Lake | 30.2 | DF | WL/DF | 30.2 | 100% |
| Pinkham Creek | 92.8 | DF | WL/DF | 92.8 | 100% |
| Alkali Lake | 277.8 | DF | WL/DF and PP | 233.8 *(DF to WIL/DF)* *and* 44.0 *(DF to PP)* | 100% |
| Barnaby | 29.1 | WL/DF *(7.3 ac)* and DF *(21.8 ac)* | WL/DF | 21.8 | 75% |

**V-2:** Under the Action Alternative, approximately 667.2 acres would be transitioned to the 0–39 year age class through implementation of seedtree or shelterwood prescriptions. Additionally, individual tree selection prescription would be implemented on most of the acres in the Sophie Lake section with the intent of maintaining uneven-aged stands. See the table below for specific changes to the age class for each section within the project area.

| Section | Acres | Current Age Class (years) | Under the Action Alternative: Future Age Class | Under the Action Alternative: Acres moved to new Age Class | Percent Change in Acres |
|---|---|---|---|---|---|
| Young Creek | 256.1 | 100-149 | 0-39 | 256.1 | 100% |
| Sophie Lake | 233.5 | 40-99 *(140 ac)* and 100-149 *(93.5 ac)* | 0-39 *(37.4 ac),* 40-99 *(120.3 ac)* and 100-149 *(75.8 ac)* | 37.4 | 16% |
| Black Lake | 30.2 | 40-99 | 0-39 | 30.2 | 100% |
| Pinkham Creek | 92.8 | 150-199 | 0-39 | 92.8 | 100% |
| Alkali Lake | 277.8 | 40-99 *(172.2 ac)* and 100-149 *(105.6 ac)* | 0-39 *(221.6 ac),* 40-99 *(14.4 ac)* and 100-149 *(41.8 ac)* | 221.6 | 80% |
| Barnaby | 29.1 | 40-99 *(7.3 ac)* and 100-149 *(21.8 ac)* | 0-39 | 29.1 | 100% |

**V-3:** There is 105 acres of old growth within the project area, no old growth will be harvested with this project.

**V-4:** Currently, the areas within the proposed treatment units have an abundance of hazard fuels on the forest floor as well as a higher density of ladder fuels in the form of mid-understory trees and advanced regeneration. Under the Action Alternative, the slash loading would be reduced to the recommended coarse-woody debris loading of 12-24 tons/acre of coarse-woody debris retained and emphasize retention of 15-inch diameter downed logs, aiming for at least one 20-foot-long section per acre LY-HB2 (USFWS and DNRC 2010). Management of these areas would result in a decrease in overall material to burn, reducing the connectivity of fuels from the ground level to the crown, and reducing future risk by increasing crown spacing and removing dead or dying material. This would lessen the risk of increased fire behavior within the Wildland Urban Interface surrounding the project area. Additionally, high hazard fuel reduction piling will occur along open roads within the project area.

Under the Action Alternative, the reintroduction of controlled fire would occur. Historically, the ecosystem in the Sophie Lake area had an average fire return interval of 6 years, with the range occurring between 1 and 15 years (Heyerdahl, Morgan, & Riser, 2008). The proposed controlled fire would be of low to moderate intensity, which would subsequently reduce slash accumulation, reduce conifer encroachment in native meadows, and manage invasive weed and grass populations on the Sophie Lake section. This change in continuity and arrangement of fuels aims to reduce the intensity of wildfires that may occur in the area, allowing for safe and effective control of fires that may threaten private structures and natural resource values.

**V-5:** Trees weakened by insects, disease, or weather may become vulnerable to further insect infestation or disease and would be removed by forest management actions of the project.

**V-6:** Although no species of concern were identified during initial field reconnaissance within any proposed harvest units, there is a remote possibility of finding the non-wetland related species. If listed rare/sensitive plants are found during this project period, then harvesting operations would be diverted from the plants and further reviewed by DNRC and plant specialists.

**V-7:** The operation of harvesting and yarding equipment, log trucks, and personal vehicles on existing roads as well as new temporary roads would occur. Additional mineral soil would be exposed through the operation of this equipment in the project area and during the construction of landings and temporary roads, which may facilitate the spread of noxious weeds in the project area. Weed populations would be monitored, and herbicide treatments on haul roads and project area would be scheduled through the Stillwater Unit's weed management program pre- and post-harvest operations.

*Vegetation Mitigations:*

- Measures that would be implemented to reduce the establishment of additional weed populations include:
    - All tracked and wheeled equipment cleaned of noxious weeds before starting project operations. The Forest Officer will periodically inspect the equipment during the implementation of the project.
    - Promptly revegetating disturbed roadside sites by reshaping and grass seeding the roads that have been used and closed.

- Monitor the project area for noxious weeds after harvest operations are complete, in the coming years, to help combat the further spread of weeds, and herbicide treatments may be applied if needed.

- Implement high-standard hazard reduction practices within 100 feet inside the unit boundaries of harvest units that are adjacent to open or seasonally open roads, as well as those that are within 1,000 feet of structures.

## SOIL DISTURBANCE AND PRODUCTIVITY:

**Soil Disturbance and Productivity Existing Conditions:** Timber harvesting in the proposed project area has been ongoing since the 1920s. Based on field reconnaissance, less than 15% of soils are impacted from past entries where ground-based yarding was done and impacts to soils from these activities are ameliorating through root penetration and frost action.

| 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** | | | | | |
| 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** | | | **Y** | **S-1** |
| Erosion | | **X** | | | | **X** | | | | **X** | | | **Y** | **S-2** |
| Nutrient Cycling | **X** | | | | **X** | | | | **X** | | | | | |
| Slope Stability | **X** | | | | **X** | | | | **X** | | | | | |
| Soil Productivity | | **X** | | | | **X** | | | | **X** | | | **Y** | **S-3** |

*Comments:*

**S-1:** Based on DNRC soil monitoring on similar soils with a similar harvest intensity, approximately 15.9% of area may be in an impacted condition (DNRC, 2006). This level approximates the range analyzed for in the *EXPECTED FUTURE CONDITIONS* section of the *SFLMP*, and is well within the 20-percent impacted area established as a level of concern in the *SFLMP (DNRC 1996)*. This level translates to a low risk of low direct, secondary and cumulative impacts to soil physical disturbance.

**S-2:** Low impacts to soil erosion are possible due to exposure of bare soil during yarding and skidding operations. Risk of erosion would be mitigated by implementing all applicable BMPs to harvesting activities.

**S-3:** Soil productivity would be impacted by the use of ground-based machinery to yard timber. As stated in comment S-1, levels of ground disturbance are expected to be less than 15.9% with roads included, which approximates the range analyzed for in the EXPECTED FUTURE CONDITIONS section of the SFLMP, and is well within the 20-percent impacted area established as a level of concern in the SFLMP (DNRC 1996). This level translates to a low risk of low direct, secondary and cumulative impacts to soil productivity.

*Soil Mitigations:*

- Operate ground-based equipment only during periods of dry, frozen or snow-covered conditions.
- Space skid trails a minimum of 60 feet apart to minimize areas impacted by ground-based equipment.
- Use existing skid trails if they are in suitable locations to minimize potential for cumulative impacts to soil physical disturbance.
- Leave approximately 12-24 tons of woody material 3-inches in diameter or greater on the ground for nutrient cycling.

## WATER QUALITY AND QUANTITY:

Potential cumulative effects to water quality and quantity were deemed low due to the limited presence of surface channels in most parcels, high channel stability where channels exist, the flow regime of the hydrology in the project area (primarily sink basins with no surface outlet), and proposed harvest units being located a minimum of 200 feet from a defined stream channel.

**Water Quality and Quantity Existing Conditions:** Past activities in and around the proposed project area include timber management, agriculture, and home site development. In 2017, the Caribou Fire burned approximately 25,000 acres in the Young Creek watershed, mainly on the north side of the creek. These activities have led to reductions in forest canopy cover, and construction of roads. None of these activities has led to any identified impacts to water quality or quantity in or around the project area. Young Creek, a perennial class 1 stream, flows through the center of the Young Creek parcel in the proposed project area. Pinkham Creek, a perennial class 1 stream, flows through the center of the Pinkham Creek parcel in the proposed project area. No other streams were identified in any parcels of the proposed project area. All identified stream channels in the proposed project area were found to be stable and well-vegetated during field reconnaissance.

| 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** | | | | | |
| Water Quantity | **X** | | | | **X** | | | | **X** | | | | | |
| ***Action*** | | | | | | | | | | | | | | |
| Water Quality | | **X** | | | | **X** | | | | **X** | | | **Y** | **W-1** |
| Water Quantity | | **X** | | | | **X** | | | | **X** | | | **Y** | **W-2** |

*Comments:*

**WQ-1:** All requirements found in ARM 36.11.301-313, and ARM 36.11.421-427 would be implemented, where applicable. In addition, all applicable forest management BMPs would be implemented. These measures would minimize any potential risk of sediment delivery to a stream, lake or draw and leave a low risk of direct, secondary or cumulative impacts to water quality.

**WQ-2:** There is a very low risk of the proposed project affecting water quantity. Vegetation removal can impact water use and snowpack distribution in harvested areas. The proposed project would harvest timber from approximately 919.5 acres. The acres proposed for harvest in Young Creek (a 14,713-acre watershed) amounts to less than 2% of the watershed acreage and would not have a measurable impact on water quantity. The acres proposed for harvest in Lower Pinkham Creek (a 31,020-acre watershed) amounts to less than 1% of the watershed acreage and would not have a measurable impact on water quantity. The remainder of the project area parcel are dry upland sites with no stream channels. Proposed harvesting would have a very low risk of increasing water quantity sufficient to scour stream channels in ephemeral draws. This presents a very low risk of measurable impacts to water quantity from the proposed harvesting.

*Water Quality & Quantity Mitigations:*

- Avoid use of ground-based equipment in the bottoms of draws to reduce risk of scour, compaction or routing of surface runoff in draws.
- Implement all applicable BMPs, HCP commitments, and SMZ Law rules to ensure protection of project area streams.

## FISHERIES:

**Fisheries Existing Conditions**: Two fish-bearing streams were identified in the proposed project area by the FishMT website (FWP, 2025). One stream is Young Creek, and likely contains Bull Trout, Westslope Cutthroat Trout, Largescale Sucker, Longnose Dace, Mountain Whitefish, Brook Trout and Rainbow Trout. Young Creek is perennial and contributes flow to Lake Koocanusa. The other stream containing fish is Pinkham Creek, and likely contains Westslope Cutthroat Trout, Brook Trout and Rainbow Trout. Sophie Lake has been identified as a perennial, fish-bearing lake by FishMT, and likely contains Bull Trout, Westslope Cutthroat Trout, Largescale Sucker, Northern Pike Minnow, Redside Shiner, Bluegill, Kokanee, Northern Pike and Rainbow Trout. Alkali Lake has been identified as a perennial, fish-bearing lake by FishMT, and likely contains Rainbow Trout. Black Lake has been identified as a perennial, fish-bearing lake by FishMT, and likely contains Arctic Grayling and Rainbow Trout.

**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** | | | **Y** | **F-1** |
| Flow Regimes | | **X** | | | | **X** | | | | **X** | | | **Y** | **F-2** |
| Woody Debris | **X** | | | | **X** | | | | **X** | | | | | |
| Stream Shading | **X** | | | | **X** | | | | **X** | | | | | |
| Stream Temperature | **X** | | | | **X** | | | | **X** | | | | | |
| Connectivity | **X** | | | | **X** | | | | **X** | | | | | |
| Populations | | **X** | | | | **X** | | | | **X** | | | **Y** | **F-3** |

*Comments:*

**F-1:** All requirements found in ARM 36.11.301-313, and ARM 36.11.421-427 would be implemented, where applicable. In addition, all applicable forest management BMPs would be implemented. These measures would minimize any potential risk of sediment delivery to a fish-bearing stream and leave a low risk of direct, secondary or cumulative impacts to water quality and fish habitat.

**F-2:** As outlined in **WQ-2**, with the proposal to harvest timber from less than 2% of any project area parcel watersheds, there would be a very low risk of measurable impacts to water quantity or flow regime from the proposed harvesting.

**F-3:** Provided the measures listed in F-1, F-2, DNRC's HCP and the mitigation measures listed in the water quality portion of this analysis are followed, there is a very low risk of adverse direct, secondary or cumulative impacts to fish habitat or populations as a result of the proposed project.

## WILDLIFE:

**Wildlife Existing Conditions**: The Project Area consists of six parcels scattered across an area approximately 18 miles in diameter. The Project Area is 3,275 acres and is included in DNRC's Habitat Conservation Plan (*USFWS and DNRC 2010*). The Project Area includes portions of the Tobacco River and Young Creek-Pinkham Creek watersheds. This area is characterized by a mix of forested land, agricultural land, and sparsely populated rural communities, ranging in elevation from 2,600 feet to 3,600 feet, with an increasing rate of land development. The Young Creek parcel (T37N R28W, section 16) is located west of Lake Koocanusa, bordered by private residential development and United States Forest Service (USFS) lands. This parcel has approximately 4.5 miles of restricted access roads. Non-motorized public use is high on this parcel, with evidence of horse-drawn wagons and illegal firewood gathering. The remaining five parcels are located east of Lake Koocanusa at varying elevations and distances from the lake. The Sophie Lake parcel (T37N R27W, section 16) is bordered by private residential development and USFS lands. This parcel has approximately 1.5 miles of restricted access roads and is bisected by Sophie Lake. Non-motorized recreational use is high on this parcel and includes activities such as hiking, hunting, and horseback riding. A mix of licensed and user-built trails are present across the area and tied into the neighboring Swisher Lake trail system. The Black Lake parcel (T36N R27W, section 16) is surrounded by private ownership and consists predominately of open grass fields with small patches of forest scattered around the borders. This parcel contains approximately 1.5 miles of open roads with moderate public motorized use. Illegal firewood harvesting is evident within forested areas along open roads in this parcel. The Pinkham Creek parcel (T36N R28W, section 36) is bordered by USFS land and private ownership. This parcel has approximately 2.5 miles of open roads with moderate motorized public use and 2.2 miles of restricted roads with low amounts of non-motorized public use. Primary disturbances on this parcel include motorized off-road recreation, hunting, and recreational snowmobile use. The Alkali Lake parcel (T36N R27W, section 36) is bordered primarily by USFS lands and private residential development. This parcel has 7.5 miles of open roads with high public motorized use and approximately 0.6 miles of roads restricted from any motorized use. This specific parcel has a very high open road density, at 7.7 $mi/mi^2$, when compared to the other parcels within the Project Area that average 0.7 $mi/mi^2$ of open road. Many unauthorized trails and roads exist across the Alkali Lake parcel and are utilized for motorized off-road recreation, hunting, and firewood gathering. Due to the density of open roads on this parcel, no big game security habitat can exist (Hillis et al. 1991) because there are no areas of cover greater than 0.5 miles from an open road. The Barnaby parcel (T35N R26W, section 16) is a quarter of a section and is bordered on one side by USFS lands and private ownership with some residential development on the remaining three sides. This parcel has 0.9 miles of open roads with moderate public motorized use and 1.3 miles of restricted roads with no motorized use.

The Project Area contains 1,120 acres of mature forest stands (trees ≥9" dbh with ≥40% canopy closure), of which 105 acres are considered old-growth forest using Green et al (1992) standards. Approximately 524 acres (16.0%) in the Project Area consist of non-forested areas. Over the last 25 years, approximately 1,365 acres (41.7%) within the Project Area have been harvested under the Young/Sophie Timber Sale and Stream Restoration Project (*DNRC 2003*), the Old Highway Timber Sale Project (*DNRC 2006*), the Barnaby Lake Fuels Reduction and Timber Project (*DNRC 2015*), and the Young Creek Fire Salvage (*DNRC 2017*). Insects and disease are accelerating tree mortality in certain patches, predominately on the Alkali Lake and Baraby parcels.

Cumulative effects analysis areas (CEAA) encompass lands near the Project Area and include a Small CEAA for animals with smaller home ranges like pileated woodpeckers and flammulated owls, and a Large CEAA for animals that travel across larger areas such as grizzly bears and big game. Due to the spread of parcels involved with this project, differences in land use, and Lake Koocanusa dividing the area, the CEAA used for this analysis was split into two distinct areas, the eastern and western sides of Lake Koocanusa. The area west of Lake Koocanusa consists of land surrounding the Young Creek parcel only and includes a 5,778-acre Small Western CEAA and a 40,105-acre Large Western CEAA. The area east of Lake Koocanusa consists of areas surrounding and between the remaining parcels and includes a 27,074-acre Small Eastern CEAA and a 68,037-acre Large Eastern CEAA. Ownership in the Large Eastern CEAA consists of 4.1% DNRC, 39.8% USDA Forest Service, and 55.1% private land. Ownership in the Large Western CEAA consists of 1.6% DNRC, 86.7% USDA Forest Service, 2.3% Montana Fish Wildlife and Parks, and 9.4% private land. In 2017, the Caribou wildfire burned approximately burned approximately 2,972 acres (51.4%) of the western Small CEAA and 13,793 acres (34.4%) of the Large Western CEAA. In 2005, the Camp 32 wildfire burned approximately 777 acres or 2.9% of the Small Eastern CEAA and 1.1% of the Large Eastern CEAA. Additional information on cumulative effects analysis areas and analysis methods is available upon request. Overall, the Project Area contains a variety of habitat conditions for native wildlife species.

**No-Action Alternative**: None of the proposed activities would occur. Forest insects and disease will likely continue to cause reduced growth and mortality in some trees. Openings in the forest may occur where susceptible trees die. An increase in stand-replacement wildfire risk would be anticipated as downed wood accumulates. In the long-term, Douglas-fir beetles would persist in specific parcels and habitat suitability for mature forest-associated species would remain similar or decline compared to current conditions. Within previous harvest units and burned areas, stands would continue to regenerate, creating hiding cover and increasing thermal cover as they move toward mature forest in the long-term.

**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 human activity | | | **X** | | | | **X** | | | **X** | | | **Y** | **WI-1** |
| **Lynx** (*Felis lynx*) Habitat: SF hab.types, dense sapling, old forest, deep snow zone | **X** | | | | | **X** | | | | **X** | | | **Y** | **WI-2** |
| **Wolverine** (*Gulo gulo*) Habitat: high elevation areas that retain high snow levels in late spring | **X** | | | | **X** | | | | **X** | | | | | **WI-3** |

| Wildlife | Impact | | | | | | | | | | | | Can Impact be Mitigated? | Comment Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Direct | | | | Secondary | | | | Cumulative | | | | | |
| | No | Low | Mod | High | No | Low | Mod | High | No | Low | Mod | High | | |
| **Yellow-billed cuckoo** (*Coccyzus americanus*) Habitat: open cottonwood riparian forest with dense brush understories (Lake and Flathead counties) | **X** | | | | **X** | | | | **X** | | | | | **WI-3** |
| **Sensitive Species** | | | | | | | | | | | | | | |
| **Bald eagle** *(Haliaeetus leucocephalus)* Habitat: Late-successional forest within 1 mile of open water | | **X** | | | | **X** | | | | **X** | | | | **WI-4** |
| **Black-backed woodpecker** *(Picoides arcticus)* Habitat: Mature to old burned or beetle-infested forest | **X** | | | | **X** | | | | **X** | | | | | **WI-3** |
| **Common loon** *(Gavia immer)* Habitat: Cold mountain lakes, nest in emergent vegetation | | **X** | | | | **X** | | | | **X** | | | | **WI-5** |
| **Fisher** *(Martes pennanti)* Habitat: Dense mature to old forest less than 6,000 feet in elevation and riparian | | **X** | | | | **X** | | | | **X** | | | **Y** | **WI-6** |
| **Flammulated owl** *(Otus flammeolus)* Habitat: Late-successional ponderosa pine and Douglas-fir forest | | **X** | | | | **X** | | | | **X** | | | **Y** | **WI-7** |
| **Peregrine falcon** *(Falco peregrinus)* Habitat: Cliff features near open foraging areas and/or wetlands | **X** | | | | **X** | | | | **X** | | | | | **WI-3** |

| Wildlife | Impact | | | | | | | | | | | | Can Impact be Mitigated? | Comment Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Direct | | | | Secondary | | | | Cumulative | | | | | |
| | No | Low | Mod | High | No | Low | Mod | High | No | Low | Mod | High | | |
| **Pileated woodpecker** *(Dryocopus pileatus)* Habitat: Late-successional ponderosa pine and larch-fir forest | | | **X** | | | | **X** | | | | **X** | | **Y** | **WI-8** |
| **Fringed myotis** (*Myotis thysanodes*) Habitat: low elevation ponderosa pine, Douglas-fir and riparian forest with diverse roost sites including outcrops, caves, mines | | | **X** | | | | **X** | | | **X** | | | | **WI-9** |
| **Hoary bat** (*Lasiurus cinereus*) Habitat: coniferous and deciduous forests and roost on foliage in trees, under bark, in snags, bridges | | | **X** | | | | **X** | | | **X** | | | **Y** | **WI-10** |
| **Townsend's big-eared bat** *(Plecotus townsendii)* Habitat: Caves, caverns, old mines | **X** | | | | **X** | | | | **X** | | | | | **WI-3** |
| **Big Game Species** | | | | | | | | | | | | | | |
| **Elk** | | | **X** | | | | **X** | | | | **X** | | **Y** | **WI-11** |
| **Whitetail** | | | **X** | | | | **X** | | | | **X** | | **Y** | **WI-11** |
| **Mule Deer** | | | **X** | | | | **X** | | | | **X** | | **Y** | **WI-11** |
| **Moose** | | | **X** | | | | **X** | | | | **X** | | **Y** | **WI-11** |
| **Other** | | | | | | | | | | | | | | |
| **Mature Forest** | | | **X** | | | | **X** | | | | **X** | | **Y** | **WI-12** |
| **Raptor Nests** | | **X** | | | | **X** | | | | **X** | | | **Y** | **WI-13** |

*Comments:*

**WI-1 Grizzly bear** – The Project Area is comprised of 3,275 acres in grizzly bear non-recovery occupied habitat within the Northern Continental Divide Ecosystem (*USFWS 1993, Wittinger 2002*). The proposed activities would alter approximately 920 acres (50.7% of available hiding cover in the Project Area) of grizzly bear hiding cover. Shelterwood, seed tree, and some individual tree selection prescriptions would remove hiding cover on 855 acres (49.4% of available hiding cover) in the Project Area. However, rolling topography and the retention of patches with regenerating conifers would continue to provide limited cover in some of these units. Commercial thin and the remaining individual tree selection treatments would reduce available hiding cover on an additional 64 acres (3.7% of available hiding cover). Retention of some submerchantable trees would increase the effectiveness of cover in these areas. Post-harvest, 877 acres, or 26.8% of the Project Area would remain suitable hiding cover. No new open roads would be built, but motorized use of existing open and restricted roads within the Project Area would increase during project implementation. Approximately 3.4 miles of existing open road would be closed to public motorized use, and 1.6 miles of current open road would become seasonal open roads from July 1 to September 15th within the Alkali Lake parcel after harvest. This would reduce open road density and unauthorized public motorized use in the Alkali Lake parcel specifically. Visual screening along existing open roads would be maintained where it is available. While occasional presence of a grizzly bear in the parcel is possible, appreciable use by grizzly bears would not be expected due to the very low density of bears within the neighboring Cabinet Yaak Ecosystem, lack of grizzly movement between to and from the Northern Continental Divide Ecosystem, distance from secure core grizzly bear habitat, nearby open roads, and private lands. Any grizzly bears using the Project Area could be temporarily displaced by the proposed activities for up to five years. To provide security for grizzly bears in the spring, harvest activity timing restrictions would be applied from April 1 – June 15. In the Large Western CEAA, the proposed harvest would reduce hiding cover from 58.4% to 57.8%; 23,179 acres of hiding cover would remain with a moderate level of connectivity. In the Large Eastern CEAA, the proposed harvest would reduce hiding cover from 59.4% to 58.2%; 39,630 acres of hiding cover would remain well-connected across the area. Continued use of the area by grizzly bears is anticipated. Impacts to hiding cover and increased disturbance under the Action Alternative would be additive to recent and ongoing forest management projects and recent wildfires. However, the greatest risks to bears within the Large CEAAs would remain human habitations and associated attractants that bring bears into conflict with people.

**WI-2. Canada Lynx –** The Project Area is comprised of 129 acres of potential lynx habitat, of which 53 acres are considered suitable lynx habitat. None of the suitable lynx habitat would be impacted by the proposed harvest activities. However, the proposed activities could temporarily displace any lynx that might be using the existing suitable habitat. Lynx habitat connectivity within the Project Area would remain unchanged. Recent wildfire and other forest management projects on adjacent lands have reduced the amount of suitable habitat in the Large Eastern and Western CEAAs. Connectivity and habitat availability would be expected to improve over the next 10 years as these burned stands regenerate with conifers. After the proposed activities, potential suitable lynx habitat would remain on 37.1% and 35.4% of the Large Eastern and Western CEAAs respectively. Disturbance/displacement and habitat alteration by the proposed DNRC activities would be additive to recent and ongoing forest management projects and recent wildfires.

**WI-3.** This species was evaluated, and it was determined that the Project Area lies outside of the normal distribution for the species, and/or suitable habitat was not found to be present.

**WI-4. Bald Eagle –** The Sophie Lake, Black Lake, Alkali Lake, and Barnaby parcels fall within the home ranges of bald eagle territories (*MTNHP 2024*). The nest sites of the Black Lake, Alkali Lake, and Barnaby eagle pairs are over 1 mile from any proposed harvest activity. Homes, lakes, forested areas, and open roads are situated between these nest sites and the DNRC parcels. Occasional use of the Black Lake and Alkali Lake parcels by bald eagles would be expected due to the presence of preferred habitat (e.g. lakes, meadows). However, the number of home sites and open roads near the nests would suggest that these eagles are likely habituated to human disturbance in areas they are likely to forage. The Sophie Lake eagle pair have a nest within the Project Area and portions of harvest units are within the pair's primary use area (½ mile from the nest tree). Additionally, the haul route falls within the primary use area of this pair. To minimize disturbance during the nesting season, motorized forest management activities will be prohibited within ½ mile of the nest location between February 1 and August 15 when the nest is active. In addition, the aerial application of herbicide for weed treatment is proposed for some parcels within the Project Area. In any area that is near a known or newly discovered raptor nest, no spraying will be allowed within 1,300 feet (400 meters) from February 1 to August 31 to prevent herbicide overspray from hitting the nesting area. Occupancy status and nest location will be surveyed each breeding season for the duration of the project to ensure that the correct area is protected with timing restrictions.

**WI-5. Common Loon –** Common loons were observed on Sophie Lake during the 2024 and 2025 field seasons. However, no active pairs of loons were observed during the 2025 nesting season, and a lack of suitable nesting habitat along the shoreline of Sophie Lake make it unlikely that nests would be present. The only unit that is within 500 feet of the lake shore is harvest unit S-2. Harvest activities associated with the Action Alternative would not affect shoreline habitat, and motorized forest management activities (including road maintenance, timber hauling, and site preparation) within a 500-foot radius of any potential nest site are prohibited between April 15 and July 15. Moderate recreational use of Sophie Lake would indicate that any loons using this lake are likely habituated to moderate levels of motorized and non-motorized human disturbance. Thus, low direct, indirect, or cumulative effects to common loons would be anticipated.

**WI-6. Fisher –** The proposed activities would remove approximately 1 acre, or 0.6%, of suitable fisher habitat available in the Project Area. Post-harvest, this acre would not be suitable for fisher use due to low canopy cover and low retention of mature trees. Connectivity of fisher habitat would remain unchanged within the Project Area and no riparian habitat would be impacted by the proposed activities. No new open roads would be built, but motorized use of existing open and restricted roads within the Project Area would increase during project implementation. Approximately 3.4 miles of existing open road would be closed to public motorized use, and 1.6 miles of current open road would become seasonal open roads from July 1 to September 15th within the Alkali Lake parcel after harvest. This would reduce access and the associated mortality risk from trapping within the Alkali Lake parcel. To reduce potential adverse effects on fishers, at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh) would be retained (*ARM 36.11.411*). These snags are important habitat features that provide resting and denning sites for fishers. The closure of these roads would help to protect the trees retained as snags or snag recruits by preventing motorized access to these stands. In the Small Western CEAA, the proposed harvest would reduce hiding cover from 28.1% to 27.3%; approximately 1,577 acres of potentially suitable fisher habitat would remain with a low level of connectivity. In the Small Eastern CEAA, the proposed harvest would reduce hiding cover from 31.3% to 31.1%; 8,433 acres of potentially suitable fisher habitat would remain relatively scattered across the area. Considering the limited availability of large tracts of mature stands in the surrounding areas, the lack of fisher observations within the last

30 years (*MTNHP 2024, Krohner 2022*), and the prevalence of dry ponderosa pine forest types, which are avoided by fishers (*Olson et al. 2014*), the likelihood of fishers using the Project Area or Small CEAAs is low.

**WI-7. Flammulated Owls –** The proposed timber harvest would treat approximately 119 acres, or 4.0%, of suitable flammulated owl habitat in the Project Area. The proposed activities would remove 39 acres, or 1.3%, of suitable habitat because stands would be too open for flammulated owl use post-harvest. However, harvest prescriptions on 602 acres (20.2% of potentially suitable habitat within the Project Area) would reduce tree density, favor mature seral species and create more open conditions within the stand potentially beneficial to flammulated owls. To retain potential nesting trees for flammulated owls, at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh) would be retained (*ARM 36.11.411*). The proposed harvest would treat 22.8% and 45.1% of the potential flammulated owl habitat in the Small Eastern and Western CEAAs respectively. Habitat patches within both Small CEAAs would remain well connected to suitable habitat and other forested areas; however, other ownerships may have varying levels of snags due to differing management requirements and widespread firewood gathering on private property.

**WI-8. Pileated Woodpecker –** The proposed activities would affect 432 acres (52.2%) of available pileated woodpecker habitat in the Project Area. Approximately 408 of these acres (49.3% of available habitat in Project Area) would be treated with prescriptions that would reduce mature canopy closure to less than 40%, making these stands unsuitable for nesting pileated woodpeckers post-harvest. The other 24 treated acres would remain suitable habitat, but at a reduced quality due to the removal of mature trees. In total, 419 acres, or 12.8%, of the Project Area would remain as suitable habitat post-harvest. To reduce potential adverse effects on pileated woodpeckers, at least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh, or largest size class available) would be retained and all snags cut for safety reasons would be left in the harvest unit (*ARM 36.11.411*). Approximately 3.4 miles of existing open road would be closed to public motorized use, and 1.6 miles of current open road would become seasonal open roads from July 1 to September 15th within the Alkali Lake parcel after harvest. The closure of these roads would help to protect the trees retained as snags or snag recruits by preventing motorized access to these stands. Additionally, 12 to 24 tons/per acre of downed wood would be retained, with an emphasis on logs >15” diameter. The proposed activities would reduce pileated woodpecker habitat in the Small Eastern and Western CEAAs from 32.8% to 32.2% and 32.1% to 28.0% respectively. A total of 10,325 acres (31.4% of the combined Small CEAAs) would remain as moderately connected blocks of suitable habitat across both Small CEAAs. Continued use of suitable habitat by pileated woodpeckers in the Small CEAAs would be anticipated. Habitat alterations due to the proposed action would be additive to recent and ongoing forest management projects and the 2017 Caribou wildfire that burned approximately 2,973 acres (51.4%) of the Small Western CEAA.

**WI-9. Fringed myotis –** The proposed activities would affect approximately 646 acres of potential fringed myotis foraging habitat (57.7% of potential habitat within the Project Area). Because fringed myotis typically roost in low elevation ponderosa pine, Douglas-fir, and riparian forests with diverse roost sites such as the large rock outcrops and cliffs found within portions of the Project Area, roosting habitat could be disturbed by the proposed activities. Potential disturbance would only be expected from April through October, when fringed myotis are in Montana. After the conclusion of activities, continued use of harvested areas by fringed myotis would be anticipated. At least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh, or largest size class available) would be retained and could provide structure for foraging and roosting habitat. Increased tree spacing in dense stands can also be beneficial for

access to roost trees. Approximately 3.4 miles of existing open road would be closed to public motorized use, and 1.6 miles of current open road would become seasonal open roads from July 1 to September 15th within the Alkali Lake parcel after harvest. The closure of these roads would help to protect the trees retained as snags or snag recruits by preventing motorized access to these stands. Should any fringed myotis be present within the Project Area, habitat alteration and potential disturbance would be additive to any activities occurring or planned within the Large CEAAs. Fringed myotis are considered rare in northwestern Montana; therefore, appreciable use of the area by fringed myotis would not be expected. Wind energy and diseases such as white-nosed syndrome are the largest threats to their population (Bachen et al. 2020).

**WI-10. Hoary bat –** The proposed activities would affect approximately 646 acres (57.7%) of potential hoary bat habitat within the Project Area. Hoary bats typically roost in tree foliage (*Bachen et al. 2020*) and if present they could be temporarily displaced by timber harvesting. Potential disturbance would only be expected from late May through September, when hoary bats are in Montana. After the conclusion of activities, continued use of harvested areas by hoary bats would be anticipated. At least 2 large snags and 2 large snag recruitment trees per acre (>21 inches dbh, or largest size class available) would be retained in harvested areas and could provide roosting habitat. Approximately 3.4 miles of existing open road would be closed to public motorized use, and 1.6 miles of current open road would become seasonal open roads from July 1 to September 15th within the Alkali Lake parcel after harvest. The closure of these roads would help to protect the trees retained as snags or snag recruits by preventing motorized access to these stands. Should any hoary bats be present within the Project Area, habitat alteration and potential disturbance would be additive to any activities occurring or planned within the Large CEAAs.

**WI-11. Big Game –** The Sophie Lake parcel provides critical elk winter range for migratory and resident elk herds. In addition, the area surrounding and including the Pinkham Creek, Alkali Lake, and Barnaby parcels provide important low-elevation closed-canopy winter range for white-tailed deer. The Project Area also provides winter range habitat for mule deer and moose (*DFWP 2008*). The proposed harvest would impact up to 920 acres of winter range for big game species. High quality thermal cover for big game occurs where canopy closure is ≥60% and conifer branches are ≥19.7 feet (6 meters) tall. Marginal quality thermal cover includes areas where canopy closure is 40-60% and conifers are ≥6 meters tall. The proposed activities would impact approximately 142 acres of high-quality thermal cover (34.9% of available) and approximately 710 acres of marginal thermal cover (62.4% of available) in the Project Area. Approximately 681 acres of proposed treatments would result in canopy cover that would have little capacity to provide effective thermal cover and snow intercept post-harvest, removing 44.1% of all available thermal cover within the Project Area. Retaining healthy advanced regeneration and saplings where present would provide additional cover and increase thermal cover/snow intercept. Post-harvest, 302 acres of high-quality thermal cover and 562 acres of marginal thermal cover (total of 864 acres or 26.4% of the Project Area) would remain in the Project Area after harvest. Several areas were designated within the Alkali Lake parcel to continue to provide thermal cover/snow intercept and habitat connectivity for big game post-harvest. These connective areas would remain connected to thermal cover within and outside of the Project Area. Overall, the Project Area would support some ungulate use during the winter, but the capacity of this habitat would be lowered due to reductions in thermal cover. To minimize the disturbance to wintering elk in critical winter range habitat on the Sophie Lake parcel, no forest management activity would be allowed from January 1 to the end of February. Connectivity to thermal cover on adjacent lands would be reduced as large patches of mature forest would be removed. In the Large CEAA, high thermal cover/snow intercept would be

reduced from 13.8% to 13.7% for the eastern Large CEAA and from 17.4% to 17.3% for the western Large CEAA, and marginal thermal cover would be reduced from 27.9% to 27.4% for the eastern Large CEAA and from 26.8% to 26.2% for the western Large CEAA as a result of the proposed activities.

Approximately 920 acres, or 50.7%, of hiding cover in the Project Area would be altered by the proposed harvest. Hiding cover would be removed on 855 acres and reduced on another 65 acres in the Project Area. Post-harvest, 877 acres (26.8% of Project Area) of hiding cover would remain in the Project Area. Retaining some regenerating conifers and submerchantable trees within the harvest units would increase the amount of available hiding cover, and rolling topography would continue to provide some cover and reduce sight distances. Small retention patches have been identified within harvest units retaining less than 25 trees per acre to maintain at least 600 feet to hiding cover. No new open roads would be built and visual screening along existing roads would be maintained where it is available. Approximately 3.4 miles of existing open road would be closed to public motorized use, and 1.6 miles of current open road would become seasonal open roads from July 1 to September 15th within the Alkali Lake parcel after harvest. This would reduce open road density and unauthorized public motorized use in the Alkali Lake parcel specifically. Even though hiding cover and thermal cover would be greatly reduced in the short-term, the closure of these open roads would create the potential for big game security habitat in the future once the surrounding stands can provide hiding cover and eventually thermal cover once again. Overall, the reduction in hiding cover could result in decreased security and increased mortality risk to big game species due to hunting, particularly in the Alkali Lake, Barnaby, and Sophie Lake parcel where open roads facilitate hunter access within or near these parcels. The proposed activities would reduce hiding cover in the Large CEAAs from 59.1% to 58.2% in the Large Eastern CEAA and from 58.4% to 57.8% in the Large Western CEAA, with a total of 39,630 acres and 23,179 acres of well-connected hiding cover remaining in the Large Eastern and Western CEAAs respectively.

Impacts to hiding cover, security, and thermal cover/snow intercept under the Action Alternative would be additive to recent and ongoing USDA Forest Service & DNRC forest management projects, development and fragmentation of private lands, and the 2017 Caribou wildfire that burned approximately 13,793 acres (34.4%) of the Large Western CEAA. Measurable big game population changes at the scale of the Large CEAAs would not be expected because of the Action Alternative.

**WI-12. Mature Forest /Old-growth –**
The proposed action would alter approximately 646 acres of mature forest (57.7% of mature forest within the Project Area) with a reasonably closed canopy (≥40% canopy closure). Proposed activities would remove 601 acres, or 53.7%, of available mature forest within the Project Area. Canopy closure of mature trees on these acres would range from approximately 5-35%, and these stands would no longer be suitable for wildlife species preferring dense forest with more shaded canopies. However, habitat suitability for species utilizing younger stands and open forest with widely scattered mature trees would increase. Approximately 45 acres would be treated with prescriptions that would maintain mature forest attributes post-harvest. After the proposed activities, 519 acres (15.9% of Project Area) of mature forest, including 103 acres of old-growth forest, would remain in the Project Area and would continue to be suitable for wildlife that prefers closed canopy mature forest. Approximately 2 acres of old-growth forest would be removed by proposed harvesting but old-growth habitat in the Project Area would remain uncommon (3.1% of Project Area) and isolated. The proposed activities would remove approximately 4.6% and 13.9% of existing mature forest in the Small Eastern and Western CEAAs respectively, and mature forest would remain on 29.4% and 23.4% of the Small Eastern

and Western CEAAs respectively. Connectivity of mature forest in the Project Area and the Small CEAAs would be reduced, as large patches of mature forest would be removed by harvesting. Specific connective corridors were designed to bridge mature forest on adjacent lands for the Alkali Lake, Sophie Lake, and Barnaby parcels. Abundance and connectivity of old-growth forest within the Small CEAAs is unknown except on DNRC lands. The proposed changes would be additive to recent and ongoing activities on private, USDA Forest Service and DNRC lands, as well as removal of mature forest by the 2017 Caribou wildfire that burned approximately 2,973 acres (51.4%) of the Small Western CEAA.

**WI-13. Raptor Nests –**
Multiple osprey nests were discovered within the Project Area and were both active during the 2025 breeding season. One nest was located on the Sophie Lake parcel along a small ridge, and the other nest was located on the Young Creek parcel along Young Creek. Neither of the two nests are within a proposed harvest unit. No harvesting would occur within 100 feet of the nest trees and timing restrictions on motorized harvesting activities within ¼ mile of the nest sites would be in place from April 1 to August 31 (if the nests are found to be active). Occupancy status and nest locations would be surveyed each breeding season for the duration of the project to ensure that the correct area is protected with timing restrictions. With these mitigations, the risk of disturbance to breeding ospreys would be low. Habitat changes due to timber harvesting would not be anticipated to affect ospreys, as no harvesting would occur around the nest site and these raptors display great flexibility in their nest site habitat characteristics.

In addition, an active red-tailed hawk nest was discovered within the Pinkham Creek parcel in 2025. Harvest operations would be prohibited within ¼ mile of the nest site from April 1 to August 15 (if the nest is found to be active each breeding season). The nest is located approximately 120 feet from the nearest harvest unit. No trees would be cut within 100 feet of the nest tree to preserve the nest. With these mitigations, the risk of disturbance to breeding red-tailed hawk would be low. Red-tailed hawks forage in open forests and non-forested areas, therefore harvest treatments could improve foraging habitat. Continued use of the Project Area and current territory by red-tailed hawks would be expected during and after harvest.

Lastly, the aerial application of herbicide for weed treatment is proposed for some parcels within the Project Area. In any area that is near a known or newly discovered raptor nest, no spraying will be allowed within 1,300 feet (400 meters) from April 1 to August 31 to prevent herbicide overspray from hitting the nesting area.

*Wildlife Mitigations:*

- If a threatened or endangered species is encountered, consult a DNRC biologist immediately. Similarly, if undocumented nesting raptors or wolf dens are encountered within ½ mile of the Project Area, contact a DNRC biologist.
- Contractors will adhere to food storage and sanitation requirements as described in the timber sale contract. Ensure that all attractants such as food, garbage, and petroleum products are stored in a bear-resistant manner.
- Prohibit contractors and purchasers conducting contract operations from carrying firearms while on duty as per *ARM 36.11.444(2)*.
- Prohibit all harvesting-related motorized activities more than 100 feet from open roads from April 1 – June 15 per GB-NR3 (*USFWS and DNRC 2010*).
- Retain visual screening along open roads to the greatest extent practicable.
- No point in a unit with <25 TPA can be more than 600 feet to hiding cover or a topographic break, GB-NR4 (*USFWS and DNRC 2010*).
- Effectively close restricted roads and skid trials in the Project Area via a combination of gates, kelly humps, rocks, and stumps. Maintain public motorized restrictions on restricted roads during and after harvest activities.
- Retain at least 2 snags and 2 snag recruits per acre >21 inches dbh or the next largest available size class, particularly favoring ponderosa pine, western larch and Douglas-fir for retention. If snags are cut for safety concerns, they must be left in the harvest unit.
- Retain 12-24 tons/acre of coarse-woody debris and emphasize retention of 15-inch diameter downed logs, aiming for at least one 20-foot-long section per acre LY-HB2 (*USFWS and DNRC 2010*).
- Protect all nest trees and their nests.
- Avoid prolonged administrative motorized activities within sight of any nest tree.
- Prohibit motorized forest management activities (including road maintenance, timber hauling, and site preparation) that utilize existing roads within the designated buffers surrounding the nest locations between February 1 and August 15 for active bald eagle nests, April 1 and August 15 for active red-tailed hawk nests, and April 1 and August 31 for active osprey nests. Nesting activity will be checked annually by a DNRC biologist and timing restrictions will be relaxed if the nest site is not active or the nest is damaged/destroyed by natural causes.
- Limit construction of new permanent roads, structures, or permanent developments within a 500-foot radius of the loon nest site.
- Prohibit motorized forest management activities (including road maintenance, timber hauling and site preparation) within a 500-foot radius of any loon nest site between April 15 and July 15.
- To minimize the disturbance to wintering elk in critical winter range habitat on the Sophie Lake parcel, no forest management activity would be allowed from January 1 to the end of February.
- No aerial herbicide application will be allowed within 1,300 feet (400 meters) from any known or newly discovered raptor nest from April 1 to August 31 and from February 1 to August 15 for any bald eagle nests.

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## 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** | | | | **AQ-2** |
| Dust | **X** | | | | **X** | | | | **X** | | | | | |
| ***Action*** | | | | | | | | | | | | | | |
| Smoke | | **X** | | | | **X** | | | | **X** | | | **Y** | **AQ-1, AQ-2** |
| Dust | | **X** | | | | **X** | | | | **X** | | | **Y** | |

*Comments:*

**AQ-1:** The project area is in Airshed 1 as defined by the Montana/Idaho Airshed Group. The Black Lake, Alkali Lake and Pinkham Creek sections are within the Eureka Impact Zone. Under the Action Alternative, slash piles consisting of tree limbs, tops, and other vegetative debris would be generated throughout the project area during harvesting, site preparation, and fuels reduction activities. These slash piles would be burned after operations have been completed. Additionally, controlled fire may occur after timber harvesting. Burning within the project area would be short term and would be conducted when conditions favor good to excellent ventilation and smoke dispersion as determined by the Montana DEQ and Montana/Idaho Airshed Group. The DNRC, as a member of the Montana/Idaho Airshed Group, would burn only on approved days.

**AQ-2:** Burning that may occur on adjacent properties in combination with the proposed action could potentially increase cumulative impacts to the local airshed. Thus, cumulative impacts to air quality due to slash pile burning associated with the proposed action would also be expected to be minimal.

*Air Quality Mitigations:*

- Only burn on days approved by the Montana/Idaho Airshed Group and DEQ.
- Conduct test burn to verify good smoke dispersion.
- Dust abatement strategies such as time of haul, mag chloride, or other dust abatement application may be applied on some road segments, depending on the seasonal conditions, proximity to private residences, and level of public traffic.

## 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** | | | | | **ARCH-1** |
| Aesthetics | **X** | | | | **X** | | | | **X** | | | | | |
| Demands on Environmental Resources of Land, Water, or Energy | **X** | | | | **X** | | | | **X** | | | | | |
| ***Action*** | | | | | | | | | | | | | | |
| Historical or Archaeological Sites | **X** | | | | **X** | | | | **X** | | | | **Y** | **ARCH-1** |
| Aesthetics | | **X** | | | | **X** | | | | **X** | | | **Y** | **AEST-1** |
| Demands on Environmental Resources of Land, Water, or Energy | **X** | | | | **X** | | | | **X** | | | | | |

*Comments:*

**ARCH-1:** The areas of potential effect (APE) have been inventoried for cultural and palaeontologic resources. A report of findings is on file with the DNRC and the Montana State Historic Preservation Office. Several cultural resources are present on the parcel but site boundaries or features comprising the sites will be visibly marked and avoided with ground disturbing work. As such, the proposed timber harvest will have No Effect to Antiquities as defined under the Montana State Antiquities Act.

*Archeology Mitigations:*

- 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.

**AEST-1:** Proposed harvest units are adjacent to, or visible from the West Kootenai Road, Sophie Lake Road, Black Lake Road, Frank Lake Road, and other open roads within the project area. At certain locations along these routes, skid trails, new roads, and landings would be visible.

*Aesthetic Mitigations:*

- Blend unit edges and incorporate irregular shaped boundaries to mimic natural events.

- Design skid routes, landing areas, permanent/temporary roads in a manner which reduces the visual impact adjacent to open roads by utilizing jump-up landings, heavier tree retention along roadways, and minimize cut/fill of material on new roads.

**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.*

Young Sophie Timber Sale and Stream Restoration Project EA, February 2003
Young Creek Fire Salvage EA, December 2017
Old Highway Timber Sale Project EA, April 2006
Barnaby Lake Fuels Reduction and Timber Project EA, June 2015

## 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 | | | | | |

| 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 | | |
| ***Action*** | | | | | | | | | | | | | | |
| Health and Human Safety | | **X** | | | **X** | | | | | **X** | | | **Y** | **HUM-1** |
| Industrial, Commercial and Agricultural Activities and Production | **X** | | | | **X** | | | | **X** | | | | | |
| Quantity and Distribution of Employment | | **X** | | | **X** | | | | **X** | | | | | **HUM-3** |
| 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** | **HUM-4** |
| 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:*

**HUM-1:** Due to log trucks using the shared county road, the disturbance to users' experience and health and human safety would be expected to be none or very low, and of short duration. Dust may be created from log hauling on portions of gravel surface roads during summer and fall months. Contract clauses may provide for the use of dust abatement or require trucks to reduce speed, if necessary, to reduce dust near any affected residences. Mitigations have been developed for log hauling to allow for safe travel and shared use of plowed roads during the winter season (see "Mitigations" below). Any work adjacent to powerline infrastructure would be coordinated with the applicable power company.

**HUM-3:** Employment in the logging industry is common in the area and this project would, in a small part, contribute to local employment and the local economy.

**HUM-4:** Approximately 3.4 miles of existing open road would be closed to public motorized use, and 1.6 miles of current open road would become seasonal open roads from July 1 to September 15th within the Alkali Lake parcel after harvest. The closure and seasonal closure of these Alkali Lake roads would reduce open road density and unauthorized public motorized use in the Alkali Lake parcel specifically. Even though hiding cover and thermal cover would be greatly reduced in the short-term, the closure of these open roads would create the potential for big game security habitat in the future once the surrounding stands can provide hiding cover

and eventually thermal cover once again. See Attachment A-8: Lincoln County Forest Management Project: Alkali Lake Road Closure Proposal on page 42 for more information.

General motorized recreation in the remainder of the project area would continue to be accessible by the public on the open, unrestricted roads, within the project area. Walk-in only recreation is also prevalent in the project area and would remain unimpeded. Some sections within the project area receive moderate hunting pressure during the general firearm hunting season. Harvesting operations may diminish hunting opportunities temporarily during the Fall.

*Mitigations:*

- Informational signs would be located at trailheads and all access points to all DNRC section within the project area to caution recreators of harvest activities.
- Restrict log hauling activities to Monday through Friday. Prior approval for holiday or weekend hauling could be granted by the Forest Officer on a case-by-case basis while coordinating with recreation license holders in the sale area.
- Informational signs would be located along the private, county and Federal roads cautioning recreational and residential traffic of log hauling.
- Log trucks would be required to adhere to all posted speed limits and other applicable traffic laws.
- If winter harvest activities and log hauling take place, then DNRC would:
    - Further develop safety measures that ensure safe travel and communication between commercial harvesting operations, homeowners, and recreationalists (signage, reduced speed and softened approaches onto plowed roads).
    - Continue to apply current road restrictions for the general public.

**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.*

- 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 $866,250 based on an estimated harvest of 5.5 million board feet (34,650 tons) and an overall stumpage value of $25.00 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: Sophia Ackerman-Mero**
**Title: Management Forester**
**Date: July 31, 2025**

# 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 section of this document. This project received six public comments during the 30-day scoping period and were addressed.

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). An estimated amount of $889,254.60 would be generated for the Common Schools Trust.

The Action Alternative complies with all pertinent environmental laws, the DNRC SFLMP and HCP, and is based upon a consensus of professional opinion on limits of acceptable environmental impact. For these reasons and on behalf of DNRC I have selected the Action Alternative to be implemented on this project.

## Significance of Potential Impacts

After a review of the scoping documents and comments, project file, Forest Management Rules, SFLMP and HCP checklists, and Department policies, standards, and guidelines, I find that all the identified resource management concerns have been fully addressed in this Checklist EA and its attachments. Specific project design features and various recommendations by the resource management specialists will be implemented to ensure that this project will fall within the limits of environmental change. Taken individually and cumulatively, the proposed activities are common practices, and no project activities are being conducted on important, unique or fragile sites.

I find there will be no significant impacts to the human environments as a result of implementing the Action Alternative. In summary, I find that the identified impacts will be controlled, mitigated, or avoided by the design of the project to the extent that the impacts are not significant.

## Need for Further Environmental Analysis

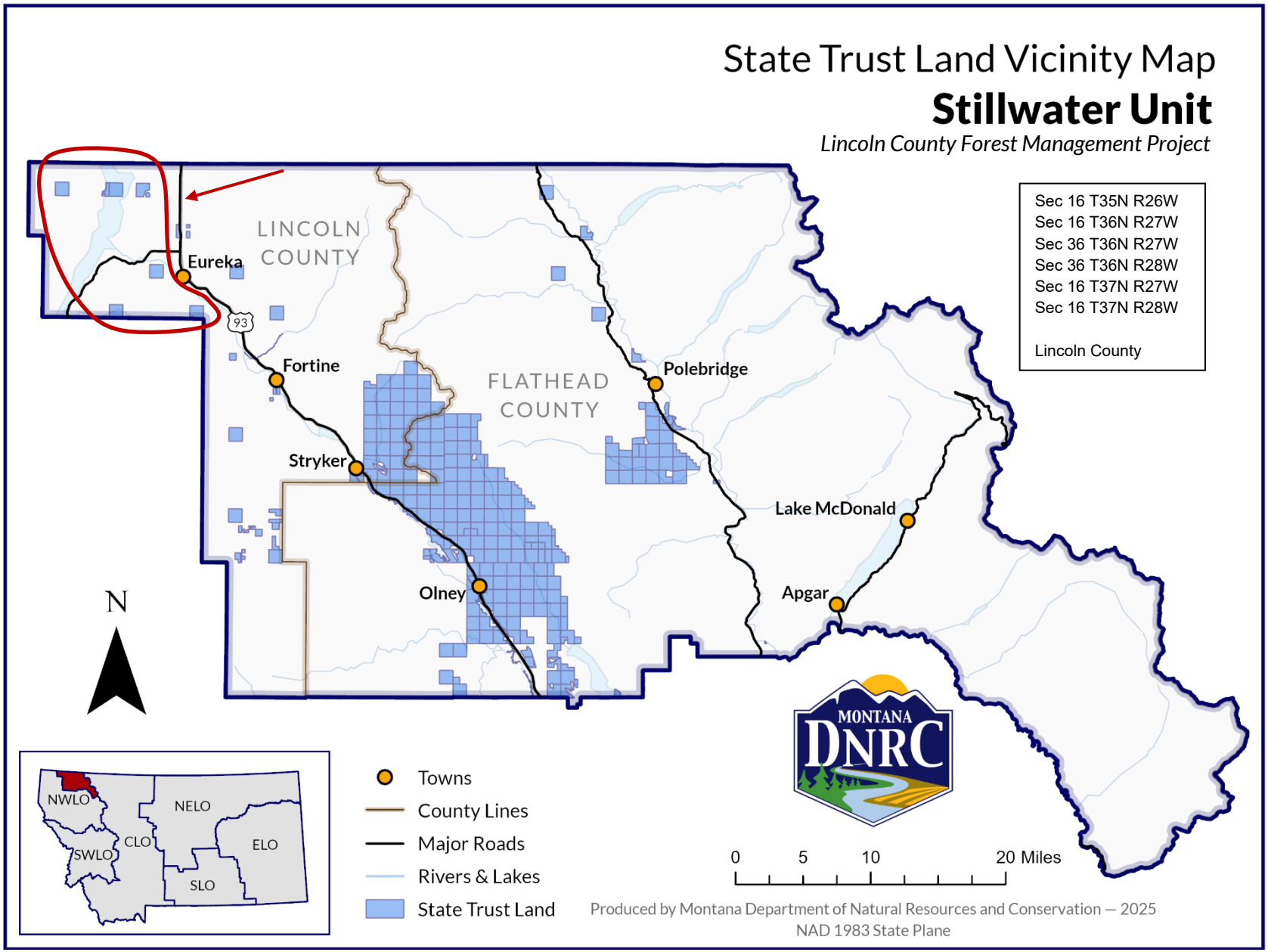
| | | | | | |
|---|---|---|---|---|---|
| [ ] | EIS | [ ] | More Detailed EA | [X] | No Further Analysis |

## Environmental Assessment Checklist Approved By:

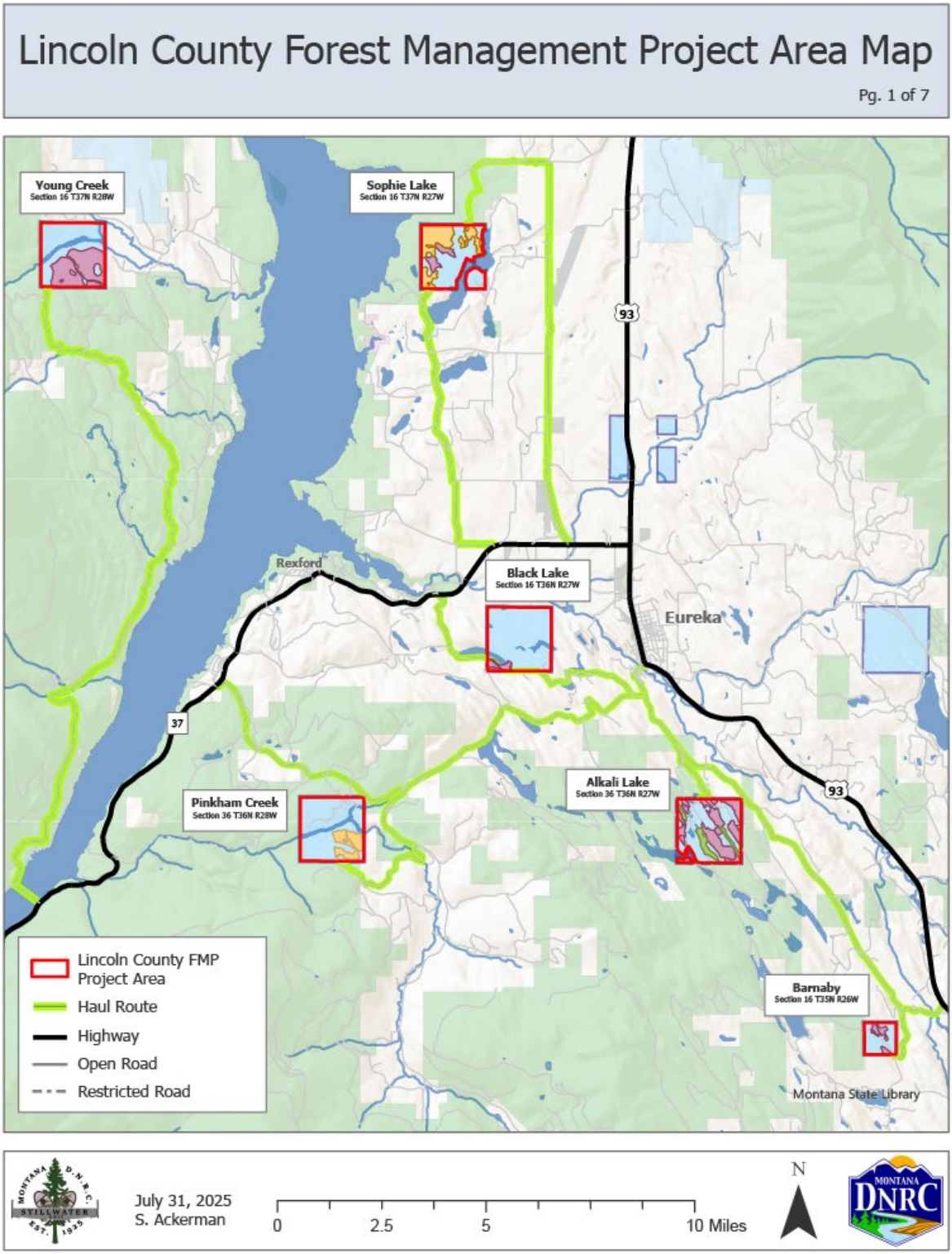
**Name:** Dave Ring
**Title:** Stillwater Unit Manager
**Date:** September 23, 2025
**Signature:** /s/ David A. Ring

# Attachment A - Maps

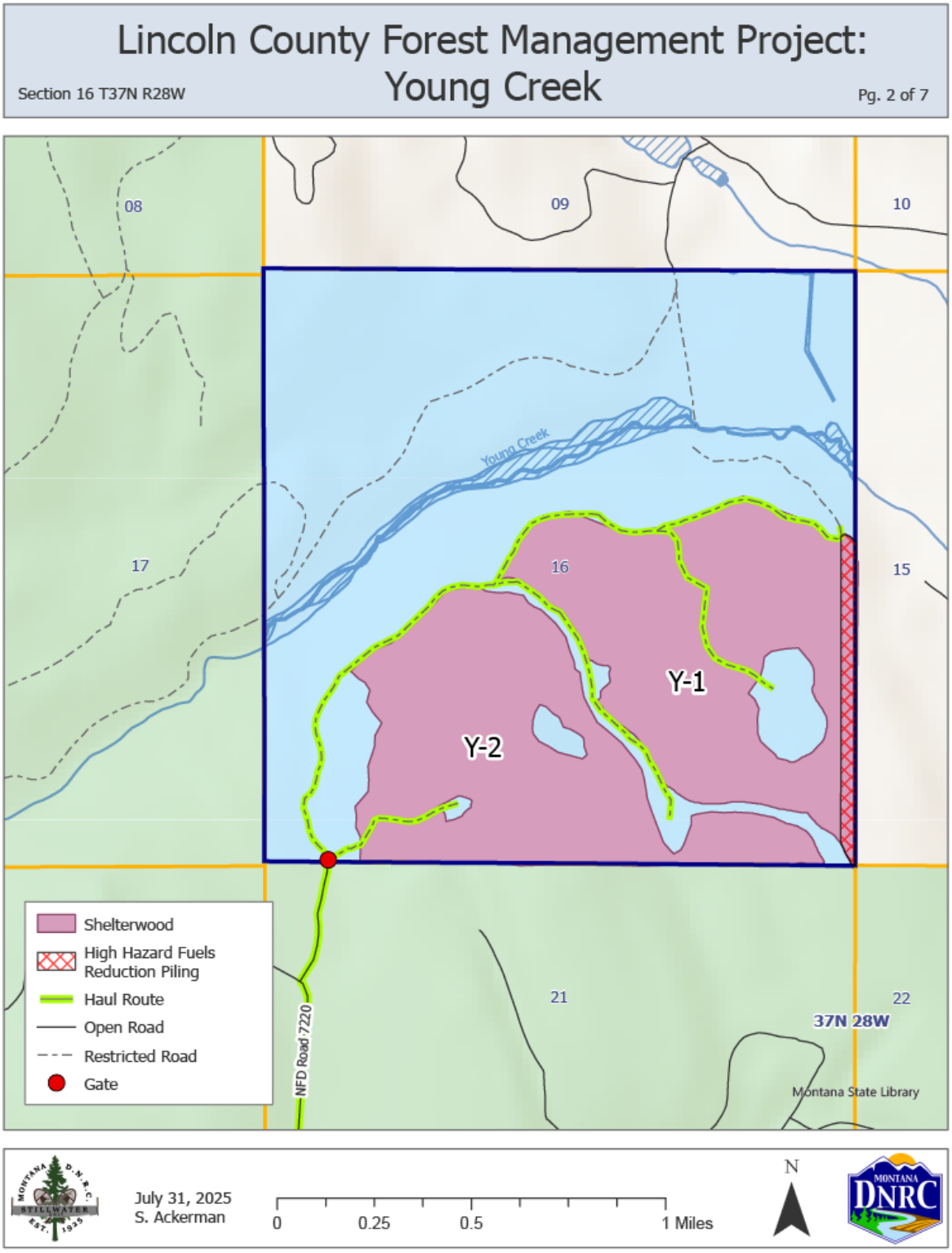
A-1: Lincoln County Forest Management Project Vicinity Map



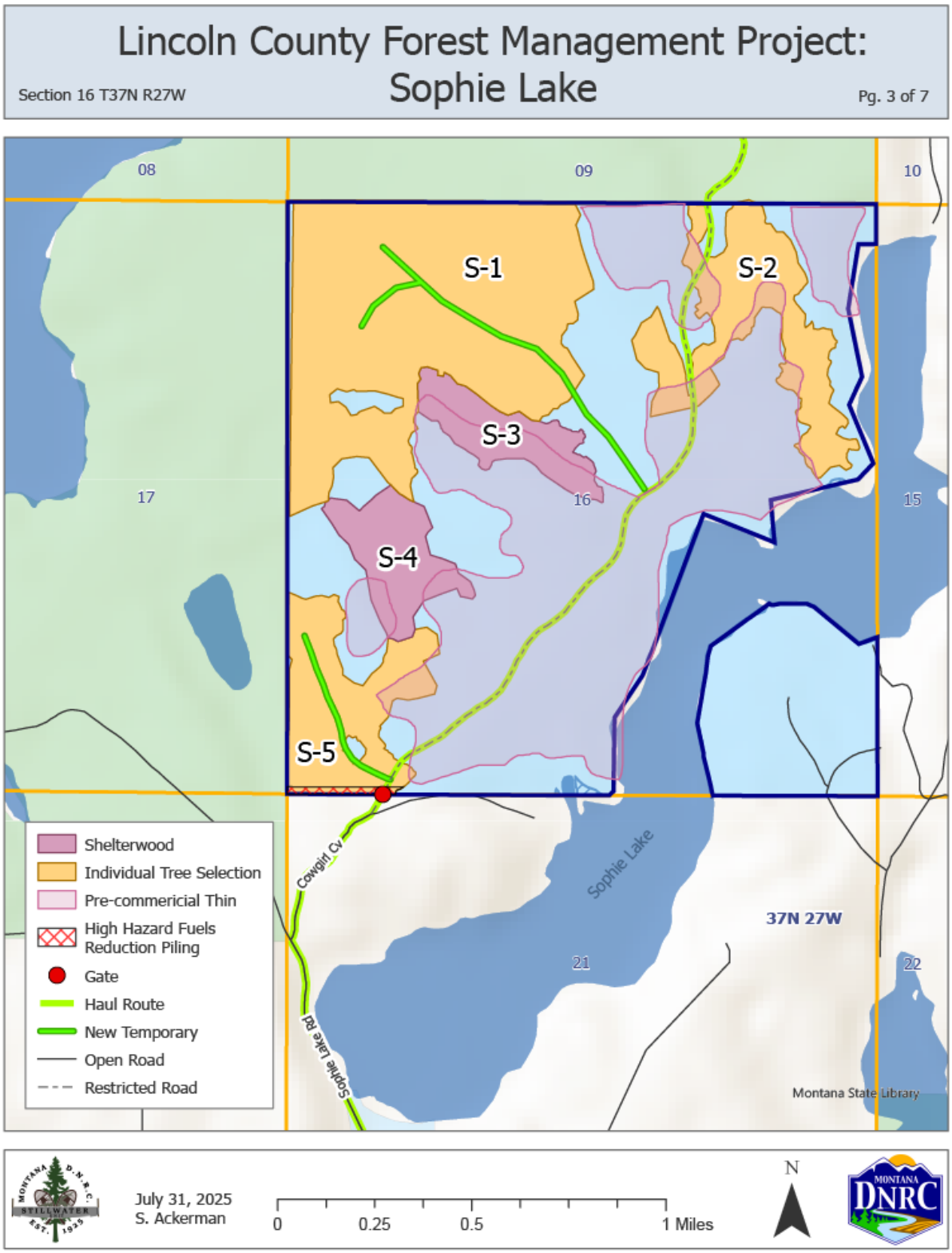
A-2: Lincoln County Forest Management Project Area Map



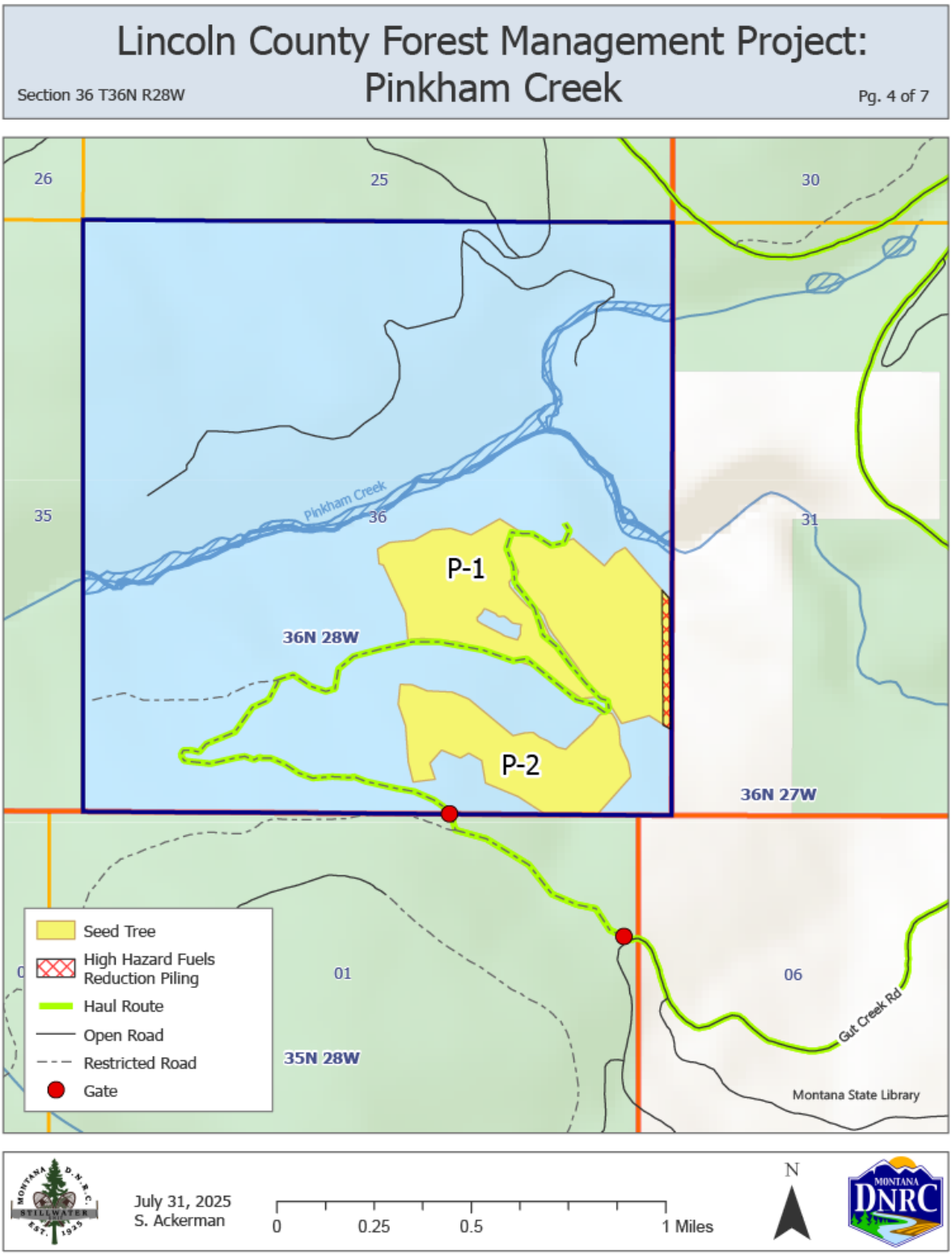
A-3: Lincoln County Forest Management Project: Young Creek



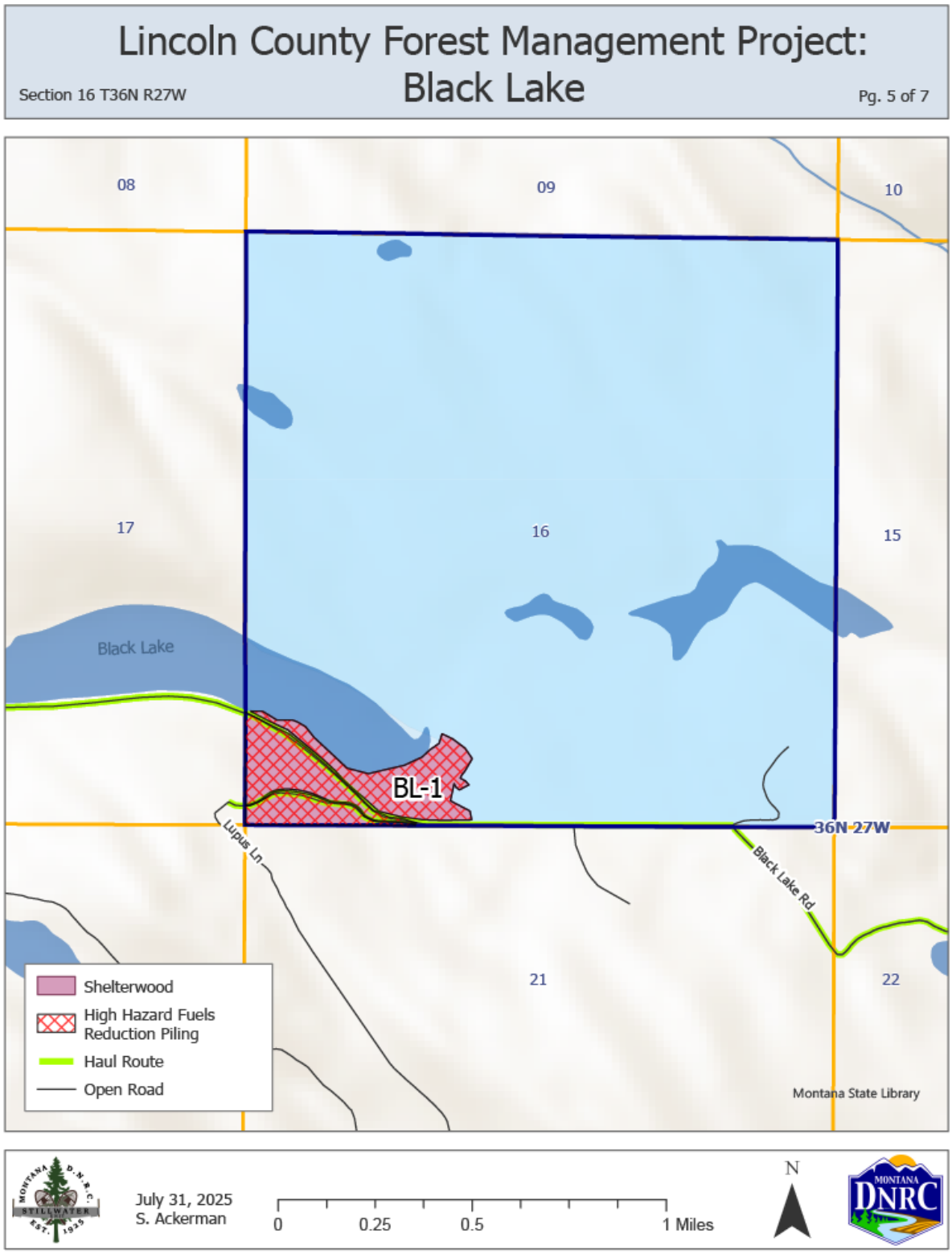
A-4: Lincoln County Forest Management Project: Sophie Lake



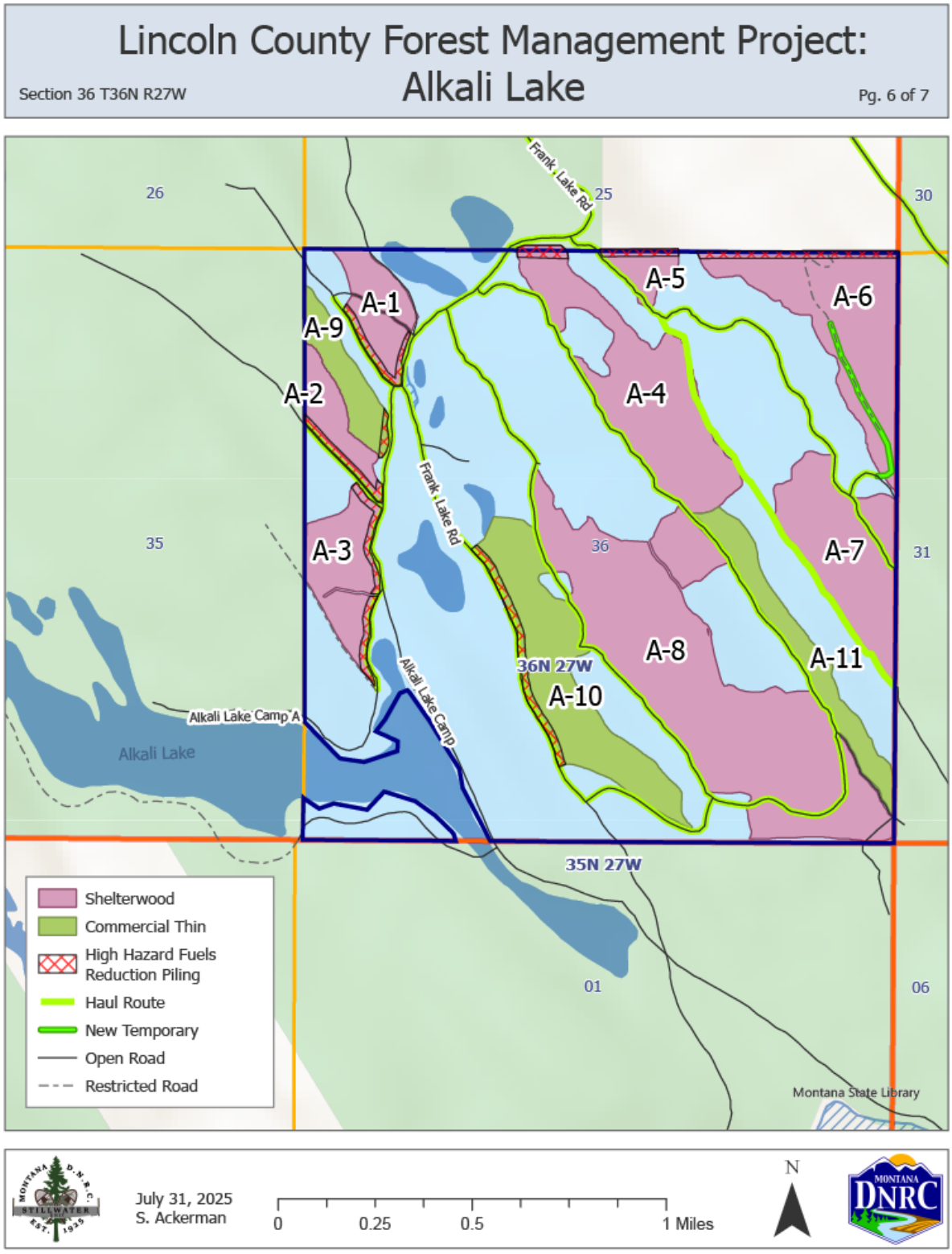
A-5: Lincoln County Forest Management Project: Pinkham Creek



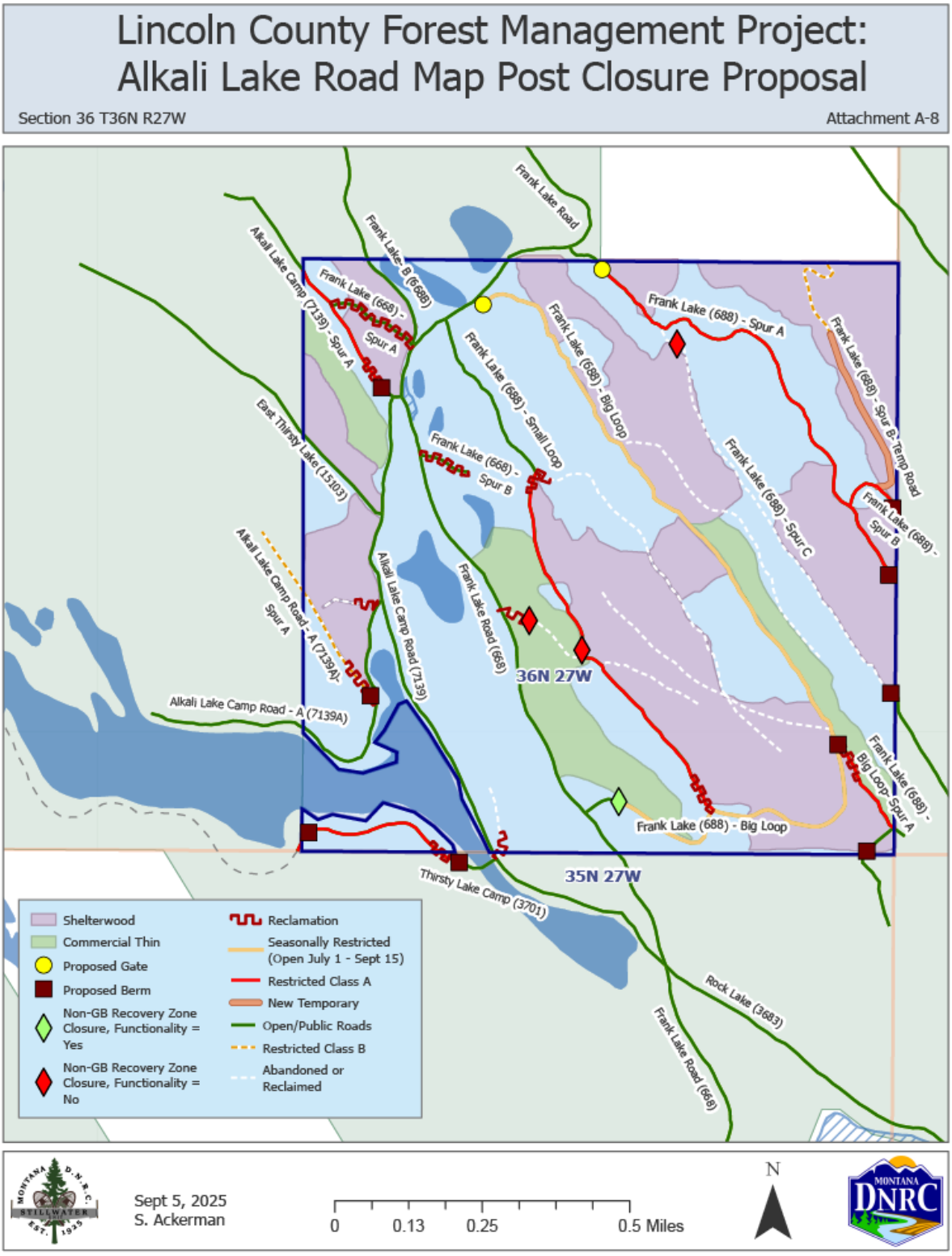
A-6: Lincoln County Forest Management Project: Black Lake



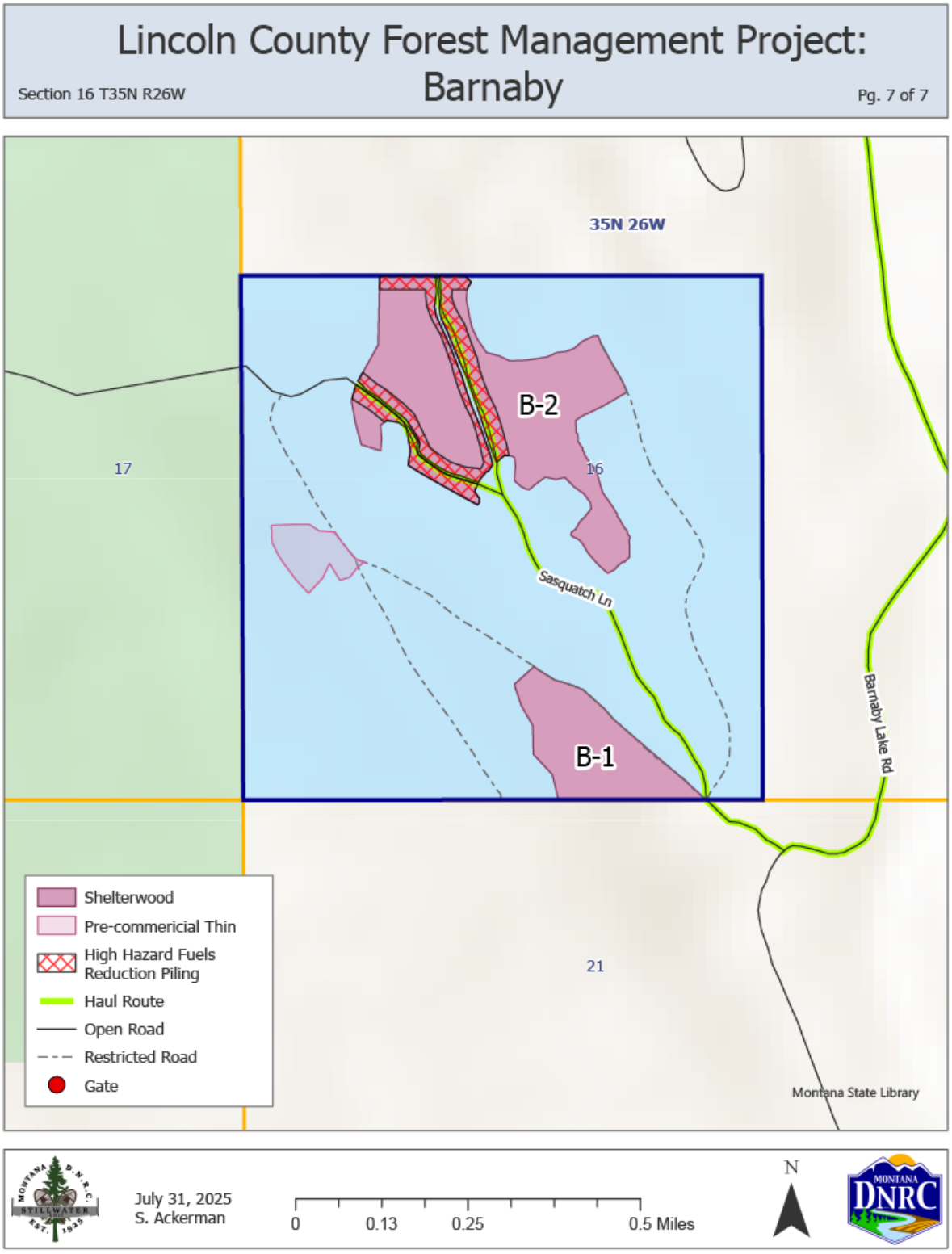
A-7: Lincoln County Forest Management Project: Alkali Lake



A-8: Lincoln County Forest Management Project: Alkali Lake Road Closure Proposal



A-9: Lincoln County Forest Management Project: Barnaby



# Attachment B – Prescription Table

| Harvest Units | | | |
|---|---|---|---|
| Unit | Acres | Prescription | Particulars involved in unit |
| Y-1 | 132.9 | Shelterwood Harvest | • Tractor harvest<br>• 22-27 LTPA / 40- 45’ spacing PP>WL>DF<br>• Wildlife timing restrictions: Osprey (April 1 - August 31) and spring Grizzly Bear (April 1 – June 15)<br>• 200ft high hazard fuels reduction and piling will occur along the east boundary where our section borders private land<br>• Rely on natural regeneration and Interplant ~100 TPA WL/PP |
| Y-2 | 123.2 | Shelterwood Harvest | • Tractor harvest<br>• 22-27 LTPA / 40- 45’ spacing PP>WL>DF<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• Rely on natural regeneration and Interplant ~100 TPA WL/PP |
| S-1 | 120.3 | Individual/Select Tree Harvest | • Tractor harvest (leave-tree marked)<br>• DBH >15”: 22-27 LTPA / 40- 45’ spacing PP>WL>DF<br>• DBH <15”: 70-109 LTPA/ 20-25’ spacing DF>WL>PP<br>• This unit will be harvested and hauled through the north to avoid wildlife timing restrictions: Osprey (April 1 and August 31) and Eagle (February 1 – August 15).<br>• Critical winter range habitat for elk: Recommended Timing Restrictions: (Jan 1 – end of Feb).<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• Hiding cover retention along the small ridges protect as much submerchantable material as possible<br>• Rely on natural regeneration |
| S-2 | 40.9 | Individual/Select Tree Harvest | • Tractor harvest (leave-tree marked)<br>• 70-12 LTPA/ 25-60’ spacing PP>DF<br>• This unit will be harvested and hauled through the north to avoid wildlife timing restrictions: Osprey (April 1 and August 31) and Eagle (February 1 – August 15)<br>• Critical winter range habitat for elk: Recommended Timing Restrictions: (Jan 1 – end of Feb).<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• Rely on natural regeneration |

| | | | |
|---|---|---|---|
| S-3 | 17.7 | Shelterwood Harvest | • Tractor harvest<br>• 22-27 LTPA / 40- 45' spacing PP>WL>DF<br>• This unit will be harvested and hauled through the north to avoid wildlife timing restrictions: Osprey (April 1 and August 31) and Eagle (February 1 – August 15)<br>• Critical winter range habitat for elk: Recommended Timing Restrictions: (Jan 1 – end of Feb).<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• During Admin, allow contractor to cut all dead/dying trees marked as boundary trees<br>• Plant ~222 TPA PP/WL/DF |
| S-4 | 19.7 | Shelterwood Harvest | • Tractor harvest<br>• 22-27 LTPA / 40- 45' spacing PP>WL>DF<br>• Critical winter range habitat for elk: Recommended Timing Restrictions: (Jan 1 – end of Feb).<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• Rely on natural regeneration and Interplant ~100 TPA WL/PP |
| S-5 | 34.9 | Individual/Select Tree Harvest | • Tractor harvest (leave-tree marked)<br>• 70-12 LTPA/ 25-60' spacing PP>DF<br>• Critical winter range habitat for elk: Recommended Timing Restrictions: (Jan 1 – end of Feb).<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• 100ft high hazard fuels reduction and piling will occur along the south boundary where our section borders private<br>• Rely on natural regeneration |
| BL-1 | 30.2 | Shelterwood Harvest | • Tractor harvest<br>• 22-27 LTPA / 40- 45' spacing PP>WL>DF<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• High hazard fuels reduction and piling across the entire unit due to its proximity to open roads and private land<br>• Rely on natural regeneration and Interplant ~100 TPA WL/PP |
| P-1 | 63.7 | Seed Tree | • Tractor harvest<br>• 10-15 LTPA / ~60' spacing WL>DF>PP |

| | | | |
|---|---|---|---|
| | | | • Wildlife timing restrictions: Osprey (April 1 - August 31) and spring Grizzly Bear (April 1 – June 15)<br>• Rely on natural regeneration and Interplant ~100 TPA WL/PP |
| P-2 | 29.1 | Seed Tree | • Tractor harvest<br>• 10-15 LTPA / ~60’ spacing WL>DF>PP<br>• Wildlife timing restrictions: Osprey (April 1 - August 31) and spring Grizzly Bear (April 1 – June 15)<br>• Rely on natural regeneration and Interplant ~100 TPA WL/PP |
| A-1 | 11.0 | Shelterwood Harvest | • Tractor harvest<br>• 22-27 LTPA / 40- 45’ spacing PP>WL>DF<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• 100ft high hazard fuels reduction and piling will occur along all open roads<br>• Rely on natural regeneration and Interplant ~100 TPA WL/PP |
| A-2 | 8.3 | Shelterwood Harvest | • Tractor harvest<br>• 22-27 LTPA / 40- 45’ spacing PP>WL>DF<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• 100ft high hazard fuels reduction and piling will occur along all open roads<br>• Rely on natural regeneration and Interplant ~100 TPA WL/PP |
| A-3 | 15.7 | Shelterwood Harvest | • Tractor harvest<br>• 22-27 LTPA / 40- 45’ spacing PP>WL>DF<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• 100ft high hazard fuels reduction and piling will occur along all open roads<br>• Rely on natural regeneration and Interplant ~100 TPA WL/PP |
| A-4 | 36.3 | Shelterwood Harvest | • Tractor harvest<br>• 22-27 LTPA / 40- 45’ spacing PP>WL>DF<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• 100ft high hazard fuels reduction and piling will occur along all open roads<br>• Rely on natural regeneration and Interplant ~100 TPA WL/PP |

| | | | |
|---|---|---|---|
| A-5 | 5.0 | Shelterwood Harvest | • Tractor harvest<br>• 22-27 LTPA / 40- 45' spacing PP>WL>DF<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• 100ft high hazard fuels reduction and piling will occur along the north boundary where our section borders private land and open roads<br>• Rely on natural regeneration and Interplant ~100 TPA WL/PP |
| A-6 | 34.2 | Shelterwood Harvest | • Tractor harvest<br>• 22-27 LTPA / 40- 45' spacing PP>WL>DF<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• 100ft high hazard fuels reduction and piling will occur along the north boundary where our section borders private land<br>• Rely on natural regeneration and Interplant ~100 TPA WL/PP |
| A-7 | 27.4 | Shelterwood Harvest | • Tractor harvest<br>• 22-27 LTPA / 40- 45' spacing PP>WL>DF<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• Rely on natural regeneration and Interplant ~100 TPA WL/PP |
| A-8 | 83.7 | Shelterwood Harvest | • Tractor harvest<br>• 22-27 LTPA / 40- 45' spacing PP>WL>DF<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• Rely on natural regeneration and Interplant ~100 TPA WL/PP |
| A-9 | 9.0 | Commercial Thinning | • Tractor harvest<br>• 109-70 LTPA / 20-25' spacing PP>WL>DF<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• 100ft high hazard fuels reduction and piling will occur along all open roads |
| A-10 | 32.8 | Commercial Thinning | • Tractor harvest<br>• 109-70 LTPA / 20-25' spacing PP>WL>DF<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• 100ft high hazard fuels reduction and piling will occur along all open roads |

| | | | |
|---|---|---|---|
| A-11 | 14.4 | Commercial Thinning | • Tractor harvest<br>• 109-70 LTPA / 20-25’ spacing PP>WL>DF<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15) |
| B-1 | 7.3 | Shelterwood Harvest | • Tractor harvest<br>• 22-27 LTPA / 40- 45’ spacing PP>WL>DF<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• 100ft high hazard fuels reduction and piling will occur along all open roads<br>• Rely on natural regeneration and Interplant ~100 TPA WL/PP |
| B-2 | 21.8 | Shelterwood Harvest | • Tractor harvest<br>• 22-27 LTPA / 40- 45’ spacing PP>WL>DF<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15)<br>• 100ft high hazard fuels reduction and piling will occur along all open roads<br>• Rely on natural regeneration and Interplant ~100 TPA WL/PP |
| S-B | 9.3 | PCT | • PP/DF on 16' x 16' spacing<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15) |
| S-C | 18.2 | PCT | • PP/DF on 16' x 16' spacing<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15) |
| S-F | 168.2 | PCT | • PP/DF on 16' x 16' spacing<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15) |
| S-G | 5.6 | PCT | • PP/DF on 16' x 16' spacing<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15) |
| B-C | 2.1 | PCT | • WL/PP on 16' x 16' spacing<br>• Wildlife timing restrictions: spring Grizzly Bear (April 1 – June 15) |