# FROG SCHLEY MANAGEMENT AREA

# ENVIRONMENTAL ASSESSMENT

**October 2025**

Legal Description:
T16N, R20W Sections 35, 36
T15N, R20W Sections 1, 2, 3, 9, 10, 11, 12, 13, 14, 15, 22, 23, and
T15N, R19W Sections 6, 7

The Frog/Schley Management Area encompasses 4,866 acres on Tribal land. It is located in Missoula County along the Southwest boundary of the Flathead Indian Reservation within the Reservation Divide Mountain Range and Jocko Landscape. It is approximately .5 miles North of Evaro, Montana (see Figure 1, Vicinity Map).

| **Prepared for:** | **Responsible Federal Agency** | **Prepared by:** |
|---|---|---|
| Confederated Salish & Kootenai Tribes<br>Forestry Department<br>Ronan, Montana | Bureau of Indian Affairs<br>Superintendent, Flathead Agency<br>Pablo, Montana | Jim Durglo<br>PO Box 641<br>St. Ignatius, Montanan 59865<br>jimdurglo@gmail.com<br>406-531-6172 |

## FINDING OF NO SIGNIFICANT IMPACT

**Frog Schley Management Area**
**Confederated Salish and Kootenai Tribes (CSKT), Flathead Indian Reservation, Missoula County, Montana**

Based on the attached final Environmental Assessment (EA) for the Frog Schley Management Area that proposes to harvest timber products from 1,502 acres, road improvement, and associated activities, within the Flathead Reservation in Missoula County, Montana, I have determined that by implementation of the agency proposed action with associated activities, and environmental mitigation measures as specified in the EA, the proposed Frog Schley project will have no significant impact on the quality of the human environment. In accordance with section 102(2)(c) of the National Environmental Policy Act of 1969, as amended, an Environmental Impact Statement will not be required.

This determination is supported by the following findings:

1. Agency and Tribal Interdisciplinary Team involvement was conducted and environmental issues related to development of the Frog Schley project were identified. Alternative course of action and mitigation measures were developed in response to environmental concerns and issues. Tribal community outreach was conducted (See EA Section 1.4).

2. The EA discloses the environmental consequences of the "proposed action" (Section 4 of the EA).

3. Protective measures will be levied to protect air (Clean Air Act, as amended, 42 U.S.C. 7401 et seq.), noise, and water quality (Clean Water Act, as amended, 33 U.S.C. 1251 et seq.), as outlined in the mitigation measures (See the CSKT Forest Management Plan and associated EIS; EA Mitigation included in the Proposed Action, and EA Sections 4.3).

4. The proposed action will not jeopardize threatened or endangered species (Endangered Species Act, as amended, 16 U.S.C. 1531 et seq.) (See EA Section 4.5 and the Appendix).

5. There are no adverse effects on historic properties for the purpose of 36 CFR 800.9(b) by preserving archeological value through conduct of appropriate research in accordance with applicable standards and guideline (National Historic Preservation Act, as amended, 16 U.S.C. 470). Should undiscovered archeological remains be encountered during ground-disturbing activities, work will stop in the area of discovery and the stipulations of 36 CFR 800.11 will be followed (See EA Section 4.2 and the Appendix).

6. Impacts to public health and safety are mitigated through implementation of safety measures.

7. The proposed action will not cause a significant effect to energy resources (Energy Policy Act of 2005), water resources, wetlands (E.O. 11990), or flood plains (E.O. 11988). The Frog Schley Project will not result in discharge of pollutants into waters of the U.S. or in surface water quality issues (Clean Water Act, as amended, 33 U.S.C. 1251 et seq.) (See the CSKT Forest Management Plan and associated EIS; EA Mitigation included in the Proposed Action, and EA Sections 4.3).

8. The cumulative effects of the environment are mitigated to avoid or minimize effects of implementation of the proposed project.

9. The proposed action would improve the economic and social conditions of the affected Indian community.

10. The Frog Schley Project will not have significant impacts on: natural and unique geographic features such as historic or cultural resources; park, recreation, or refuge lands; wilderness areas; wild and scenic rivers; national natural landmarks; sole or prime drinking water aquifers; prime and unique farmlands, wetlands, floodplains; national monuments; eagles and migratory birds, and other ecologically significant areas.

11. The proposed action will not produce highly controversial effects on the quality of the human environment and will not have unresolved conflicts concerning alternate uses of available resources.

12. The proposed action will not have highly uncertain effects on the human environment or involve unique or unknown risks.

13. The proposed action will not establish a precedent for future actions with significant effects or represent a decision in principle about a consideration.

14. The Frog Schley Project is not related to other actions with individual insignificant but cumulatively significant environmental effects.

15. There will be no disproportionately high and adverse human health or environmental effects on minority or low-income communities (Title VI of the Civil Rights Act of 1964).

16. The proposed action will not affect American Indian Religious Freedom (42 U.S.C. 1996). The action will not limit access to, and ceremonial use of, Indian sacred sites on federal lands, by Indian religious practitioners, and/or adversely affect the physical integrity of such sites (Native American Graves Protection and Repatriation Act, 25 U.S.C. 32).

17. The action will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area, or may promote the introduction, growth, or expansion of the range of such species.

18. The proposed action will not contribute to the disposal of solid or hazardous waste (Resource Conservation and Recovery Act of 1976; 43 U.S.C. 6901, et seq.).

19. The proposed action will not threaten a violation of federal, state, local, or tribal law or requirements imposed for the protection of the environment.

DAWN DAVIS Digitally signed by DAWN DAVIS Date: 2026.01.08 15:30:44 -07'00'

Dawn Davis, Agency Acting Superintendent
Flathead Agency
Bureau of Indian Affairs
U.S. Department of the Interior

Date

**DEPARTMENT OF THE INTERIOR**

**Bureau of Indian Affairs**

**Final Environmental Assessment for the proposed Frog Schley Project on the Flathead Reservation in Missoula County, Montana**

**AGENCY:** Bureau of Indian Affairs

**ACTION:** Notice of Availability

**SUMMARY:** This notice is to advise interested parties that the Bureau of Indian Affairs (BIA) as lead federal agency, with the Confederated Salish and Kootenai Tribes (CSKT) of the Flathead Reservation, has prepared a final Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the Frog Schley Management Area project on the Flathead Reservation in Missoula County, Montana. This notice also announces the EA and FONSI are now available in hard copy at the address below.

For concerns and comments about this project contact within 30 days.

**ADDRESSES:** You may request a hard copy of the EA and FONSI by writing the BIA Flathead Agency, PO Box 40, Pablo, Montana, 59855, and the CSKT, PO Box 278, Pablo, Montana, 59855.

**FOR FURTHER INFORMATION CONTACT:** Dawn Davis, BIA Flathead Agency Acting Superintendent, at (406) 675-2700, and Stephan McDonald., CSKT Forest Manager, at (406) 676- 3755.

**SUPPLEMENTAL INFORMATION:** The CSKT, through contractual obligations to the BIA, has proposed the Frog Schley Project. The activities under the proposed action of the agency is for the timber harvest of trees on approximately 1,502 acres, and road improvement and associated activities, on the Flathead Reservation in Missoula County, Montana. The activities will occur under guidelines in the CSKT Forest Management Plan and associated NEPA document.

**AUTHORITY:**
This notice is published pursuant to 43 CFR 46.305 of the Department of Interior Regulations (43 CFR 46 et seq.), the procedural requirements of the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4371 et seq.), and in accordance with the exercise of authority delegated to the Assistant Secretary, Indian Affairs by 209 DM 8.

DAWN DAVIS Digitally signed by DAWN DAVIS Date: 2026.01.08 15:31:45 -07'00'

Dawn Davis, Acting Superintendent
Flathead Agency
Bureau of Indian Affairs
U.S. Department of the Interior

Date

Ownership & Acreage

| Ownership | Frog/Schley MA Acres | Area Proposed for harvest: Acres | Area Proposed for PCT: Acres | Reserve Acres* |
|---|---|---|---|---|
| Tribal | 4,866 | 1502 | 815 | 3,364 |
| Allotted | None | None | None | None |
| Fee | None | None | None | None |
| Total | 4,866 | 1502 | 815 | 3,364 |

*Reserve acres are acres not included in the current harvest that may be harvested at the next entry. Areas of cultural or ecological significance may also be considered reserve acres as they are within the management area but may not be harvested in the next entry.

Average Slope: 24.9%.
Elevation Range: 3,600 – 6,500 feet.
Aspect(s): All Aspects

Total Acres in Management Area: 4,866

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| BIA | Bureau of Indian Affairs |
| BMP | Best management practice |
| CSKT | Confederated Salish & Kootenai Tribes |
| DBH | Diameter at breast height |
| DC | Desired conditions (as specified in CSKT 2000) |
| EIS | Environmental Impact Statement |
| FSMA | Frog Schley Management Area |
| ESA | Endangered Species Act |
| FEIS | Final Environmental Impact Statement |
| FMP | Flathead Indian Reservation Forest Management Plan |
| FONSI | Finding of No Significant Impact |
| LAU | Lynx analysis unit |
| MA | Management Area |
| MBF | Thousand board feet |
| MMBF | Million board feet |
| NEPA | National Environmental Policy Act |
| NRD | CSKT Natural Resources Department |
| OHV | Off-highway vehicle |
| SIL | Scenic Integrity Level |
| TES | Threatened, Endangered, and Sensitive |
| THPO | Tribal Historic Preservation Officer |
| TPO | CSKT Tribal Preservation Office |
| USFWS | U.S. Fish and Wildlife Service |
| VAC | Visual Absorption Capability |

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## APPENDIX

# Chapter 1. PURPOSE OF, AND NEED FOR ACTION

The federal action (40 CFR 1508.18) is the BIA approval of the *Frog Schley Proposed Management Activities*, which triggers BIA compliance with the National Environmental Policy Act (NEPA; 42 USC § 4321-4375) and associated regulations (40 CFR 1500-1508, 43 CFR 46). This Environmental Assessment is prepared to meet the BIA's NEPA responsibilities. The purpose of the action is to be able to implement the activities under the federal action to meet the primary need of forest management for the Confederated Salish and Kootenai Tribes (CSKT).

## 1.1 PURPOSE OF AND NEED FOR ACTION

The Bureau of Indian Affairs (BIA) Flathead Agency, in cooperation with the Confederated Salish and Kootenai Tribes (CSKT) Tribal Forestry Department, proposes to conduct a timber sale in the Frog Schley Management Area (FSMA) on the Flathead Indian Reservation (Reservation). The proposed activities and associated actions would be initiated in 2025 and be completed by 2028. Most follow-up activities on harvested units including planting, pile burning, and road work would be completed within five years of the culmination of harvest activities.

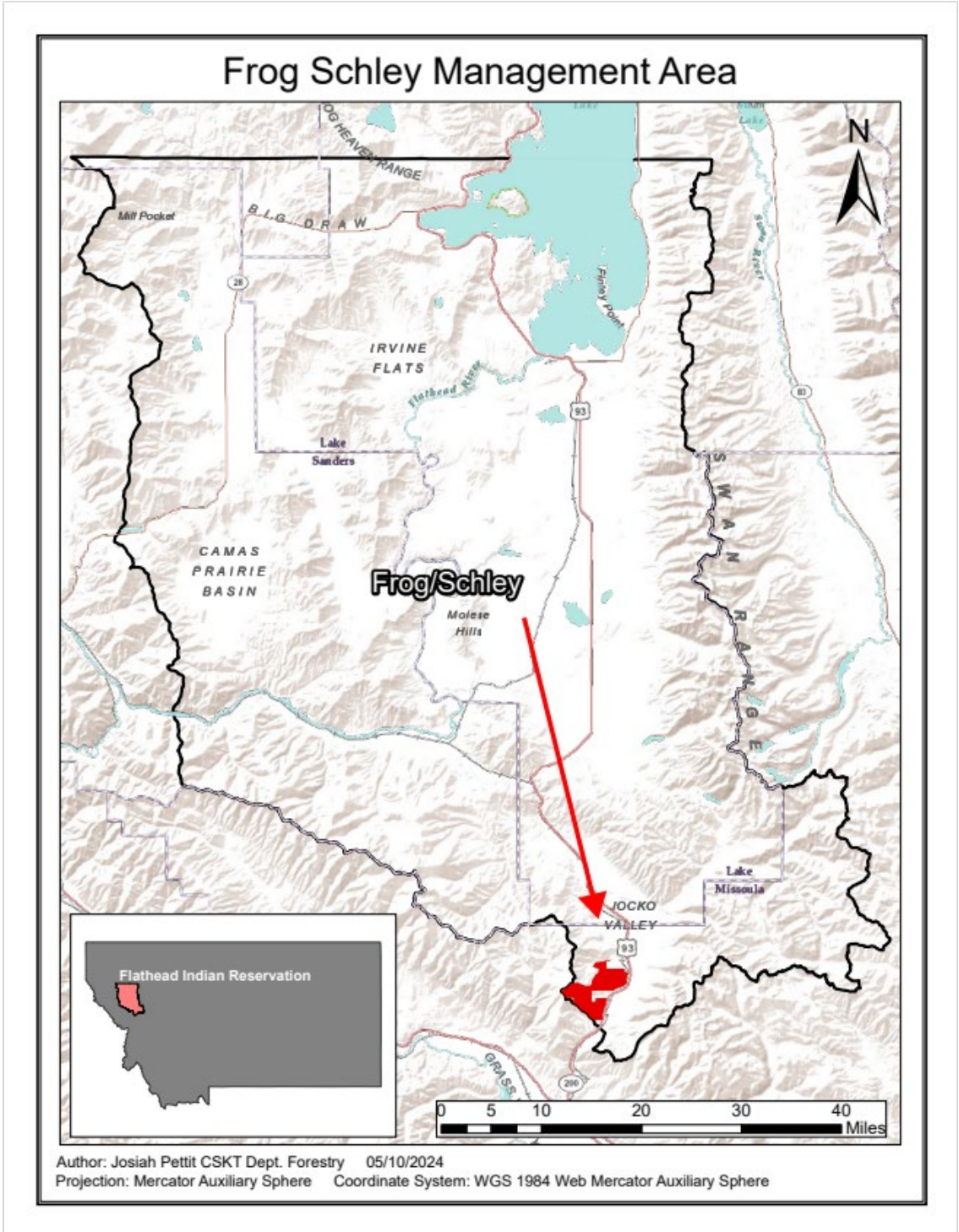


**Figure 1**. Vicinity Map of the Frog/Schley Management Area, Flathead Indian Reservation, Missoula County, Montana.

## 1.2 DETERMINTATION TO BE MADE

The Superintendent of the Flathead Agency is the official responsible for making the final determination regarding the project and EA, would decide whether this project would have a significant impact on the human environment. If the Superintendent decides that the effects would not be significant a Finding of No Significant Impact (FONSI) would be prepared and signed. The Superintendent is also responsible for selecting the appropriate action to be implemented with the signing of the FONSI.

## 1.3 OBJECTIVES AND NEED FOR ACTION

If implemented, the proposed action would conform to the Forest Management Plan 2000 based upon ecosystem principles. Among other things, it would:

- Reduce the risk of catastrophic wildfires in sensitive areas
- Increase the aesthetic value over-time
- Restore historic tree spacing and forest structure
- Increase wildlife habitat and forage
- Provide income for the Confederated Salish and Kootenai Tribes and employment opportunities for Tribal members
- Reduce potential losses of stand inventory to forest diseases and pests listed in Section 3.1.
- Enhance health and productivity of residual large diameter trees

## 1.4 PUBLIC INVOLVEMENT SUMMARY

The CEQ and DOI regulations encourage agencies to facilitate public involvement in the NEPA process (40 CFR 1506.60), but the extent of public involvement in preparing an EA is at the discretion of the decision-maker (43 CFR 46.305(a)).

Internal tribal staff coordination for this Environmental Assessment (EA) and the timber sale was initiated 2024, when staff from the CSKT Forestry Department met with staff from the CSKT Preservation Department. CSKT Natural Resources Department (NRD), CSKT Division of Fire, and the CSKT Lands Department. Field trips were facilitated on 6/10/2024 and 6/12/2024 with members of the IDT and a Tribal Council representative. An additional field trip with the Salish Qlispe' Advisory Committee was facilitated on 10/24/2025 with elders and members of the public. Issues and concerns were identified and discussed; and meeting minutes detailed analysis are available in the project-planning file for this EA.

## 1.5 NEPA DOCUMENT CONCLUSION

This EA analyzes the potential effects of federal action and associated activities. If the analysis concludes there may be significant impacts from activities, an Environmental Impact Statement (EIS) would need to be prepared. If it is determined that the effects would not be significant, a Finding of No Significant Impact (FONSI) would be prepared and signed.

## 1.6 LAWS, REGULATIONS, TRIBAL POLICIES AND ORDINANCES, AND RELATED NEPA DOCUMENTS

This project is consistent with the Final Environmental Impact Statement (FEIS) for the FMP. The Proposed Action is consistent with FMP guidance and standards. It is also consistent with the Amendment to the FMP and associated EA.

The Endangered Species Act (ESA) directs federal agencies (in this case, the BIA) to conserve Threatened and Endangered species. Under provisions of the ESA, federal agencies are directed to ensure that actions authorized, funded or carried out by federal agencies are not likely to jeopardize the continued existence of any Threatened or Endangered species. Additionally, it must not result in the destruction or adverse modification of their critical habitats. Whenever an action may affect a species listed or proposed for listing, or its habitat, federal agencies must consult with the U.S. Fish and Wildlife Service (USFWS).

The National Historic Preservation Act (NHPA) sets forth government policy and procedures regarding "historic properties" — that is, districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places. Section 106 of NHPA requires that Federal agencies consider the effects of their actions on such properties, following regulations issued by the Advisory Council on Historic Preservation (36 CFR 800).

The Native American Graves Protection and Repatriation Act (NAGPRA) requires Federal agencies and federally assisted museums to return "Native American cultural items" to the Federally recognized Indian tribes or Native Hawaiian groups with which they are associated. Regulations by the National Park Service (NPS) are at 43 CFR 10.

The American Indian Religious Freedom Act (AIRFA) says that the U.S. Government would respect and protect the rights of Indian tribes to the free exercise of their traditional religions; the courts have interpreted this as requiring agencies to consider the effects of their actions on traditional religious practices.

The Archeological Resources Protection Act (ARPA) prohibits the excavation of archeological resources (anything of archeological interest) on Federal or Indian lands without a permit from the land manager.

The Archeological Data Preservation Act (ADPA) or Archeological and Historic Preservation Act (AHPA) requires agencies to report any perceived impacts that their projects and programs may have on archeological, historical, and scientific data, and requires them to recover such data or assist the Secretary of the Interior in recovering them.

Executive Order 12898 requires that agencies try to avoid disproportionate and adverse environmental impacts on low-income and minority populations. Impacts may be cultural for example, impacts on a culturally important religious, subsistence, or social practice.

Executive Order 13007 requires that agencies try not to damage "Indian sacred sites" on Federal land and avoid blocking access to such sites by traditional religious practitioners.

The Clean Water Act (CWA) regulates discharges of pollutants into the nation's surface waters, which includes lakes, rivers, streams, and wetlands on the Flathead Indian Reservation. In 1987, when Congress amended the Clean Water Act (CWA), Indian Tribes became eligible to receive grants for Tribal program planning. In 1989, the Confederated Salish Kootenai Tribes (CSKT) applied and received approval for "treatment as a state" (TAS) status under Section 106 of the CWA. The CSKT Water Quality Program began computerizing existing water quality data for the Flathead Reservation. The CSKT Tribes applied for and received TAS for Section 303 Water Quality Standards (WQS) of the CWA in 1992. The Water Quality Standards Program began reservation-wide monitoring and drafted interim water quality classifications and standards. In 1995, the Tribal Council adopted the standards; EPA approved them in 1996. New or revised parts of the water quality standards become effective after EPA approval. EPA Action letter, April 2007 approved the revised and updated CSKT WQS, April 2006. CSKT administers the CSKT Water Pollution Control / Water Quality Standards Program and conducts 401 certification activities on the Flathead Indian Reservation (FIR). EPA is the National Pollutant Discharge Elimination Systems (NPDES) permitting authority on the FIR. The CSKT Water Pollution Control Program is administered as an Environmental Protection Program component of the CSKT Performance Partnership Grant (PPG).

The Confederated Salish and Kootenai Tribes have self-governance authority authorized by the Indian Self Determination and Education Assistance Act (PL-93-638). By a federal directive from the U.S. Department of Interior, the CSKT Forestry Department, as well as many other resources have developed a Climate Change Strategic Plan in 2013 and amended in 2016 and would again update the plan in 2020. This plan is available at the *CSKT.org* website.

Several CSKT Tribal Policies and Ordinances apply to forestland management activities. These include but are not limited to: Tribal Preference Employment Guidelines, Providing Work to Tribal Loggers, and Cultural Clearance Permitting (Tribal Ordinance 95). Compliance would also be required under the Tribal Water Quality Management Ordinance 89B.

The Aquatic Lands Conservation Ordinance 87A (ALCO) was approved by the Secretary of the Interior, March 1, 1987, as a valid exercise of Tribal civil regulatory jurisdiction over all other natural water courses and wetlands on the Reservation not including the south half of Flathead Lake. The Shoreline Protection Office as well as the Shoreline Protection Board were made responsible for the implementation of Ordinance 87A (ALCO). Any project impacting natural water courses would require a review and permit from the Shoreline Protection Board.

# Chapter 2. PROPOSED ACTION

This EA analyzes the Proposed Action. No specific number of alternatives is required or prescribed (36 CFR 220.7(b)(2)). When there are no unresolved conflicts concerning alternative uses of available resources (NEPA, section 102(2)(E)), the EA need only to analyze the proposed action and proceed without consideration of additional alternatives (36 CFR 220.7 (b)(2)(i)). )). Although a stand-alone no-action alternative is not required under statute, it is required by the BIA to be considered in this document.

The action alternative was collaboratively developed by an interdisciplinary team of CSKT personnel. The team used information from field observations and reconnaissance data, maps, areal imagery, and other CSKT data. Mitigation measures included as part of the Proposed Action are described in Section 2.2 of this chapter. CSKT Best Management Practices (BMPs) are also included as part of the Proposed Action (Appendix).

## 2.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, the BIA would decide if the environmental impacts would be significant. The Tribes would re-evaluate the alternatives and impacts and then determine if they wanted to proceed with a proposal in the future. Activities such as firewood harvest and recreation would continue. Vegetation treatments, salvage and sanitation of trees, hazardous fuels treatments (thinning, pile burning, underburning), and road improvements, would not occur at this time.

The action alternative was collaboratively developed by an interdisciplinary team of CSKT personnel. The team used information from field observations and reconnaissance data, maps, areal imagery, and other CSKT data. Mitigation measures included as part of the Proposed Action are described in Section 2.2 of this chapter. CSKT Best Management Practices (BMPs) are also included as part of the Proposed Action (Appendix).

## 2.2 PROPOSED ACTION ALTERNATIVE

Under the Proposed Action, the BIA would approve the CSKT Frog Schley project activities, and the BIA and Tribe would implement activities under the project. This involves silvicultural activities and road management and maintenance across the area. Silviculture activities for the proposed project includes timber harvest of trees using different harvest systems.

### 2.2.1 Proposed Harvest Units
### Silvicultural Prescriptions and Definitions

***Uneven-age***

**Individual Tree Selection method:** The individual Tree selection method (ITS) is applied to maintain or create an un-even aged stand. An un-even aged stand contains at least three well-defined age classes on site. The ITS method consists of the removal of individual trees while leaving a basal area (BA) of between 35 - 45 square feet per acre. By opening up stands of trees to this BA target, it allows a new age class to regenerate naturally in the understory.

**Group Selection:** Group Selection is a method used for creating a mosaic stand structure. 2-7 acre patches of trees are removed with the overstory between patches remaining intact. These patches provide available growing space for regen, as well as increased diversity in stand structure and characteristics. For this proposed action, a group selection cut will provide openings in which Western White pine seedlings can be planted.

***Intermediate***

**Commercial Thin method:** This method is used in order to reduce the BA of a stand, for the purpose of increasing vigor and promoting growth in leave trees. In a commercial thin, the target residual basal area for a stand is roughly half of the current BA, leaving trees with the best or most desirable characteristics. This type of treatment is not meant to eliminate disease from a stand, nor is it meant to promote understory regeneration. A commercial thin could also be prescribed to a stand that does not fit the description of any other regeneration or intermediate cut.

**Crown Spacing:**
Similar to an ITS treatment, crown spacing involves the individual selection and removal of trees, but requires leave trees to be separated by a specified minimum distance between their crowns. This kind of treatment is often used in areas that lie in the wildland urban interface (WUI), with the intent of reducing the possibility of crown fires in such areas.

**Pre-Commercial Thinning:** Pre-commercial thins (PCTs) are prescribed to new harvest units as follow-up immediately after a harvest, as well Existing Cutting Blocks from previous entries. PCTs

allow the pole and sapling cohorts of a stand to be thinned and spaced out, such that they will have adequate growing space to optimize growth and vigor.

**Understory Removal:** This method is prescribed to stands in order to reduce the amount of fuels in the lower layers of the canopy, and does so by removing all trees in the sapling and pole size classes. No trees greater than 8" DBH are removed.

***Even-age***

**Seedtree method/ Visual Seedtree:** The seedtree method describes a cut in which the majority of the trees on site are removed, due to an existing or imminent insect, disease, or mortality event. 3 to 9 seral trees (seed trees) per acre are typically retained on site. Selected trees are left standing to provide a natural seed source. Seed trees may be cut several years later to maintain an even-aged stand structure, or may be left to provide structural diversity on the site. Visual Seedtree prescriptions refer to a Seedtree prescription that is visual, based on scenic integrity points from the CSKT 2000 Forest Management Plan. Occasionally, stands that have been cut to Seedtree specifications will require a second harvest to remove the remaining overstory before the new cohort of trees reaches maturity, especially if dwarf mistletoe or bark beetles have infested the leave trees. These treatments are referred to as "Liberation" cuts, and are used as an intermediate silvicultural prescription. Liberation treatments can be essential to maintaining the long-term health of stands by eliminating disease or decadent trees.

**Shelterwood method:** The Shelterwood method, like the seedtree method, is the removal of the majority of trees on site, with the intent of treating an insect or disease issue. However, shelterwood treatments leave enough trees to not only provide an adequate seed source, but also provide cover and protection for the establishment of the next generation of trees. 10 to 25 trees per acre are retained on site until the next generation is established. As discussed in the Seedtree method, Liberation treatments can also be applied to Shelterwood stands.

**Clearcut/Visual Clearcut:** The clearcut method is the removal of all, or most, merchantable trees in one single entry, and is prescribed almost exclusively to remove extensive insect or disease issues from a stand. Clearcuts are also prescribed in Subalpine fir and Engelmann spruce stands due to the high potential for windthrow. Clearcuts may allow for any clean, healthy seral trees to be left in the stand as reserve trees. These leave trees do not constitute enough leave to reach a seedtree prescription; usually 1-2 Trees per Acre. Visual clearcuts refer to a clearcut prescription that is visual, based on scenic integrity points from the CSKT 2000 Forest Management Plan.

***Fire Regimes***

**Fire Regime A:** Nonlethal fire regime, 5 - 30 year intervals, low fire intensity
**Fire Regime B:** Mixed fire regime, 30 – 100 year intervals, variable fire intensity
**Fire Regime C:** Lethal fire regime, 70 – 500 year intervals, high fire intensity

### *Seral Clusters*

Cluster A1: young and recently disturbed, open canopy, mostly pine and larch.
Cluster A2: mature and old, frequently disturbed, open canopy, mostly pine and larch.
Cluster B: young, undisturbed since regeneration, moderate canopy, mostly fir.
Cluster C: young, frequently disturbed to undisturbed, moderate canopy, mostly pine and larch.
Cluster D: young, frequently disturbed to undisturbed, closed canopy, mostly pine and larch.
Cluster E: Mature, undisturbed, moderate canopy, mostly fir and spruce.
Cluster F: mature, undisturbed, moderate canopy, mostly pine and larch. Potential for lodgepole old growth.
Cluster G: mature, less frequently disturbed, closed canopy, mostly pine and larch. Potential for lodgepole old growth.
Cluster H: mature, undisturbed, closed canopy, mostly fir and spruce.
Cluster I: old, undisturbed, moderate canopy, mostly fir and spruce. Potential for old growth.
Cluster J: Old, undisturbed, moderate canopy, mostly pine and larch. Potential for old growth.
Cluster K: old, undisturbed, mostly pine and larch. Potential for old growth.
Cluster L: old, undisturbed, closed canopy, mostly fir and spruce, potential for old growth.

## Proposed Treatments for Frog Schley Management Area

**Table 2.**1 Proposed Understory Units

| **Understory Removal Units** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Stand Number** | **Acres** | **RX** | **Fire Regime** | **Seral Cluster** | **Post-Harvest Cluster** | **Harvest System** | **Followup** | **Site Prep** | **Planting** |
| 501306 | 24 | UR | C | A2 | A2 | Hand/ Mech | TBD | None | No |
| 501307 | 7 | UR | A | F | F | Hand/ Mech | TBD | None | No |
| 501308 | 16 | UR | A | E | E | Hand/ Mech | TBD | None | No |
| **Total Acres** | **47** | | | | | | | | |
| **Pinus Monticola Planting Units** | | | | | | | | | |
| **Stand Number** | **Acres** | **RX** | **Fire Regime** | **Seral Cluster** | **Post-Harvest Cluster** | **Harvest System** | **Followup** | **Site Prep** | **Planting** |
| 500904 | 25 | RE | C | A2 | A2 | Hand/ Mech | Slash GRP | Pile/Mast | Yes |
| 500905 | 10 | RE | C | A2 | A2 | Hand/ Mech | Slash GRP | Pile/Mast | Yes |
| 500907 | 17 | RE | C | A1 | A1 | Hand/ Mech | Slash GRP | Pile/Mast | Yes |
| **Total Acres** | **52** | | | | | | | | |

**Table 2.2** Proposed Overstory Units for Timber Harvesting

| Stand Number | Acres | RX | Fire Regime | Seral Cluster | Post-Harvest Seral Cluster | Harvest System | Followup | Site Prep | Planting |
|---|---|---|---|---|---|---|---|---|---|
| 500106 | 38 | CC | A | F | A1 | Tractor | Slash | Mech | Yes |
| 500107 | 99 | ST | A | H | A2 | Tractor | Slash | UB | Yes |
| 500108 | 5 | CS | B | F | A2 | Tractor | UR | Mast | No |
| 500115 | 75 | ITS | A | F | F | Tractor | PCT | UB | No |
| 500116 | 86 | SW | C | F | A2 | Tractor | Slash | UB | No |
| 500221 | 39 | ST | C | G | A2 | Tractor | Slash | Mast/UB | Yes |
| 500908 | 13 | ST | C | F | A2 | Tractor | Slash | UB | Yes |
| 500910 | 19 | CC | A | A2 | A1 | Tractor | Slash | UB | Yes |
| 500912 | 9 | ST | C | F | A2 | Tractor | Slash | UB | Yes |
| 500914 | 15 | GS | C | A2 | A2 | Tractor | Slash | Pile | Yes |
| 501017 | 23 | CC | C | G | A1 | Cable | Slash | BB | Yes |
| 501022 | 30 | CC | C | E | A1 | Cable | Slash | BB | Yes |
| 501025 | 30 | CC | C | E | A1 | Tractor | Slash | UB | Yes |
| 501027 | 23 | ITS | A | E | E | Tractor | PCT | Mech | No |
| 501031 | 13 | ST | C | F | A2 | Cable | Slash | UB | Yes |
| 501124 | 38 | SW | A | H | A2 | Cable | Slash | UB | No |
| 501126 | 37 | SW | C | F | A2 | Tractor | Slash | UB | No |
| 501128 | 9 | SW | C | H | A2 | Tractor | Slash | UB | No |
| 501205 | 284 | ITS | B | A2 | F | Tractor | PCT | Mech, None | No |
| 501206 | 24 | CS | B | A2 | A2 | Tractor | UR | Mast | No |
| 501414 | 48 | ITS | B | F | F | Tractor | PCT | UB | No |
| 501420 | 27 | ITS | A | G | A2 | Tractor | PCT | Mast/UB | No |
| 501423 | 23 | CT | A | F | F | Tractor | None | None | No |
| 501518 | 13 | ITS | B | F | F | Cable | PCT | UB | Yes |
| 501524 | 12 | ST | C | F | A2 | Tractor | Slash | UB | Yes |
| 501525 | 11 | ITS | B | F | F | Tractor | PCT | UB | No |
| 502308 | 19 | CS | A | F | A2 | Tractor | UR | Mast/UB | No |
| 502310 | 8 | CS | A | F | A2 | Tractor | UR | Mast | No |
| 590603 | 79 | ITS | A | E | E | Tractor | PCT | UB | No |
| 590606 | 29 | CS | A | F | A2 | Tractor | UR | Mast/UB | No |
| 590703 | 75 | ITS | A | F | F | Tractor | PCT | UB | No |
| 590704 | 55 | ITS | A | F | F | Tractor | PCT | UB | No |
| 603510 | 99 | CT | C | F | G | Tractor | None | None | No |
| 603606 | 17 | AE | B | F | F | Tractor | PCT | Mech/UB | No |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 603607 | 78 | AE | B | F | F | Tractor | PCT | Mech/UB | No |
| **Total Acres** | **1502** | | | | | | | | |

* ITS = Individual Tree Selection; GS= Group Selection; CT = Commercial Thin; CS = Crown Spacing; ST = Seed Tree; SW = Shelterwood; CC = Clear Cut; UR = Understory Removal; RE = Restoration; AE = Aspen Enhancement; UB = Understory burn; BB = Broadcast Burn; Mast = Masticate; Mech = Mechanical Scarification; TBD = To be Determined.

** All units will utilize a whole tree skidding method, trees will be skidded or yarded and processed at landings designated by the FOIC (Forest Officer in Charge). Slash created from processing at landings will be burned at a later date.

*** Slash from follow-up will either be left on site to provide fuel for prescribed burning post-harvest, or piled and burned at a later date.

**Table 2.3** Proposed Pre-commercial Thin Units

| Name | Acres | Fire Regime | Seral Cluster | Treatment | | Name | Acres | Fire Regime | Seral Cluster | Treatment |
|---|---|---|---|---|---|---|---|---|---|---|
| 500101 | 5 | C | A1 | PCT/ UB | | 501111 | 17 | A | A2 | PCT |
| 500102 | 18 | B | A2 | PCT | | 501112 | 27 | C | A2 | PCT/ UB |
| 500103 | 31 | B | A2 | PCT | | 501113 | 10 | B | A2 | PCT |
| 500109 | 9 | B | C | PCT | | 501301 | 62 | C | A2 | PCT |
| 500201 | 5 | C | A1 | PCT/ UB | | 501401 | 15 | C | B | PCT |
| 500202 | 7 | C | A1 | PCT | | 501402 | 21 | C | D | PCT |
| 500203 | 19 | C | A2 | PCT | | 501404 | 22 | C | C | PCT |
| 500204 | 13 | C | A1 | PCT | | 501406 | 11 | C | B | PCT |
| 500205 | 12 | C | A1 | PCT | | 501407 | 9 | A | F | PCT |
| 500901 | 10 | C | A1 | PCT | | 501409 | 8 | C | A1 | PCT |
| 500902 | 7 | C | A1 | PCT | | 501410 | 17 | B | F | PCT |
| 501001 | 8 | C | A1 | PCT | | 501411 | 57 | B | F | PCT |
| 501003 | 7 | C | A1 | PCT | | 501421 | 29 | A | A1 | PCT |
| 501004 | 3 | C | F | PCT | | 501425 | 19 | B | A2 | PCT |
| 501005 | 14 | C | A2 | PCT | | 501427 | 47 | B | A2 | PCT |
| 501006 | 15 | C | A2 | PCT | | 501429 | 26 | A | A2 | PCT |
| 501008 | 26 | A | F | PCT | | 501430 | 9 | B | F | PCT |
| 501009 | 3 | C | B | PCT | | 501434 | 30 | B | A2 | PCT |
| 501010 | 10 | B | A1 | PCT | | 501504 | 8 | B | A1 | PCT |
| 501012 | 6 | B | A2 | PCT | | 501505 | 7 | B | A2 | PCT |
| 501013 | 8 | A | D | PCT | | 502302 | 34 | B | A1 | PCT |
| 501014 | 7 | C | A1 | PCT | | 502305 | 10 | C | F | PCT |
| 501018 | 6 | C | A1 | PCT | | 502307 | 25 | A | A2 | PCT |
| 501101 | 6 | C | B | PCT | | 590602 | 20 | B | A2 | PCT |
| 501105 | 15 | C | C | PCT | | | | | | |
| 501109 | 5 | C | A2 | PCT | | **Total Acres** | **815** | | | |

**Table 2.4** Proposed Commercial Treatment Types

| Commercial Treatment Type | Acres |
|---|---|
| **Uneven-age:** | **690** |
| Individual Tree Selection | 690 |
| | |
| **Intermediate:** | **217** |
| Commercial Thin ( Including Aspen Units) | 217 |
| | |
| **Even-age:** | **495** |
| Shelterwood | 170 |
| Seedtree (Including Visual) | 163 |
| Clearcut (Including Visual) | 127 |
| | |
| **Total Commercial Acres** | **1,267** |

**Table 2.5** Proposed Non-commercial Treatment Types

| Non-Commercial Treatment Type | Acres |
|---|---|
| **Intermediate WUI:** | **132** |
| Understory Removal | 47 |
| Crownspacing | 85 |
| | |
| **Even-age:** | **815** |
| Pre-commercial Thin | 815 |
| | |
| **White Pine Restoration:** | **102** |
| Group Selection | 15 |
| Seedtree | 22 |
| Clearcut | 13 |
| Understory Treatment Only | 52 |
| | |
| **Total Non-commercial Acres** | **1,049** |

Ground-based and Skyline harvest systems will both be utilized in this project. Ground based systems occur on gentler slopes less than 35%, although on occasion equipment is skidded across slopes up to

40% where there are short pitches in slope and short distances to logging decks. Skyline, or cable yarding systems typically occur on slopes that are greater than 40%, or if there is no access at the bottom of the unit for ground equipment. Follow up will include thinning, slashing, and planting respectively, and site prep will consist of Understory and Broadcast burns, Mechanical Scarification, Mastication, Piling & Pile Burning, or none at all.

Among the goals and objectives listed in section 4-C, there are several sets of proposed units that aim to fulfill certain objectives, such as; Grizzly bear forage enhancement, Aspen stand enhancement, Western White pine restoration, and Wildland Urban Interface Hazardous Fuel Reduction treatments. The objectives of these unit sets will be met through the use and application of silvicultural methods, similar to those used in our standard commercial harvest units. Some of these units, specifically the Aspen enhancement, Grizzly bear forage, and Western White pine restoration units, will most likely include special provisions in their prescriptions that will help meet their objectives. Each of these units are listed in table 2.1 as proposed harvest units, but will be further broken down in the following table.

**Table 2.6** Proposed Additional Objective Units
* Slash GRP = Slash Groups. ** HFR = Hazardous Fuel Reduction.

| Stand Number | Acres | RX | Harvest System | Follow-up * | Site Prep | Planting | Objective ** | Habitat Type |
|---|---|---|---|---|---|---|---|---|
| 500108 | 5 | CS | Tractor | UR | Mast/UB | No | WUI | PSME/PHMA - PHMA |
| 500904 | 25 | RE | Hand/ Mech | Slash GRP | Pile/Mast | Yes | WWP Restoration | ABLA/XETE |
| 500905 | 10 | RE | Hand/ Mech | Slash GRP | Pile/Mast | Yes | WWP Restoration | ABLA/XETE |
| 500907 | 17 | RE | Hand/ Mech | Slash GRP | Pile/Mast | Yes | WWP Restoration | ABLA/XETE - VASC |
| 500908 | 13 | ST | Tractor | Slash | BB | Yes | WWP Restoration | ABLA/XETE |
| 500910 | 19 | CC | Tractor | Slash | BB | Yes | WWP Restoration | PSME/CARU |
| 500912 | 9 | ST | Tractor | Slash | BB | Yes | WWP Restoration | ABLA/XETE |
| 500914 | 15 | GS | Tractor | Slash | Pile | Yes | WWP Restoration | ABLA/XETE |
| 501205 | 284 | ITS | Tractor | PCT | Mech/UB | No | Griz Forage | PSME/CARU - ARUV |
| 501206 | 24 | CS | Tractor | UR | Mast/UB | No | WUI | PSME/CARU - ARUV |
| 501306 | 24 | UR | Hand/ Mech | TBD | TBD | No | WUI | ABLA/VACA |
| 501307 | 7 | UR | Hand/ Mech | TBD | TBD | No | WUI | PSME/PHMA |
| 501308 | 16 | UR | Hand/ Mech | TBD | TBD | No | WUI | PSME/PHMA |
| 501414 | 48 | ITS | Tractor | PCT | UB | No | Griz Forage | PSME/VACA |
| 502308 | 19 | CS | Tractor | UR | Mast/UB | No | WUI | PSME/PHMA - CARU |
| 502310 | 8 | CS | Tractor | UR | Mast/UB | No | WUI | PSME/SYAL - CARU |
| 590603 | 79 | ITS | Tractor | PCT | UB | No | Griz Forage | PSME/SYAL - CARU |
| 590606 | 29 | CS | Tractor | UR | Mast/UB | No | WUI | PSME/PHMA - CARU |
| 590703 | 75 | ITS | Tractor | PCT | UB | No | Griz Forage | PSME/SYAL - CARU |
| 590704 | 55 | ITS | Tractor | PCT | UB | No | Griz Forage | PSME/SYAL - CARU |
| 603606 | 17 | AE | Tractor | PCT | UB | No | Aspen/ Griz Forage | PSME/VACA |
| 603607 | 78 | AE | Tractor | PCT | UB | No | Aspen/ Griz Forage | PSME/VACA |
| **Total Acres** | **876** | | | | | | | |

These additional objectives were conceived during the field recon process and while conducting research on the area, as well as in communicating with the department's Inventory Forester, Reforestation Forester, and Fuels Planner.

**Grizzly Bear Forage Enhancement Units.**
The Frog/Schley Management Area is known to be a travel corridor for Grizzly bear. During field recon, it was noticed that many of the stands containing fruit-bearing shrubs and species preferred by bears as forage were in a state of overstocking and low productivity. This is largely due to increasing canopy closure and competition between berry-producing shrubs and non-berry producing shrubs that are more shade tolerant. Many of them also have a distinct lack of coarse woody debris (CWD), which are commonly used for ant feeding. Each of the stands that were identified as being priority harvest units would prescribe an Individual Tree Selection, reducing their basal area to allow more sunlight through the canopy, while still providing a good amount of protective cover. Follow-up treatments would consist of low to moderate intensity understory burns to remove woody material, and promote re-sprouting, vigor, and increased production of grasses and fruit-bearing shrubs. Furthermore, special provisions may be included in the prescriptions to ensure the preservation and recruitment of additional CWD, as well as leaving a certain number of high stumps per acre, for the purpose of creating ant habitat for supplemental forage during low berry production years. Other methods may be developed and implemented as the planning process for this project progresses.

As an added benefit to these management strategies, increased berry production and revegetation of important or medicinal herbs and grasses will also boost the resilience of culturally used plants, giving benefit to tribal food sovereignty, and helping to protect a cultural resource.

Information on applying silvicultural methods for promoting Grizzly Bear forage was supplemented by the report "Using Silviculture to Maintain and Enhance Grizzly Bear Habitat in Six Variants of the Prince George Forest Region", by Beaudry L., Martin M., and Paczkowski J (March 2001). A link to this publication will be provided at the end of this document. Other information on the use of plants by Grizzly Bear and the response of plants to fire was obtained through searches using the Fire Effects Information System (FEIS).

**Western White Pine Restoration Units.**
Stands along the top ridge of the Frog Management area, below Charity peak were severely burned during the Black cat fire, roughly 17 years ago. These stands experienced stand-replacing fire, and are now overstocked thickets of 6-10' Lodgepole regen. Some other stands near the top were logged in the previous entry in 1998, and some back in the late 1970's. These stands have failed to regenerate and have very low volume, or are dying out due to insects and disease. During recon, a Western White pine sapling was found that had likely grown after the Black cat fire burned through the area. This led to the idea of taking some of these failing or newly regenerated stands, opening up patches in the canopy, and planting Western White pine, in an effort to begin re-introducing it to this landscape. These units will be mostly low-volume, and require a combination of overstory and understory removal to create 5-7 acre gaps in the regen and remaining overstory, providing some protection, yet enough sunlight and

growing space for seedlings to potentially thrive. Using these units as an opportunity to restore a species at risk, due to the White Pine blister rust, and potentially establish a population of rust resistant trees, would be an incredible step in promoting species diversity, and protecting a declining forest resource.

**Aspen Stand Enhancement Units.**
Collaboration with the department's Inventory Forester led to the discovery and recon of several Aspen stands in various stages of growth. Several of these stands were identified to be included for acres under a specific Aspen Enhancement project, and will likely be harvested by permit loggers, if suitable. Another will be included in the main timber sale. The objective for these units is to reduce the density of conifers in the overstory, leaving primarily large diameter Ponderosa pine with the Aspen, for the purpose of creating an open canopy and stimulating regeneration of Aspen through scarification. Follow-up treatments can include mechanical or hand thinning, or mastication. Site preparation may include understory burning, or none at all. The prescription for these units is listed as Commercial Thin because they do not fit the classical description of a typical Regeneration or Intermediate cut. As an added benefit, increased Aspen regeneration will provide Elk with forage, and in some stands, Grizzly Bear forage species will see increased vigor and production from increased sunlight and prescribed burning.

**Wildland Urban Interface Hazardous Fuel Reduction Units.**
Several units were identified along the Wildland Urban Interface (WUI), that have been prescribed Hazardous Fuel Reduction (HFR) treatments. Treating these units will be essential to lowering wildfire risk along the WUI, and will help create a more defensible space on both sides of tribal and private land, if a wildfire were to occur. These treatments will include a combination of overstory and understory removal. Stands in which the overstory is to be treated have been prescribed a Crown Spacing treatment. The objective of this is to space individual, or small groups of 1-3 trees, to a distance of approximately 25' between the edges of their crowns. Ponderosa pine is the favored species for leave, due to its fire resistance and lack of ladder fuels, but any species may be left in the absence of sufficient pine, provided it is not infected with Dwarf Mistletoe. Follow-up for these Crown Spacing units will consist of understory removal by mastication or by hand/mechanical means, and site preparation may include hand or mechanical piling & pile burning, understory burning, or other methods discussed at a later time.

Stands in which the overstory is not being treated have been prescribed Understory Removal. This will be conducted using the methods listed above.

**Table 2.7** Percent of Basal Area Removed

| Stand Number | Acres | RX | Current BA | Target BA | % BA Removed | Stand Number | Acres | RX | Current BA | Target BA | % BA Removed |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 500106 | 38 | CC | 180 | 0 | 100% | 501205 | 284 | ITS | 90 | 40 | 56% |
| 500107 | 99 | ST | 160 | 15 | 91% | 501206 | 24 | CS | 80 | 35 | 56% |
| 500108 | 5 | CS | 100 | 35 | 65% | 501306 | 24 | UR | 40 | 40 | 0% |
| 500115 | 75 | ITS | 130 | 45 | 65% | 501307 | 7 | UR | 60 | 60 | 0% |
| 500116 | 86 | SW | 130 | 30 | 77% | 501308 | 16 | UR | 80 | 80 | 0% |
| 500221 | 39 | ST | 120 | 15 | 88% | 501414 | 48 | ITS | 70 | 40 | 43% |
| 500904 | 25 | RE | 30 | 30 | 0% | 501420 | 27 | ITS | 120 | 40 | 67% |
| 500905 | 10 | RE | 100 | 100 | 0% | 501423 | 23 | CT | 150 | 70 | 53% |
| 500907 | 17 | RE | 5 | 5 | 0% | 501518 | 13 | ITS | 100 | 45 | 55% |
| 500908 | 13 | ST | 110 | 15 | 86% | 501524 | 12 | ST | 100 | 15 | 85% |
| 500910 | 19 | CC | 90 | 0 | 100% | 501525 | 11 | ITS | 100 | 45 | 55% |
| 500912 | 9 | ST | 80 | 15 | 81% | 502308 | 19 | CS | 70 | 35 | 50% |
| 500914 | 15 | GS | 70 | 40 | 43% | 502310 | 8 | CS | 180 | 35 | 81% |
| 501017 | 23 | CC | 120 | 0 | 100% | 590603 | 79 | ITS | 110 | 45 | 59% |
| 501022 | 30 | CC | 190 | 0 | 100% | 590606 | 29 | CS | 140 | 35 | 75% |
| 501025 | 30 | CC | 110 | 0 | 100% | 590610 | 15 | UR | 90 | 90 | 0% |
| 501027 | 23 | ITS | 220 | 45 | 80% | 590703 | 75 | ITS | 140 | 35 | 75% |
| 501031 | 13 | ST | 100 | 15 | 85% | 590704 | 55 | ITS | 170 | 35 | 79% |
| 501124 | 38 | SW | 250 | 30 | 88% | 603510 | 99 | CT | 180 | 70 | 61% |
| 501126 | 37 | SW | 170 | 30 | 82% | 603606 | 17 | AE | 120 | 40 | 67% |
| 501128 | 9 | SW | 200 | 30 | 85% | 603607 | 78 | AE | 120 | 40 | 67% |
| | | | | | | **Total Acres** | **1502** | | | | |

Table 2.7 describes the amount of timber volume being removed in each of the harvest units, providing an estimate based on the objectives and general prescription for each unit. Units with even-aged prescriptions will see between 70-100% of the merchantable BA removed, while units with uneven-aged prescriptions will see approximately 40-75% BA removal, depending on stocking levels. Intermediate uneven-age prescriptions will range from 0-100% BA removal. providing an estimate based on the objectives and general prescription for each unit.

## Timing of Harvest

Timber harvest activities are planned to begin in Summer-Fall of 2025 and end in the winter of 2027 (timeline is subject to change). To address mitigations for Grizzly Bear, Canada Lynx, and Wolverine, Consultation with CSKT Wildlife Biologists led to the designation of seasons during which specific units should be harvested and site preparation or follow-up activities completed.
Harvesting will take place during designated seasons for specific units (see tables 5.1-5.4), and will be carried out except for when soil conditions do not allow for the operation of heavy machinery, or the

skidding or hauling of timber; such as during spring break-up. Units designated as Fall/Summer Only Logging will be logged during those specific months, between June 1st – November 30th. Units designated as Winter Preferred, will be prioritized for harvest during winter months, but may also be harvested in summer or fall. Units designated for Winter Only Logging will only be harvested during winter months, between Nov 30th and April 1st. Units designated as Year-Round Logging will have no seasonal restrictions, except during periods such as Spring Breakup, which typically occurs throughout February and March.

**Table 2.8** Units Designated for Summer/Fall Only Logging

| **Summer-Fall ONLY LOGGING (June 1-November 30)** | | | | |
|---|---|---|---|---|
| **Stand Number** | **Acres** | **RX** | **Followup** | **Site Prep** |
| 500904 | 25 | RE | Slash GRP | Pile/Mast |
| 500905 | 10 | RE | Slash GRP | Pile/Mast |
| 500907 | 17 | RE | Slash GRP | Pile/Mast |
| 500908 | 13 | ST | Slash | UB |
| 500910 | 19 | CC | Slash | UB |
| 500912 | 9 | ST | Slash | UB |
| 500914 | 15 | GS | Slash | Pile |
| 501017 | 17 | CC | Slash | BB |
| 501022 | 30 | CC | Slash | BB |
| 501025 | 30 | CC | Slash | UB |
| 501027 | 23 | ITS | PCT | Mech |
| 501031 | 13 | ST | Slash | UB |
| **Total** | **221** | | | |

**Table 2.9** Units Designated as Winter Logging Preferred

| **WINTER-PREFERRED LOGGING** | | | | |
|---|---|---|---|---|
| **Stand Number** | **Acres** | **RX** | **Followup** | **Site Prep** |
| 500115 | 75 | ITS | PCT | UB |
| 500116 | 86 | SW | Slash | UB |
| 501126 | 37 | SW | Slash | UB |
| 501128 | 9 | SW | Slash | UB |
| 501205 | 285 | ITS | PCT | Mech |
| 501206 | 24 | CS | UR | Mast |
| 501518 | 13 | ITS | PCT | UB |
| 501524 | 12 | ST | Slash | UB |

| | | | | |
|---|---|---|---|---|
| 501525 | 11 | ITS | PCT | UB |
| 590603 | 79 | ITS | PCT | UB |
| 590703 | 75 | ITS | PCT | UB |
| 590704 | 55 | ITS | PCT | UB |
| **Total** | **761** | | | |

**Table 2.10** Units Designated for Winter Only Logging

| **WINTER ONLY LOGGING (Nov 30-April 1)** | | | | |
|---|---|---|---|---|
| **Stand Number** | **Acres** | **RX** | **Followup** | **Site Prep** |
| 500221 | 39 | ST | Slash | Mast/UB |
| 501414 | 48 | ITS | PCT | UB |
| 501420 | 27 | ITS | PCT | Mast/UB |
| 501423 | 23 | CT | None | None |
| 502308 | 19 | CS | UR | Mast/UB |
| 502310 | 8 | CS | UR | Mast |
| 590606 | 29 | CS | UR | Mast/UB |
| 603510 | 99 | CT | PCT | None |
| 603606 | 17 | AE | PCT | Mech/UB |
| 603607 | 78 | AE | PCT | Mech/UB |
| **Total** | **387** | | | |

**Table 2.11** Units Designated as Year-Round Logging

| **YEAR ROUNG LOGGING** | | | | |
|---|---|---|---|---|
| **Stand Number** | **Acres** | **RX** | **Followup** | **Site Prep** |
| 500106 | 38 | CC | Slash | Mech |
| 500107 | 99 | ST | Slash | UB |
| 500108 | 5 | CS | UR | Mast |
| 501124 | 38 | SW | Slash | UB |
| 501306 | 24 | UR | None | None |
| 501307 | 7 | UR | None | None |
| 501308 | 16 | UR | None | None |
| **Total** | **227** | | | |

* See previous tables for RX – prescription definitions.

## Timing and Duration of Post-Harvest Activities

Follow-up activities such as mastication, slashing, thinning, and mechanical/hand piling will be completed by 2037. These activities occur any time after timber sales are complete. Thinning, slashing, mastication, and piling can begin almost immediately after harvesting is completed, and take place prior to Site preparation. Duration of follow-up in a unit ranges from days to weeks and should be completed within 1-10 years following the timber sales.

Site preparation, such as burning or mechanical scarification will happen within months to years of follow-up. Once initiated in a unit, the duration of site preparation activities ranges from days to weeks, and should be completed within 1-10 years following the timber sales. Stands that are prescribed planting will be planted after burning or mechanical scarification takes place.

Duration of planting activities range from days to weeks, and should be completed within 1-10 years following the timber sales. Burning and planting will be done in either the spring or the fall depending on weather, burn windows, and staff availability. Units 500908 and 500912 will be burned during Fall only. Thinning, slashing, piling, mastication, and mechanical scarification will occur anytime during the year depending on weather and soil conditions, as well as mitigation recommendations.

**Landing and Staging Sites**

Landings and staging sites within the Frog Schley Management area will be located within harvest units and on road sides at the discretion of the Forest Officer-in-Charge (administrator). Previous landings, natural openings, and turnouts will be utilized for decking and staging.

**Table 2.12** Duration of Timber Sale Activities

| **Project: Frog/ Schley** | **Project Initiation** | **Implementation Duration** | **Accomplish by Year-end** |
|---|---|---|---|
| | **2025** | **1-3 years** | **2027** |
| All Timber Sales (Clipping, Skidding, Processing, loading, and hauling) | 2025 | 12-36 Months (Season of harvest designated by units) | 2027 |
| Road Maintenance (Light Preparation, Heavy Preparation, Reconstruction, culvert installation) | 2025 | 3-6 Weeks | 2026 |
| Road Construction | 2025 | 3-6 Weeks | 2026 |
| | | **1-10 Years** | |
| Mechanical/Hand Slashing, Thinning, and Piling | After Harvest is complete | Various (Days to weeks) | 1-10 years after harvest is complete |
| Mechanical Scarification | After Harvest is complete | Various (Days to weeks) | 1-10 years after harvest is complete |
| Slash Pile Burning | After Harvest is complete | Various (Days to weeks) | 1-10 years after harvest is complete |
| Pre-Commercial Thinning | After Harvest is complete | Various (Days to weeks) | 1-10 years after harvest is complete |
| Weed Spraying | After Harvest is complete | Various (Days to weeks) | 1-10 years after harvest is complete |
| Planting | After Harvest is complete | Various (Days to weeks) | 1-10 years after harvest is complete |
| Road Closures (Earthen Barriers, road ripping, road recontouring, culvert removal) & Final Maint. | After Harvest is complete | Various (Days to weeks) | 1-10 years after harvest is complete |
| Broadcast Burning | After Harvest is complete | Various (Days to weeks) | 1-10 years after harvest is complete |
| Understory Burning | After Harvest is complete | Various (Days to weeks) | 1-10 years after harvest is complete |
| | | **10-15 Year Burn Rotation** | |

| | | | |
|---|---|---|---|
| Understory Burning | After Harvest is complete | Various (Days to weeks) | Every 10-15 Years in Perpetuity |

### 2.2.2 Transportation Plan

**Access Needs***

Light Preparation: **12.58** miles.
Heavy Preparation: **8.67** miles.
Light Reconstruction: **6.53** miles.
Heavy Reconstruction: **1.53** miles.
Recontouring: **5.27** miles.
New Road Construction: **3.18** miles.

Maintenance: Periodic and Final maintenance of **33.26** miles.

Temporary Roads: **.77** miles of total temporary roads will be needed to facilitate this timber harvest. All temporary roads will be decommissioned after harvest activities are completed. Haul roads are on the A-1000 and A-2000 road systems.

**Road Density**

**Current Road Density:**
Seasonal Closures: 0
Year-round Closures: 0
Open year-round: **41.43**
Total road miles in MA: **41.43**
Number of sections in MA: **7.6**
Total open road density: **5.45 miles/section**
Total post-harvest open road density: **4.6 miles/section.**

**Post-Harvest Road Density:**
Seasonal Closures: **7.74**
Year-round Closures: **1.69**
Open year-round: **29.63**
Post-harvest open road density: **3.89 miles/ section**
Post-harvest total road density: **4.92 miles/ section.**

| Road Number | Roadwork | Length (mi) |
|---|---|---|
| Unnumbered Roads | Light Prep | 3.90 |
| A-1000 | Light Prep | 4.25 |
| A-1032 | Light Prep | 0.22 |
| A-1040 | Light Prep | 0.04 |
| A-1050 | Light Prep | 1.83 |
| A-2000 | Light Prep | 1.36 |
| A-2050 | Light Prep | 0.98 |
| **Total Light Prep** | **12.58** | |
| A-1000 | Heavy Prep | 0.76 |
| A-1020 | Heavy Prep | 1.42 |
| A-1030 | Heavy Prep | 0.48 |
| A-1050 | Heavy Prep | 1.56 |
| A-1051 | Heavy Prep | 0.54 |
| A-1060 | Heavy Prep | 0.63 |
| A-2000 | Heavy Prep | 2.18 |
| A-2050 | Heavy Prep | 0.40 |
| A-2300 | Heavy Prep | 0.70 |
| **Total Heavy Prep** | **8.67** | |
| Unnumbered Roads | Light Reconstruction | 2.65 |
| A-1000 | Light Reconstruction | 1.73 |
| A-1010 | Light Reconstruction | 0.99 |
| A-1052 | Light Reconstruction | 0.12 |
| A-1090 | Light Reconstruction | 0.32 |
| A-2150 | Light Reconstruction | 0.72 |
| **Total Light Recon** | **6.53** | |
| Unnumbered Roads | Heavy Reconstruction | 0.85 |
| A-2150 | Heavy Reconstruction | 0.68 |
| **Total Heavy Recon** | **1.53** | |
| Unnumbered Roads | Recontouring | 4.09 |
| A-1030 | Recontouring | 0.19 |
| A-1032 | Recontouring | 0.30 |
| A-1033 | Recontouring | 0.34 |
| A-1070 | Recontouring | 0.35 |
| **Total Recontouring** | **5.27** | |
| Temp Roads | Construction | 0.77 |
| **Temp Roads** | **0.77** | |
| Unnumbered Roads | Construction | 1.05 |
| A-2150 | Construction | 2.13 |
| **Total New Roads** | **3.18** | |

For the purposes of reducing road density, an unspecified amount of "pioneered" roads and off-road trails will be obliterated during harvesting activities, whether done intentionally or as a product of harvesting and timber skidding. These unmapped roads create unpermitted access between existing

roads, and are disruptive to wildlife and the landscape and their use should be discontinued by obstructing entrances and obliterating road prisms. The general locations of some of these pioneered roads are as follows: One road runs between the A-1010, 1020, and 1040 roads, and another creates access to the Charity communications tower from the A-1090 road. Others are located within Unit 590603 in Schley.

Additionally, an as-of-yet unspecified number of roads in Adjacent Management areas will be selected and closed to offset the addition of new permanent roads in the Frog/Schley Management Area.

**Other Road Features**

Listed below are the various other road features within this transportation plan that may require maintenance, installation, or repairs of some kind.

**Cattleguards:** Various maintenance and cleaning may be required.

- Existing cattleguards - 4.

**Culverts:** About half of the culverts in the management area are still functioning as intended, while the rest and the ditches around them will need cleaned and maintained. 4 locations have been identified where new culverts will need to be installed to address drainage issues and water pooling on roads. A perched culvert in Frog Creek will also need to be removed and replaced with a natural substrate-bottomed arch or squash culvert to improve upstream travel for fish within the waterway.

- Existing culverts – 10.
- Culverts in need of maintenance – 5.
- Proposed culvert installations – 5.

**Gates:** There are 2 gates in the management area that are currently open year-round. A lock post for a third can be found on Doney ln in Schley, but the actual gate is missing, or has been dismantled. To reduce current open road density, the addition of two gates is proposed. These gates – in addition to those that currently exist – would create the ability to restrict access on a year-round or seasonal basis. One of these new gates would be placed on the A-1030 road after the Frog creek crossing. The other would be placed at the entrance of the A-2300 road, which is to be joined with the A-2150 road. This would control access to this road system from either end.

- Existing gates – 2. Additional gates needed – 2.

**Earthen Barriers:** 6 earthen barriers are currently in place on several roads in the management area, but many are failing and no longer provide sufficient obstruction to closed roads. The majority of earthen barriers will be removed to open road access for the proposed timber sale, but should be rebuilt after the conclusion of follow-up activities. Others will be constructed where needed or required to reduce open road density.

- Earthen barriers in place – 6. Additional barriers needed – 2.

**Road Lifts:** Road lifts will be installed as needed to address water drainage issues on roads. There are currently 10 sites that may require a road lift.

- Potential road lifts needed – 10.

### 2.2.3 Fuels Proposal

In addition to the ladder fuels, there are multiple fire hazards located within and adjacent to the Management Area. The eastern edge of the analysis area abuts small private ownership and Highway 93; a powerline runs north to south through the eastern half of the analysis area; and there is a substantial multi-ownership subdivision that intrudes the center of the analysis area. Additionally, recreationists utilize the area throughout the year. Despite these wildland fire threats, the only recent documented large fire in the management area was the Black Cat fire in 2007. This human caused 11,750 acre wildfire started southwest of the Flathead Indian Reservation border in Frenchtown, MT and affected approximately 630 acres in the upper reaches of Frog Creek.

The majority (approximately 4,666 acres) of the Frog Schley project is located within the Asset Protection Fire Management Unit (Wildland Urban Inter-mix) as designated by the Flathead Indian Reservation Fire Management Plan. This Fire Unit is defined by structures scattered throughout a wildland area. This can also be referred to as the Wildland Urban Interface (WUI). There is no clear line of demarcation; wildland fuels are continuous outside of and within the developed area. The development density in the intermix ranges from structures very close together to one structure per 40 acres.

Additionally, the Missoula County Wildfire Protection Plan mapped the Frog Schley landscape for wildfire hazard. Wildfire hazard is based on the likelihood of a fire occurring and the probable intensity of the fire. It is based off a model that utilizes vegetation, topography, historical weather, wildfire ignition patterns, and community values. This area fell into two categories: very high and high, the two highest ratings.

### Fuels Proposal

Hazardous Fuels Reduction (HFR) treatments located within the WUI have been identified. Treating these units will be essential to lowering wildfire risk within the WUI, and will help create a more defensible space on both sides of tribal and private land, if a wildfire were to occur. These treatments will include a combination of overstory and understory removal.

Follow up fuels reduction units that are being proposed for Frog Schley Area are listed in **Table 2.2 (p.10)**. These units will have follow-up treatments done to the understory after the overstory treatments are completed. These treatments will be prescribed separately and will include mechanical treatments, as well as rotational burning, to sustain treatments from the past. The purpose of re-entering existing fuels units will be to prep them for rotational burning as well as cover rotational burning in treatments that have already been completed and need an understory burn for sustainability. There could be fuels treatments occurring in the Frog Schley area for several years, along with the other required follow-up treatments after logging treatments have been completed.

Within the proposed units, the prescription would be to thin damaged and undesirable trees (thin the understory trees that are 6-inches or less to approximately 18x18 foot spacing up to a max spacing of

20x20 foot), then pile and pile burn the slash. These units would also be evaluated for possible underburning. Timing of the treatments will depend on Fuels funding. However, the goal would be to start some of the initial thinning and piling one year after the harvest units have been completed.

In preparation for underburn units, there may be a need to treat areas outside harvest units to facilitate burning. To alleviate some holding concerns while burning, pre-commercial thinning units #501005, #501009, #501010 and #501504 will be burned in conjunction with harvest units #501017 and #501031 after they have been treated and spaced.

Research has shown that a combination of treatments is the best way to achieve fuel reduction in areas like this. Maintenance burns, for example, are on a ten to fifteen (10-15) year rotation. Maintenance burning is an important consideration to help keep the effectiveness of the treatments over time.

In addition to the follow-up units, there are pre-commercial thin areas proposed for fuels treatment. These units are located adjacent to private property, the powerline corridor and existing road systems within the urban interface. These units are in need of increased tree and crown spacing. The prescription for these units will be identified on the ground but generally spacing will be between 15' x 15' up to 20' x 20'. These units will be masticated to reduce the amount of entries. Masticating these units also prevents the addition of piles that would introduce smoke into the Hwy 93 corridor. Fuels has worked with wildlife staff to identify a corridor that will be set aside for lynx and wildlife habitat. These units will have no treatments done in them and be reserved for the next rotation when a separate corridor can be identified for that round of treatments. See Table 2.3 for pre-commercial units proposed to be treated.

**Table 2.13** - Proposed Hazard Fuel Reduction Units

| Name | Acres | Fire Regime | Seral Cluster | Treatment | Name | Acres | Fire Regime | Seral Cluster | Treatment |
|---|---|---|---|---|---|---|---|---|---|
| 500102 | 18 | B | A2 | PCT | 501402 | 21 | C | D | PCT |
| 500103 | 31 | B | A2 | PCT | 501403 | 25 | C | D | PCT |
| 500109 | 9 | B | C | PCT | 501404 | 22 | C | C | PCT |
| 500201 | 5 | C | A1 | PCT | 501405 | 16 | C | D | PCT |
| 500202 | 7 | C | A1 | PCT | 501406 | 11 | C | B | PCT |
| 500203 | 19 | C | A2 | PCT | 501407 | 9 | A | F | PCT |
| 500204 | 13 | C | A1 | PCT | 501409 | 8 | C | A1 | PCT |
| 500205 | 12 | C | A1 | PCT | 501410 | 17 | B | F | PCT |
| 501001 | 8 | C | A1 | PCT | 501411 | 57 | B | F | PCT |
| 501004 | 3 | C | F | PCT | 501424 | 11 | C | F | PCT |
| 501008 | 26 | A | F | PCT | 501425 | 19 | B | A2 | PCT |
| 501012 | 6 | B | A2 | PCT | 501427 | 47 | B | A2 | PCT |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 501013 | 8 | A | D | PCT | 501429 | 26 | A | A2 | PCT |
| 501014 | 7 | C | A1 | PCT | 501430 | 9 | B | F | PCT |
| 501018 | 6 | C | A1 | PCT | 501501 | 4 | C | D | PCT |
| 501101 | 6 | C | B | PCT | 501502 | 11 | C | D | PCT |
| 501105 | 15 | C | C | PCT | 501503 | 13 | C | A2 | PCT |
| 501109 | 3 | C | A2 | PCT | 502307 | 25 | A | A2 | PCT |
| 501111 | 17 | A | A2 | PCT | 590602 | 20 | B | A2 | PCT |
| 501113 | 10 | B | A2 | PCT | | | | | |
| 501301 | 62 | C | A2 | PCT | | | | | |
| 501401 | 15 | C | B | PCT | | | | | |
| | | | | | **TOTAL ACRES** | | | **677** | |
| | | | | | **TOTAL TREATED ACRES** | | | **597** | |

** The units highlighted above have been designated as no treatment areas to provide a wildlife corridor.

The fuels program has also identified three additional units. Two of these units are adjacent to fuels Unit #590610. These units will be thinned from below to a 25' X 25' spacing. Adding these units will treat a larger contiguous fuels area near the eastern boundary of the Management Area that is close to private property.

Unit #501112 is an area located mid-slope between harvest Units #501124 and #501126. Burning these harvest units separately would be difficult to accomplish without getting fire into Unit #501112. Burning all three units at once will reduce holding concerns significantly.

**Table 2.14** Additional Fuel Units

| **Name** | **Acres** | **Fire Regime** | **Seral Cluster** | **Treatment** |
|---|---|---|---|---|
| 501112 | 27 | C | A2 | Machine Thin, Underburn |
| 590604 | 33 | B | F | Machine Thin, Pile, Burn |
| 590605 | 38 | B | F | Machine Thin, Pile, Burn |
| **Total** | **98** | | | |

**Harvest Follow Up Activities**

Follow up activities occur any time after the timber sales are complete. Thinning, mastication, slashing and piling occur first. Site preparation through burning or mechanical scarification would happen next. Burning will be done in either the spring or the fall depending on weather, burn windows, and staff availability. Thinning, mastication, slashing, piling and mechanical scarification will occur anytime during the year depending on weather and ground (soil) conditions. However, the Fuels Program will prioritize winter months followed by spring and fall and then summer.

**Underburn**
Underburn treatments are typically low to moderate intensity, generally burning under the forest canopy or open grasslands. Some mortality can be seen in smaller trees, seedlings and saplings, and some pole-sized trees could be killed as well. Hand ignition treatments on milder slopes will have very little effect on trees that make up the dominant overstory and size class. An occasional larger tree or small group of trees could be killed when tree crowns are scorched, or when heat is sufficient to kill a large portion of the tree cambium or roots. Within the Frog Schley Management Area, fall will be prioritized as the best burn window to be utilized for wildlife followed by spring.

**Pile Burn**
Pile burning would require initial piling of slash by hand crews, excavators or dozers, and would generally be of moderate intensity as long as piles are not too large. Total fuel consumed is usually higher than underburns, but somewhat lower than a slash disposal broadcast burn treatment. If the piles are not wet, this treatment can provide very efficient combustion of fuels. Piles are cautiously burned during the fall or winter under slightly windy conditions, which usually provides for good smoke dispersal.

**Broadcast Burn**
Broadcast burns are generally of moderate to high intensity, depending on slash fuel loadings, fuel moisture, season of burn, and topographic features. Seedtree and shelterwood leave tree survival is limited to large diameter trees of fire-resistant species. Duff moisture levels help control the amount of soil heating that occurs on the site. This treatment is used to mimic stand replacement fire effects while providing hazard fuel reduction, nutrient cycling, and silvicultural site preparation benefits.

**Mastication**
Mastication is a fuels reduction treatment which reduces trees that are less than 6” dbh into small chunks or mulch. Overstocked stands can be thinned, without utilizing prescribed fire to clean up the cut material. The benefit of mastication is there are no smoke effects from pile burning which is particularly beneficial within wildland fire urban intermix areas. With the proximity to Highway 93 it will be the most beneficial treatment in this area to prevent introducing smoke onto the road system.

### 2.2.4 Mitigation Measures

This section includes summarized mitigations from each department or program comprising the Interdisciplinary Team for this Proposed Action.

As part of the proposed action, the following mitigations and CSKT BMP's are committed to and will be implemented by CSKT where applicable. Mitigation measures can be applied to reduce or eliminate adverse effects to biological, physical, or socioeconomic resources. Mitigation may be used to reduce or avoid adverse impacts, whether they are significant in nature.

A mitigation can include; (1) Avoiding the impact altogether by not taking a certain action or parts of an action. (2) Minimizing impact by limiting the degree of magnitude of the action and its implementation. (3) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment. (4) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action. (5) Compensating for the impact by replacing or providing substitute resources or environments. The committed mitigations for the individual resources are described below. Please also see Appendix for Best Management Practices, which are required for all activities to uphold the mitigation requirements under NEPA. Not only will these measures be upheld before and during the activities but will also be monitored post-activities by sale administration.

*Hydrology*

- Adhere to all BMPs as applicable.
- Comply with new streamside management zones (SMZs) and wetland buffer zones which will prohibit timber harvest and equipment within SMZs for this timber sale.
    - Class I and II streams, 150-foot on both sides
    - Class III streams, 100-foot buffer on both sides
    - Wetlands and other water bodies, 50-foot buffer on all sides
- Establish a 50-foot mechanical exclusion buffer around the outlet of all culverts used for road drainage processes.
- Follow weed mitigations to expedite soil stabilization with grasses and desirable vegetation.
- Proposed new road off the A-2000 road will be converted to a temporary road.
- New culvert installation for now proposed road off the A-2000 road will be a bottomless arched culvert sized to be 1.5 times the length of the temporary road.
- Proposed stream crossing on unnamed tributary off A-2000 road will be a temporary structure to carry out proposed actions. Once harvest and follow-up activities are completed, reconstruct stream crossing to a stable configuration after culvert removal on temporary road. Rehab footprint by reshaping channel banks and applying slash to exposed soil. Consider adding obstructions such as boulders to deter future usage.
- Avoid unnecessary soil disturbance and soil displacement.
- All temporary roads constructed to facilitate the removal of harvested timber should be fully recontoured following harvest activities.

- Minimize skid trails (expand spacings) to the greatest extent possible in order to minimize erosion and compaction, while maintaining operation efficiency and safety.
- Where skidding activities have severely compacted soils, rehabilitate affected site by ripping and sub-soiling treatments where appropriate.
- Minimize soil compaction by conducting ground-based harvest activities only on a seasonal basis when soils are frozen. Winter logging operations must require frozen ground or sufficient depth of snow to support heavy equipment.
- Where approved by other resource specialists, skidding is recommended when soils are dry.
- No hauling or timber transportation activities to occur during spring break-up to mitigate soil compaction and sediment delivery at stream crossings. Stop hauling operations once roads begin to rut.
- The forest officer in charge will monitor erosion within units for any rill erosion and correct with the following actions:
    - Put water bars in by machine and/or place staked and trenched logs in order to reduce erosional energy.
    - Utilize slash below water bars to reduce concentration of flow and the development of additional rill erosion.
    - Return slash to the units in erosion-prone areas.
- The forest officer in charge will monitor roads used in the proposed sale to ensure effective surface water drainage off road prisms and into drainage infrastructures (rolling dips, water bars, and in-sloped ditches).
    - In the case that poor surface water drainage is detected, Water Resources staff must be notified and corrective actions must occur to improve road drainage.
- If operations begin to impact riparian corridors (e.g. such as increased surface erosion and pooling or delivery of sediment to corridor), then operations will be immediately shut down.
- Final reclamation of landing sites should restore sites to better than pre-disturbance conditions.

*Wildlife*

- All timber harvest related work vehicles and equipment should be washed thoroughly each time before entering sale harvest areas to reduce/prevent spreading of noxious weeds into the management areas. Fees are included in all timber sale contracts to cover noxious weed treatments using herbicide. This includes treating roadways and landings with herbicide. Landings are also seeded with a native grass seed mix for competition.

- The overall road management plan will reduce the miles of open road within the project area. Activities associated with temporary access changes to open road density and total road density as well as secure core will be limited to the duration of the proposed action. Temporary, and restricted roads used for project activities would remain closed to public motorized use. All project associated temporary roads would be rehabilitated following the project and follow up activity's completion. In order for the temporary roads to remain open for all follow up activities occurring from 2025-2037,

there will be alternate roads and pioneered roads decommissioned within 1 year of timber harvest completion to maintain the current road densities within the project area.

- Any non-numbered, pioneered roads will be either recontoured if possible or sufficiently blocked to prevent travel.

*Hazardous Fuels Reduction, Wildland Urban Interface*

- There will be no fuels treatments within riparian areas or streamside management zones.
- Both Spring and Fall burn windows will be utilized unless otherwise specified while favoring Fall as the preferred time of year when available.
- Pre-commercial thin units or units above 5000ft requiring broadcast or understory burns will be restricted to fall burn only to protect potential lynx and wolverine denning activity.

*Threatened and Endangered Species*

*If any threatened or endangered species is encountered in the vicinity of the project consult a CSKT biologist immediately and develop additional mitigations that are consistent with FMP (2000 and current revisions) and FWS rules for managing threatened and endangered species. Similarly, if an undocumented nesting eagle or owl is encountered within a proposed unit, contact a CSKT Wildlife Biologist for further recommendations.*

- Adhere to the 2 + 2 rule for snag retention; 2 large (≥21-inch dbh or the next available size class) snag and 2 large snag recruit requirements.
- Retain course woody debris in the units with emphasis on retention of *at least* one downed log greater than 15in in diameter per acre with additional requirements in lynx habitat.
- Follow all Best Management Practices (BMP's) contained within the Flathead Indian Reservation Forest Management Plan. The BMP's are in place to mitigate effects to riparian habitat. Streamside Management Zones (SMZ) restrict activities within a designated distance from streams, lakes, and wetlands. The SMZ guidelines in place for proposed vegetation treatments and road construction would help protect important riparian habitats for grizzly bears and other T&E species.
- For units designated as 'winter logging only' harvest activity will be restricted to *November 30$^{th}$ to April 1$^{st}$*) to minimize conflicts with recreationalists and to minimize the disturbance to grizzly bears. Conduct winter logging operations when the ground is frozen, or snow cover is adequate to minimize site disturbance. If conditions change and erosion hazard increases, suspend operations. 'Harvest activity' will be defined as any activity related to the timber sale that directly or indirectly causes modification to the land, water, or air. This includes, but not limited to; felling, skidding, hauling, slash piling and burning, planting, and any harvest related road construction/maintenance/ or removal.

- To minimize disturbance to denning grizzly bears, timber operations and associated road use above 5,000 feet in elevation should be restricted during the period of November 30 through April 1, consistent with Northern Continental Divide Ecosystem (NCDE) management recommendations for den entry and emergence. Additionally, high-elevation habitats in these areas may support denning wolverines from mid-April through mid-May, and Canada lynx kitten-rearing from late April through late May. To avoid impacts to these sensitive life stages for all three species, it is recommended that timber operations should occur between June 1st and November 30th in units designated as "Summer–Fall Logging Only").

Adhere to all conservation measures for work in bear habitat such as:

- Promptly clean up any project related spills, litter, garbage, debris, etc.
- Store all food, food related items, petroleum products, antifreeze, garbage, and personal hygiene items inside a closed, hard-sided vehicle or commercially manufactured bear resistant container.
- Remove garbage from the project site daily and dispose of it in accordance with all applicable regulations.
- Promptly notify CSKT Wildlife Management Program of any grizzly bear activity or carcasses found in the area.

**Table2.15** Winter logging only units. All timber harvest activities open from November 30 to April 1.

| **WINTER ONLY LOGGING (Nov 30-April 1)** | | | | |
|---|---|---|---|---|
| **Stand Number** | **Acres** | **RX** | **Followup** | **Site Prep** |
| 500221 | 40 | ST | Slash | Mast/UB |
| 501414 | 48 | ITS | PCT | UB |
| 501420 | 33 | ITS | PCT | Mast/UB |
| 501423 | 33 | CT | None | None |
| 502308 | 16 | CS | UR | Mast/UB |
| 502310 | 12 | CS | UR | Mast |
| 590606 | 36 | CS | UR | Mast/UB |
| 603510 | 120 | CT | PCT | None |
| 603606 | 18 | AE | PCT | Mech/UB |

| | | | | |
|---|---|---|---|---|
| 603607 | 79 | AE | PCT | Mech/UB |
| **Total** | **435** | | | |

**Table 2.16** Summer-Fall Logging Only units. All timber harvest activities open from June 1 to November 30.

| **Summer-Fall ONLY LOGGING (June 1-November 30)** | | | | |
|---|---|---|---|---|
| **Stand Number** | **Acres** | **RX** | **Followup** | **Site Prep** |
| 500904 | 25 | RE | Slash GRP | Pile/Mast |
| 500905 | 10 | RE | Slash GRP | Pile/Mast |
| 500907 | 17 | RE | Slash GRP | Pile/Mast |
| 500908 | 17 | ST | Slash | UB |
| 500910 | 18 | CC | Slash | UB |
| 500912 | 9 | ST | Slash | UB |
| 500914 | 17 | GS | Slash | Pile |
| 501017 | 18 | CC | Slash | BB |
| 501022 | 34 | CC | Slash | BB |
| 501025 | 30 | CC | Slash | UB |
| 501027 | 26 | ITS | PCT | Mech |
| 501031 | 16 | ST | Slash | UB |
| **Total** | **237** | | | |

*Fisheries*

Forestry is proposing to recontour 5.27 miles of existing road as a mitigation measure for the sale. Slightly less than one mile of the recontoured roads are in the Frog Creek watershed, which is occupied by cutthroat trout. The sale will also include pre-sale preparation and BMP upgrades on the existing road network. There will be streamside management zones (SMZ) where no timber harvest or other disturbance from the sale will occur. These will include a 150-foot buffer on either side of Class 1 streams, including Frog Creek, which will minimize and mitigate potential impacts from logging and hauling activities that could deliver sediment to streams. The buffers will also leave streamside shade and will not influence the potential for future woody debris recruitment. Leaving these undisturbed buffers might also help in limiting livestock use adjacent to the stream. Class 2 streams will have 150-foot buffers, and Class 3 streams as well as other water bodies and wetlands be encompassed by 50-foot buffers. In the lower drainage, some sections of access and haul roads are within stream-side buffers limits (150 feet). Sediment delivery from these roads can be greatly reduced by implementing transportation network BMPs and by curtailing hauling and other traffic when road surfaces are wet.

Beyond the broad measures discussed above, additional mitigation measures  equired for this sale include the following:

- Install erosion control measures (rolling dips, etc.) on impromptu, unauthorized two-track trail that serves as a short-cut connection between the A-1000 and A-1030 roads. The two-track joins the A-1030 road just below the A-1030 crossing on Frog Creek. With continued use and no maintenance, this trail has the potential to route water and delivery sediment to Frog Creek.
- A previously unidentified culvert (Figure2.1) was discovered while inventorying conditions within the management area. This crossing is on a narrow and poorly maintained section of the A-1030 Road. The culvert does not have any armoring on the inlet, the road is failing, and the culvert is undersized (diameter and length). The inlet should be armored to prevent failure.


**Figure 2.1** Location of lower culvert crossing on A-1030 Road. The inlet of this crossing will be armored as part of the sale.

In addition to the above-mentioned required conservation measures, contractors should receive copies of and adhere to CSKT Forest Plan BMPs (see updated and revised version 3), and sale administrators need to assure that all measures are properly implemented.

Project Requirements for work on stream crossings (culvert placement and maintenance):

- Implement the projects at low flows, preferably following cutthroat trout emergence from spawning gravels--after mid-July, and preferably later, at this elevation.
- Minimize upland and bank disturbance; avoid using heavy equipment when soils are saturated or during rain events.
- Restore channel and bank form to match adjacent reaches. Contact water or fisheries with questions.
- Clean equipment that will be used near the water, inspect heavy equipment hydraulics, assure that there are no drips or leaks.
- Have a spill kit with fuel absorbent pads on site.
- Refueling, if needed, should be done in a staging area, away from water

# Chapter 3. AFFECTED ENVIRONMENT

## 3.1 Vegetation

Forests within the Frog Management Area (FMA) have been managed intensively through the years. The area is peppered with existing cut blocks (ECBs) ranging from 3 to approximately 50 acres in size. The remaining forests is somewhat fragmented, yet historic and current ECBs are showing great recovery, which will help mitigate fragmentation. Additionally, approximately 1/3 of the area was burned to some degree in the Black Cat Fire in 2007. Stands that were burned the most severely can be found along the top ridge of the mountain below Charity Peak, and along the North and South faces of the Frog Creek valley. Most of these stands now consist of dense lodgepole pine regen, with scattered mature Lodgepole, Subalpine fir, Grand fir, and Western larch still present in isolated groups.

Forests within the Schley Management Area (SMA) have been managed to a much lighter extent in recent years, with only a handful of cutting blocks having been harvested within the last 30 years. Most of the stands in this area are overstocked and many have suppressed, or culminated growth. There have not been any recent major wildfire or insect outbreak disturbances in the SMA, although the presence of very old, large diameter, fire-scarred snags scattered throughout the northern half of the area indicates a historic cycle of fire that would have created open stands of Ponderosa pine and Western larch.

Overall, current stand conditions in Frog and Schley lie outside the desired conditions for variability in vegetation structure classes, as defined in the Forest Management Plan (FMP) 2000. Nearly every stand surveyed within the Frog/Schley Management Area has been aged at approximately 95 years. This supports our records that describe much of this landscape being logged between 1900 and the early 1920s. Furthermore, the seral cluster analysis for both areas suggests a deficiency in both juvenile and old-growth stands, which is evident in current stand growth measurements. The implications of this are a lack of diversity in stand characteristics, and a consequent lack of diversity for wildlife. The majority of stands in this area are mature, 3-storied stands in the “F” seral cluster across all fire regimes. Reasons for this shift in stand characteristics away from historic conditions can be explained, due mainly to past land management practices and fire exclusion. Effects are seen in fuel levels accumulating outside historic ranges, increased stand mortality, increased levels of insect outbreaks and diseases, and a decrease in diversity. Additionally, these conditions are incredibly conducive to wildfire and exacerbate extreme fire behavior. This poses a threat, not only to timber resources, but to residents within the Wildland Urban Interface (WUI), water quality, cultural resources, and protected species.

**Predominant Habitat Types**

- ABGR/CLUN – XETE phase:
- ABGR/ LIBO:
- ABGR/XETE:
- ABLA/VACA:
- ABLA/XETE (ABLA/XETE – VASC phase)

- PSME/CARU (PSME/CARU – ARUV phase)
- PSME/PHMA (PSME/PHMA – CARU, PHMA phases)
- PSME/SYAL (PSME/SYAL – CARU phase)
- PSME/VACA
- THPL/CLUN

## Tree Species & Structure

### Current Tree Species Composition

The Frog and Schley Management Areas contain a wide diversity of habitats, conditions, and characteristics, across a large elevation gradient. Lowland forests in the foothills of Schley consist of dry Ponderosa pine and Douglas-fir. Mid-elevation stands mostly consist of mixed Ponderosa pine, Douglas-fir, and Western larch forests, with intermixed Lodgepole pine throughout. Draws, Northern aspect slopes, and sites with higher moisture availability contain many Grand fir stands, with Western redcedar being common near streams, springs, and moist or shaded slopes and draws. Higher elevation stands near the Frog communications tower have a high density of Lodgepole pine. Subalpine fir and Grand fir become co-dominant in the remaining overstory near the peak of the mountain, along with Douglas-fir and Western larch. A single Western White pine sapling was also found near the top of the management area, indicating the possibility that this species was once found here.

### Structure

Nearly all stands, aside from old even-aged cut blocks or burned areas, have at least three cohorts, creating an uneven-aged stand structure. Basal area throughout the area ranges from approximately 5-250 square feet per acre ($ft^2$/ac) across all size classes. Ten-year diameter growth ranges from 2/20ths to 20/ 20ths of an inch. Stand age ranges from 17-350+ years. Average canopy cover in seral stands is 40-69%; climax stands average over 70% cover.

### Timber Stand Health Conditions

The Frog Schley Management Area contains several insect and disease issues, to which extended periods of drought, climate change, high stocking densities and lack of fire have all contributed. Insect and disease infestations have negatively impacted many stands, leading to increased tree mortality throughout much of the Management Area, and a general decline in forest health and productivity. The most active and widespread insect and disease agents present in this Management Area include Mountain pine beetle (*Dendroctinus ponderosae),* Douglas-fir beetle (*Dendroctinus pseudotsugae),* Fir engraver beetle (*Scolytus ventralis),* Douglas-fir tussock moth (*Orgiya pseudotsugata),* Western Spruce budworm (*Choristoneura freemani),* Dwarf mistletoe (*Arceuthobium spp.)*, Armillaria root disease (*Armillaria spp.),* Heterobasidion root disease (*Heterobasidion spp*.), and Laminated root disease (*Phellinus weirii).* Table 3.1 displays the number of acres and severity of damage caused some of these insects and diseases in the Management Area.

**Mountain Pine Beetle –** Infestations by Mountain pine beetle (MPB) are usually precipitated by extended periods of drought, as well as other factors that weaken and stress trees such as overstocking,

injury, or declining health due to other insects and diseases. MPB attacks and kills mature Ponderosa pine and Lodgepole pine, leading to mortality events ranging from the individual tree to the landscape scale. While there is no current activity of MPB in this management area, there exist a handful of stands where Lodgepole was once dominant in the overstory, but has since died due to beetle infestation. The evidence of this can be seen in the beetle galleries on the boles of the standing dead and fallen trees.

**Douglas Fir Beetle -** Douglas-fir beetle (DFB) infestations are becoming increasingly common throughout the Western United States, and on the Flathead Reservation, due to extended drought conditions and pre-existing forest health and disease issues; namely, overstocking and fire suppression. DFB prefer large-diameter Douglas-fir trees as hosts, but will infest most size classes in an outbreak. In the Frog/Schley Management Area, much of the mortality caused by DFB is in trees already infected with Dwarf Mistletoe.

**Fir Engraver Beetle –** Fir engraver attacks true firs, such as Grand and Subalpine fir. Infestations can be particularly devastating in stands of true firs, leading to complete mortality. Risk of infestation is heightened by drought and co-infestation with root disease, specifically Heterobasidion. This type of root disease and Fir engraver beetle are commonly associated with one another.

**Douglas Fir Tussock Moth** – Douglas-fir Tussock moth (DFTM) is a moth whose larvae defoliate Douglas-fir, true firs, and occasionally spruce. DFTM populations reach outbreak conditions on a cyclical pattern, approximately every 9 years, with outbreaks lasting for about 3 years. Outbreaks also usually co-occur with periods of drought in which trees are stressed and vulnerable to attack. These moths can strip entire trees of their foliage, stunting tree growth for one or more seasons; however continued defoliation over multiple years will lead to tree mortality either directly from the loss of foliage, or by a secondary disease agent. The Frog/Schley Management Area experienced a light DFTM outbreak from about 2017 to 2020. Luckily, defoliation-related mortality was low, but many stands within the Management Area remain stressed and vulnerable to other insects or diseases due to drought conditions that have persisted after the outbreak.

**Western Spruce Budworm –** Spruce budworm is another species of defoliating moth that typically attacks Douglas fir, Grand and Subalpine fir, and Engelmann spruce. Its outbreaks can by cyclical over decades, oscillating in frequency, or constant and chronic at low levels. There are signs of a chronic presence of Spruce budworm in the Frog/Schley management area, but currently no major damage exists. Symptoms include defoliated trees, presence of moth larvae and pupal cases, top killed trees, or stunted top growth in young trees and regen.

**Dwarf Mistletoe –** Dwarf mistletoe is a parasitic plant that infects coniferous trees, causing abnormal branch growth and overall stunted growth. This is by far the most severe forest health concern within the area, and has leading to scattered stress-induced mortality, in combination with Douglas-fir beetle, drought, and root disease. Three species of Dwarf mistletoe can be found here, the hosts of which are Douglas-fir, Lodgepole pine, and Western larch, respectively. The Douglas-fir and Western larch

varieties are the most concerning, due to the frequency of their occurrence, and their impact on the landscape. In areas of heavy dwarf mistletoe infection, bark beetles have created many standing dead trees and excess downed woody material, thereby increasing fire risk. These stands are considered high risk removal (HRR) stands.

**Armillaria Root Disease -** Armillaria root disease is a fungus that spreads to trees through root to root contact under the soil, or through injuries to trees above the ground. It infects tree roots, destroying a tree's ability to draw water and nutrients from the soil. Tree mortality can result from root rot infection alone, or from compounding damage from secondary insect or disease agents. Armillaria can be found scattered throughout stands and in several patches across the Management Area, but has not caused widespread damage. Armillaria, and all other root disease fungi are considered to be chronic, and cannot be eliminated from a site. Treatments are limited, consisting mainly of converting the site overstory to a non-host, or disease resilient species.

**Heterobasidion Root Disease –** Heterobasidion root disease also spreads underground through root to root contact. There are two species; one that infects Ponderosa pine, and another more common one that infects most other tree species. Douglas fir and true firs are among the most affected species. Several stands at high elevation in Frog/Schley have displayed signs and symptoms of this root disease.

**Laminated Root Disease –** This root disease also spreads as do those above, and is present in several stands in Frog/Schley. It causes more structural damage to the tree and its roots than the previous two root diseases, and is typically diagnosed by the appearance of the roots of uprooted trees. Infected tree roots will have wood that is being broken down and delaminating by the growth rings. Damage usually consists of windsnap and windthrown trees.

**Table 3.1.** Forest Health by Acres

| **Bark Beetles** | |
|---|---|
| **Intensity** | **Acres** |
| Heavy | 11 |
| Moderate | 72 |
| Light | 282 |
| **Total** | **365** |
| **Dwarf Mistletoe** | |
| **Intensity** | **Acres** |
| Heavy | 1,259 |
| Moderate | 667 |
| Light | 1,212 |
| **Total** | **3,138** |
| **Root Rot** | |
| **Intensity** | **Acres** |

| | |
|---|---|
| Heavy | 246 |
| Moderate | 485 |
| Light | 428 |
| **Total** | **1,159** |

## 3.2 Historic and Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) as amended, and its implementing regulations found at 36 CFR Part 800, require federal agencies to identify cultural resources for a federal action. The significance of the resources must be evaluated using established criteria outlined at 36 CFR 60.4. If a resource is determined to be a historic property, Section 106 of the NHPA requires that effects of the undertaking on the resource be determined. A historic property is: "…any prehistoric or historic district, site, building, structure or object included in, or eligible for inclusion in the National Register of Historic Places, including artifacts, records, and material remains related to such a property" (NHPA, 16 USC 470w, Sec. 301[5]).

Lands on the Flathead Indian Reservation are protected by the CSKT Preservation Office and through laws and Executive Orders described in Section 1.7 of this EA. Potential impacts to historic and cultural resources are determined by the BIA Archeologist and the Tribal Historic Preservation Officer (THPO).

## 3.3 Hydrology

**Hydrologic Change and Modification of Stream Runoff Patterns**
Forest management practices can moderate hydrologic processes, such as the magnitude and timing of stream runoff, both during peak and base flow periods. Surface runoff patterns are also directly affected by the presence of forest road networks. Forest roads are understood to have minimal infiltration rates, functioning as conveyance systems routing surface water to nonadjacent areas of the landscape. Induced peak flow regimes from forest practices can increase overall stream erosivity and encourage channel and floodplain geomorphic modifications.

Hydrologic change is evaluated by completing an equivalent clearcut analysis (ECA) water yield model (USDA-FS, 1991) and by evaluating drainage density, both with and without road networks. These tools do not necessarily provide a measure of the absolute magnitude of change in streamflow runoff, but they do provide a measure of relative change between pre-disturbance, existing, and proposed conditions.

Hydrologic modification that may occur to forested wetlands or isolated water resources is not addressed further because the CSKT Best Management Practices (BMPs) require buffers around these features. Also, harvest units are critically located to avoid influencing water sources for forested wetlands.

Counterintuitively, this delegation does not mitigate the long-term effects of road networks and the indirect influences that roads have on these water resource features.

**Fine Sediment Yield to Stream Networks**
Road prisms, and to a much lesser extent timber harvesting practices, may increase fine sediment transport to stream networks, potentially reducing the quality of instream habitat for aquatic species. Sediment yield from road networks is quantified by applying the US Forest Service Water Erosion Prediction Project: Road Model (Elliott et al. 1999). WEPP:Road is a physically-based soil erosion model that can estimate sediment yield into streams following specific soil, climate, ground cover, and topographic conditions. The model was used to evaluate potential fine sediment delivery into streams from existing and proposed road networks. Additionally, road miles and total road density for both the existing conditions and the proposed alternative were evaluated. This issue is also addressed by identifying the total number of existing and proposed road-stream crossing locations, and identifying areas where mitigation may be needed to reduce the generation and delivery of fine sediments into streams. Field reconnaissance was also conducted to assess selected road-stream crossings, as well as the drainage infrastructure of roads utilized in the proposed action.

**Modification to Water Quality Conditions**
Two water quality related issues are identified for consideration with the proposed Frog-Schley MA: modification to stream temperature, and modification to watershed stream surface waters.

Forest practices can modify both summer and winter stream temperatures through the removal of riparian canopy. During summer months, a higher incidence of solar radiation reaching a stream can increase water temperatures. During the winter months, radiant heat loss can reduce stream temperatures and increase the period of instream icing (MacDonald et al., 1991). Changes in stream flow can also modify temperature – reduced summer base flow can lead to preferential temperature increase. Riparian buffer strips prescribed by the CSKT BMPs will provide full shading of stream channels of the width encountered in the sale area, and we do not anticipate modification to stream temperature through the proposed sale. Therefore, this issue is not addressed further.

Forest soils have a high capacity to bind phosphorus, and the primary mechanism to move phosphorus to streams is bound to sediment surfaces (MacDonald et al., 1991). Sediment is rarely observed to effectively export from logging units on the Reservation as long as BMPs are in place. The riparian buffers are also observed to preclude sediment from reaching active stream channels from non-road sources. Fine sediment export from forest roads is addressed through the road analysis noted above. Nitrogen is generally associated with organic matter in forested environment and is relatively immobile. Some nitrogen can be oxidized to the nitrate form, and is soluble and mobilized with soil and subsoil moisture movement. However, most soluble nitrate is converted to organic nitrogen and utilized by plants, reducing export to streams. The role of riparian buffers is to increase this uptake and further reduce export to a stream (MacDonald et al., 1991).

**Project Influence of Downstream Infrastructure**

The primary issues to consider are modifications to the hydrology and sedimentation in source streams; this is addressed through the water yield analysis procedure and a series of sediment yield models.

***Frog-Schley Management Area Overview***

The Frog Schley Management Area (hereafter will be referred to as the MA) is located along the southwest boundary of the Flathead Reservation. The MA overlaps three perennial streams and is geographically characterized by east- and northeastern-facing slopes. Field reconnaissance confirmed the presence of wetlands both along streams and at toeslope positions where groundwater upwelling is concentrated. Hydrologic analysis is bounded at the sub-drainage scale, rather than by MA, to effectively analyze effects of the proposed harvest at the watershed scale.

Streams within the MA include Frog Creek, Kitty Girl Creek, and Charity Creek, all of which drain into Finley Creek, a tributary to the Jocko River. Watershed analysis is delineated by Finley Creek upstream of the Jocko E Canal watershed due to significant flow regulation by irrigation practices.

The Finley Creek watershed is characterized by a four-season climate with a mean annual air temperature of 5.0 °C (41.0 °F). The watershed receives 770 mm (30.2 inches) of annual precipitation across an elevation range of 8,210 feet to 3,330 feet. Stuart Mountain Snotel Station (elevation 7,270 feet) located 14.5 kilometers (9.0 miles) north of the MA receives an annual precipitation of 1,230 mm (48.4 inches) with peak snow water equivalent of 838 mm (33.0 inches) typically occurring during the first week of May.

Streams in the MA flow over moderately steep mountainous terrain before transitioning into foothills and valley landscapes. Perennial streams in the MA support a small inventory of secretarial ditches, which are under the jurisdiction of the Bureau of Indian Affairs and separate from the Flathead Indian Irrigation Project (FIIP) and CSKT.

Forested wetlands are mapped throughout the foothill regions of the MA, typically occurring in zones of concentrated groundwater upwelling and shallow water tables. Field observations confirmed the presence of numerous unmapped wetlands, likely obscured in remote sensing datasets due to dense forest canopy cover. These unmapped wetlands were predominantly located along unnamed perennial and intermittent stream channels, indicating a stronger hydrologic connection than previously represented in mapped inventories.

**Table 3.2** Summary of watershed characteristics.

| ***Watershed*** | ***Drainage area*** | ***Mean basi elevation*** | ***Mean ba slope*** | ***Mean annual precipitation*** | ***Flow regime*** | ***Connectivity*** |
|---|---|---|---|---|---|---|
| Finley Creek above E Can | 111 $km^2$ / 42.8 $mi^2$ | 1520 m / 5000 feet | 53.7% | 1050 mm / 30 inches | Perennial stre in MA. | Multiple irrigation diversions in lower basin before flowing into Jocko River. |

***Geologic Framework and Soils***

Much of the Finley Creek watershed is underlain by the Middle Proterozoic Belt Supergroup, a thick sequence of metasedimentary rocks that dominate the regional bedrock geology of northwestern Montana. Within the MA, the Mount Shields Formation of the Belt geology underlies the entire headwater region. This formation is characterized by interbedded argillite, quartzite, and siltstone, which influence hillslope hydrology and slope stability due to their variable permeability and weathering characteristics.

At lower elevations of the MA, surficial deposits from Glacial Lake Missoula blanket the landscape, forming fine-textured lacustrine sediments that contribute to poor infiltration and influence groundwater upwelling in some areas. These deposits are combined with Quaternary sediments derived from glacial, lacustrine, and alluvial processes, creating a heterogeneous mix of material. These unconsolidated units vary widely in particle size, ranging from boulders and gravels to fine silts and clays.

Although no bedrock outcrops are visible within the MA, such features are observed elsewhere in the Finley Creek watershed. These outcrops are known to locally influence surface and subsurface hydrology, contributing to focused groundwater discharge or erosion-resistant features in the landscape.

***Stream Channel Characteristics***

Channel characteristics are influenced by broader watershed-scale processes. Streams may be viewed within a hierarchical framework, where large-scale systems (e.g., stream networks and segments) set the environment for smaller-scale systems (e.g., reach, pool/riffle, and microhabitat). Large-scale influences include tectonic uplift, volcanism, glaciation and climatic shifts. It is uncommon for forest management activities to adjust the environment of large systems. Forest management activities, however, are known to disrupt lower scale processes (reach scale to microhabitats), such as channel incision, sedimentation, and elevated stream temperatures after timber harvests (Frissell et al., 1986; Jones and Grant, 1996; Erdozain et al., 2021). Consequently, this assessment is focused at the reach scale to evaluate potential effects of proposed actions. A stream reach is defined as a length of channel slope, local sideslopes, valley floor width, riparian vegetation, and bank material with a length of tens of meters to hundreds of meters (Frissell et al., 1986).

To ensure consistency in describing and evaluating stream morphology, this assessment applies the Rosgen Classification System (Rosgen, 1996). This system is organized into two levels of delineation. *Level I* stream classification identifies eight major stream types based on pattern, shape, vertical containment, and longitudinal slope. *Level II* stream classification further delineate *Level I* stream types by dominate sediment size class and stream slope.

Following the Rosgen Classification, stream types are labeled A through G. A types channels are predominately step-pool dominated with steep gradients (4-10%) and low sinuosity. A type channels are typically entrenched with turbulent flows and lack floodplains. B type channels are moderately entrenched with turbulent flows and coarse bedloads. As slopes decrease and flows become less energetic, moderate floodplain development and alluvial processes begin to reign in shaping B type channels. C type channels are meandering, pool-riffle systems with longitudinal slopes less than 2 percent. As a result of their shallow

slopes and older, abandoned floodplains, C type streams are vulnerable to encroaching human development. C channels are sensitive to disturbances as visible by increased channel aggradation, degradation, and lateral migration.

Channel morphologies span multiple stream classifications determined by slope and geology in the Finley Creek drainage. Tributary headwaters are predominantly A type channels entrained in bedrock/boulder-dominated channels with cascading and step-pool channel units. As streams descend in elevation, they transition into B type channels situated within moderately confined, U-shaped colluvial valleys. B stream types dominate much of the Finley Creek drainage and are generally stable due to well-vegetated riparian zones that provide bank reinforcement and reduce erosion. These channels exhibit moderate gradients, coarse bed material, and riffle-pool sequences.

In flatter sections of the drainage, particularly along the mainstem of Finley Creek, the morphology shifts to C type channels. These lower-gradient, meandering streams are entrained within unconfined, terraced alluvial valleys and support more extensive floodplain development. Due to their depositional settings and shallow slopes, Type C channels are more susceptible to lateral migration, sediment buildup, and human-induced impacts.

Toward the lower reaches of the drainage, Finley Creek shows signs of increased sedimentation, primarily driven by upstream disturbances such as agricultural land use, stream diversions, and road encroachments. These activities disrupt natural sediment transport processes and reduce peak flow magnitudes, contributing to channel aggradation and altered stream dynamics.

***Water Quality***

All stream segments in the Finley Creek watershed are designated with a B1 water quality classification (CSKT, 2006). This classification recognizes the high water quality condition of these streams, and is intended to be supportive of all designated waterbody uses. Such streams must be maintained to support the growth and propagation of salmonid fishes and associated aquatic life. Forest management activities must meet or improve such streams' water quality standards.

***Hydrologic Regime***

The CSKT Monitoring and Measurement Program maintains four gaging stations in the evaluating Finley Creek watershed. However, two gaging stations that collect streamflow on Finley Creek and East Finley Creek are affected by a regulated hydrograph due to upstream diversions. As a result, these sites do not reflect natural watershed conditions. To assess potential hydrologic impacts with the proposed timber sale, the natural-flow gaging station on Agency Creek above Jocko S Canal (CSKT# 5167.00) was selected as a surrogate reference. Although the gaging station is located outside the evaluating Finley Creek watershed, Agency Creek exhibits similar watershed characteristics, including comparable elevation ranges, geology, and precipitation patterns. The Agency Creek station also sustains a longer streamflow record than gaging stations in the Finley Creek watershed. As such, the Agency Creek streamflow record was selected to support the hydrologic analysis for the proposed actions.

The CSKT established the Agency Creek above Jocko S Canal gage in 1982, with continuous streamflow monitoring beginning in 2000. This long-term dataset supports the water yield analysis by providing a basis for estimating monthly flow distribution and peak runoff periods following the ECA analysis procedure. Figure 1.0 illustrates annual runoff patterns for average mean daily streamflow for the 2000 through 2024 period as well as the highest magnitude water year in this period – 2018, and the lowest magnitude water year in this period – 2000.

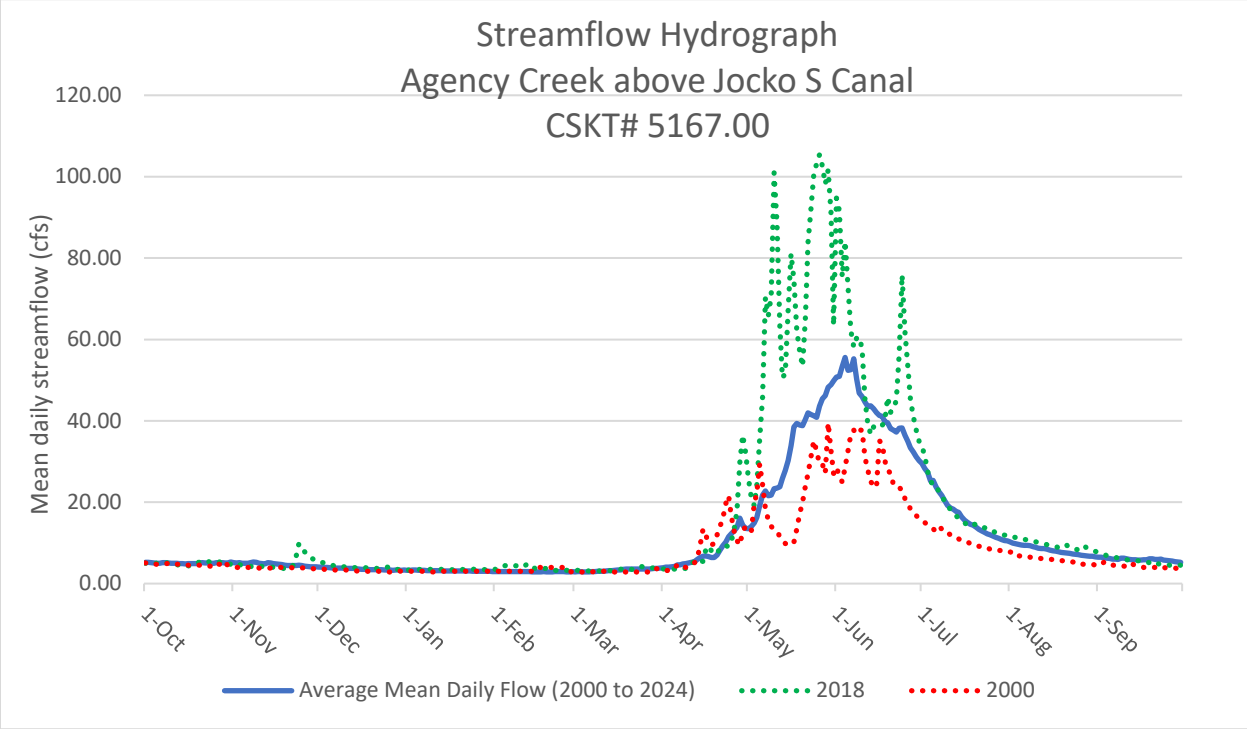


**Figure 3.1** Mean daily streamflow hydrograph for Agency Creek above Jocko S Canal, 2000-2024 (USGS Gage 12377150).

***Existing Harvest Units***

Equivalent clear-cut acres, or historic harvest units, may contribute to modifying streamflow runoff characteristics. Subsequent to removing timber, reduced infiltration rates and quicker snowmelt periods are understood to shift hydrograph patterns. Studies have shown that timber extraction may alter snowmelt timing to occur earlier in the year with higher streamflow magnitudes (Jones and Grant 1996; Stegman 1996; Burton 1997). Consequently, extreme runoff patterns result in lower baseflow regimes which may elevate stream temperature and sedimentation (Grant 2008; McEachran et al. 2021).

The Finley Creek watershed has experienced high levels of historic harvest. Within the MA, the earliest recorded entries are from 1917 to 1928. Previous timber sales in the MA extracted over 103 million board feet (MMBF) over 3,400 acres. The Frog and Arlee timber sale in 1998 extracted 9.4 MMBF over 1,840 acres. Observations in the field and NAIP imagery suggest that most areas of historic harvest exhibit

recovery to the pole and sapling size class, with more recent extractions limited of this class. Some older harvest units populated with mature trees infer signs of recovery, but the majority of the watershed is imprinted with decades of extensive harvest activity.

***Existing Road Networks***

Map review, supported by field reconnaissance of the existing road network, indicates that while severe road degradation is not widespread, roads remain a significant source of impairment at the watershed scale. Neglected maintenance has exacerbated on-road erosion and caused localized failure of drainage infrastructure, particularly near streams. Fortunately, impaired road segments contributing to gully erosion have been identified in the proposed action for recontouring or replacement. These focal areas represent key opportunities for targeted improvements to reduce hydrologic impacts and enhance watershed health.

Road-related impacts can be difficult to directly quantify, but generally include the following:

1. Roads and associated drainage infrastructure alter hillslope hydrology at broad spatial scales because (1) roads are generally located along contours and intercept subsurface drainage, (2) roads typically have drainage ditches and cross drainage features which collect and convey surface and shallow subsurface runoff, and (3) actual road prisms have very low infiltration rates and generate surface runoff. Cumulatively these effects increase the time of concentration of flow, increase peak flow magnitudes, and reduce the residence time for shallow subsurface moisture within a basin (WFPB, 1997). Road impacts to hillslope hydrology are evaluated by reporting drainage density for stream networks and drainage density for stream networks and the full road network.
2. Roads and associated drainage infrastructure function both as sources of fine and coarse sediment and as conveyance systems to route sediment to stream channels. Generally, roads export sediment to stream channels at road-stream crossings and where road prisms are located adjacent to a channel. Roads as sediment sources are addressed by identifying the number of road-stream crossings.
3. Culverts and associated road approach sections function to reduce wide channel and floodplain sections into a single structure. Channel and floodplain sections function to convey water, sediment, woody debris, and further act as corridors for aquatic and animal life movement.
4. The MA is easily accessible by vehicles and is a popular area for firewood gathering. This has resulted in the construction of unimproved fords and roads which lack drainage control features. The proposed action calls for a temporary stream crossing over an unnamed perennial stream and recontouring an unimproved ford in the same location.

**Table 3.3** Drainage densities for existing conditions

| ***Watershed*** | ***Total ar*** | ***Total stream length*** | ***Total ro length*** | ***Drainage density – streams only*** | ***Drainage density – roa only*** | ***Drainage density – streams and t full road network*** | ***% increas from road*** |
|---|---|---|---|---|---|---|---|
| Finley Creek above E Car | 42.8 mi | 71.1 mil | 250 mile | 1.66 miles stream/mile$^2$ | 5.84 miles/mile$^2$ | 7.50 miles/mi | 352% |

Stream density is an important morphometrical indicator that can provide further information concerning the response of drainage basins to runoff processes (Zavoianu, 1985). Stream densities for the affected watersheds within the MA are quantified and presented as part of this analysis. Because these landscapes have been modified by the construction of forest roads, the total drainage density must also be considered.

Drainage density is a measure of stream channel length per drainage area. This measurement is a surrogate of the routing efficiency of a watershed and is a morphometrical indicator that can provide further information concerning the response of drainage basins to runoff processes (Zavoianu, 1985). Essentially, the greater the length of stream channer per unit watershed area, the greater the interconnection between hillslope sources of water and stream channels. Higher functional drainage densities efficiently drain surface water, which increases the time of concentration for streamflow and reduce water availability for streamflow during baseflow periods. Higher drainage densities also correlate with shallow, consolidated soils that impede infiltration rates and encourage surface runoff.

Due to their locations on the topography and low infiltration rates, forest roads intercept subsurface flows in hillslopes and route water onto road prisms, where drainage infrastructures convey flows into new, "artificial" channels. This process elevates surface runoff, increases drainage density, and alters the timing and magnitude of peak streamflow (Bowling and Lettenmaier 1997; La Marche and Lettenmaier 2001). There are numerous road segments that do not route water to a stream, but are evaluated in this analysis for relative change from existing to proposed action conditions.

According to the CSKT Forest Management Plan (2000), road density shall not exceed 6.5 miles/mile$^2$. In the Finley Creek watershed, stream density is reported at 1.66 miles/mile$^2$, while road density is 5.84 miles/mile$^2$, resulting in a cumulative stream-road density of 7.5 miles/mile$^2$. Although these values are comparable to drainage densities observed in other Reservation watersheds, the contribution from roads represents a significant and concerning increase over natural conditions. The total road length includes residential and highway roads concentrated in the valley bottom. However, the density of forest roads within watersheds that the MA overlaps remains high and is of particular concern from a hydrologic perspective. For comparison, valley bottoms with towns and agricultural development average just 2.0 miles/mile$^2$—less than half the density observed in the Finley Creek watershed. Elevated forest road densities substantially increase drainage density and are known to alter watershed function, especially by accelerating the timing and increasing the concentration of runoff. In contrast, watersheds within protected Tribal Wilderness Areas exhibit only modest increases in drainage density where roads are limited. Finley Creek's current levels of road development, particularly the high proportion of forest roads, underscore the need for careful evaluation and management to mitigate potential watershed impairment.

Roads that function as potential sediment sources or as floodplain encroachment features are evaluated in the following table.

**Table 3.4** Road length, densities, and crossings per drainage area for existing conditions

| ***Watersheds*** | ***Total area*** | ***Total road miles*** | ***Road density*** | ***Crossings*** |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Finley Creek abo E Canal | 42.8 $mi^2$ | 250 miles | 5.84 miles/$mile^2$ | 120 crossings |

Table 3.4 reports roads as a function of potential sediment sources or as floodplain encroachment features. The high density of stream crossings coupled with road density demonstrate that road networks are a primary source of sediment routing in the stream channel network.

***Hydrologic Regime***

Equivalent clearcut acres and water yield conditions are summarized for the existing conditions in Table 3.5.

**Table 3.5** Summary of Water Yield Analysis for existing conditions (full analysis summary attached)

| **Watershed** | **Equivalent clearcut acres** | | | **Natural water yield** | | **Existing condition water yield** | |
|---|---|---|---|---|---|---|---|
| | **From ro prisms** | **From harvest units** | **Sum of two** | **Annual** | **Peak month** | **Annual increase** | **Peak month increase** |
| | **in acres** | | **in acres / % o watershed** | **acre-feet** | | **acre-feet/ % increase abov natural** | |
| Agency Creek above S Canal | 1368 ac | 1781 ac | 3149 ac /11% | 7469 af | 2312 af | 212 af / 2. | 83.1 af /3.6% |

Table 3.5 reports equivalent clearcut acres, considering road prisms, historic harvest and their associated recovery, and natural and existing condition water yields. The watershed analyzed does not exceed the water yield threshold conditions identified in the CSKT Forest Management Plan at this time.

**Sediment Yield- Erosion and Delivery**

Forest managers have the ability to eliminate or reduce sediment delivery into streams when BMPs are implemented and installed correctly (Cristan et al. 2016). Implementing streamside management zones (SMZs) are beneficial in filtering fine sediments upon entering streams. However, studies have shown that lower percentages of fine sediment in streams occur in watersheds where roads are not in use (have been decommissioned) or have low road densities (McCaffery et al. 2007; Laurie 2021). Studies have shown that an absence of intervening slope breaks (i.e., rolling dips) increase sediment routing to stream channels, with a 100% effectiveness when roads traverse downslope to a channel. Inversely, roads are 10% effective at routing sediment to a channel if intervening slope breaks are present near channels (Schultz 2011). Neglected maintenance and poorly placed rolling dips are known to impede drainage efficiencies. Inefficiencies include standing water pools and rutting on road prisms.

The WEPP:Road model was used to calculate sediment deliveries into streams from low-level traffic (current condition), high-level traffic (proposed log hauling), and road maintenance activities. WEPP is a site-specific model used by adjacent federal agencies to evaluate potential sediment deliveries into streams from various activities within 200 feet of streams, including those initiated in timber sales (Rice 1979;

Ketcheson and Megahan 1996). WEPP:Road allows users to input site-specific parameters such as climate, soil texture, percent rock content, and road characteristics. GIS and aerial imagery review were used to provide estimates for private roads within 200 feet of streams in which field review was not available. Field observations refined WEPP:Road model input values for all stream crossings on Tribal lands. Thirty-year climate simulations were run to produce average annual sediment production values. Refer to the *Proposed Action- Effects* of this report for detailed information regarding sediment delivery quantities.

## 3.4 Fisheries

Westslope Cutthroat Trout (*Oncorhynchus lewisi*) is the only fish species occurring in the management area, and they are limited to Frog Creek where they occupy about 4 km of habitat upstream of Hwy 93. Fish densities are about average for small isolate streams on the Flathead Indian Reservation (FIR). The most recent population estimates in lower stream reaches indicated about 75 fish > 75 mm total length (TL) in a 150 m reach of stream. These are small, slow-growing resident fish, very few exceed 150 mm TL; a fish of this size would be age-5 or older.

This Fisheries Program first conducted genetic testing on the Frog Creek cutthroat trout population in 1994. This was a priority population for testing because only putative Westslope Cutthroat were present, and because the stream appeared to be isolated from Finley Creek under most, if not all, flows. It was assumed that this isolation had prevented invasion by introduced fishes, and this assumption was reinforced by an absence of Brook Trout (*Salvelinus fontinalis*) in Frog Creek despite their presence in nearby reaches of Finley Creek. Negative interactions (i.e., hybridization, competition, and predation) with Brook Trout and other introduced species are among the greatest threats to the long-term persistence of Westslope Cutthroat Trout on the FIR and throughout most of their range.

Genetics testing using allozymes in 1994 showed no evidence of hybridization with either Rainbow Trout (*O. mykiss*) or Yellowstone Cutthroat Trout (*O. virginalis bouvieri*) two widely introduced hybridizing species. Since then, additional testing using advanced techniques (microsatellites and SNPs) on large numbers of fish has indicated only two fish with non-native ancestry, and each with only a single Rainbow Trout allele (the proportion of Westslope Cutthroat Trout ancestry in these two fish exceeded 99.9%). Thus, the Frog Creek cutthroat trout population is one of only a few core populations on the FIR and is of relatively high conservation value.

Aquatic and Riparian Habitats
In upper reaches, Frog Creek is a high-gradient step-pool system that transitions to lower-gradient habitats in downstream reaches. Pool development is generally poor in lower gradient reaches, possibly from past management actions (e.g., riparian logging, roading, season-long grazing). Fish habitat quality is generally low to moderate in Frog Creek, depending on location along the stream gradient. The entirety of the small watershed is in a range unit, and much of the past use has been concentrated in lower areas along the stream.

Historically, stream and riparian habitats had evidence of intensive, season-long use in some reaches, especially in lower-gradient areas where streambanks are composed of fine, deformable material. However, during a field survey done during summer 2024, it appeared that livestock use had been greatly reduced, and that stream and riparian habitats correspondingly recovered. A qualitative visual survey suggested that

streambanks had more vegetative cover, there was less pugging and hoof shear, and the channel was more defined in areas that had previously been subjected to intensive use.

Fish habitat in the drainage is also limited by low base flows, which have been measured at less than 0.5 cfs during late summer in the central part of cutthroat trout occupied habitat. In addition to low flows, and influences from legacy grazing, the Frog Creek watershed, when viewed in isolation from the rest of the management unit, has relatively high road densities (approaching 6 miles per square mile). During an earlier timber sale some work was done to reduce road densities and relocate poorly sited roads. There was limited opportunity to further reduce densities during the current sale, but some small road segments, totaling just under a mile, will be recontoured at the bottom of the drainage.

In spite of low flows and issues related to legacy and ongoing land uses, water temperatures remain suitable for cutthroat trout (Figure 3.2. Stream temperatures continuously recorded during 2011 at the A-1030 Road crossing never exceeded 15 º C. There may have been some warming in intervening years, but stream temperatures undoubtedly remain suitable for cutthroat trout.

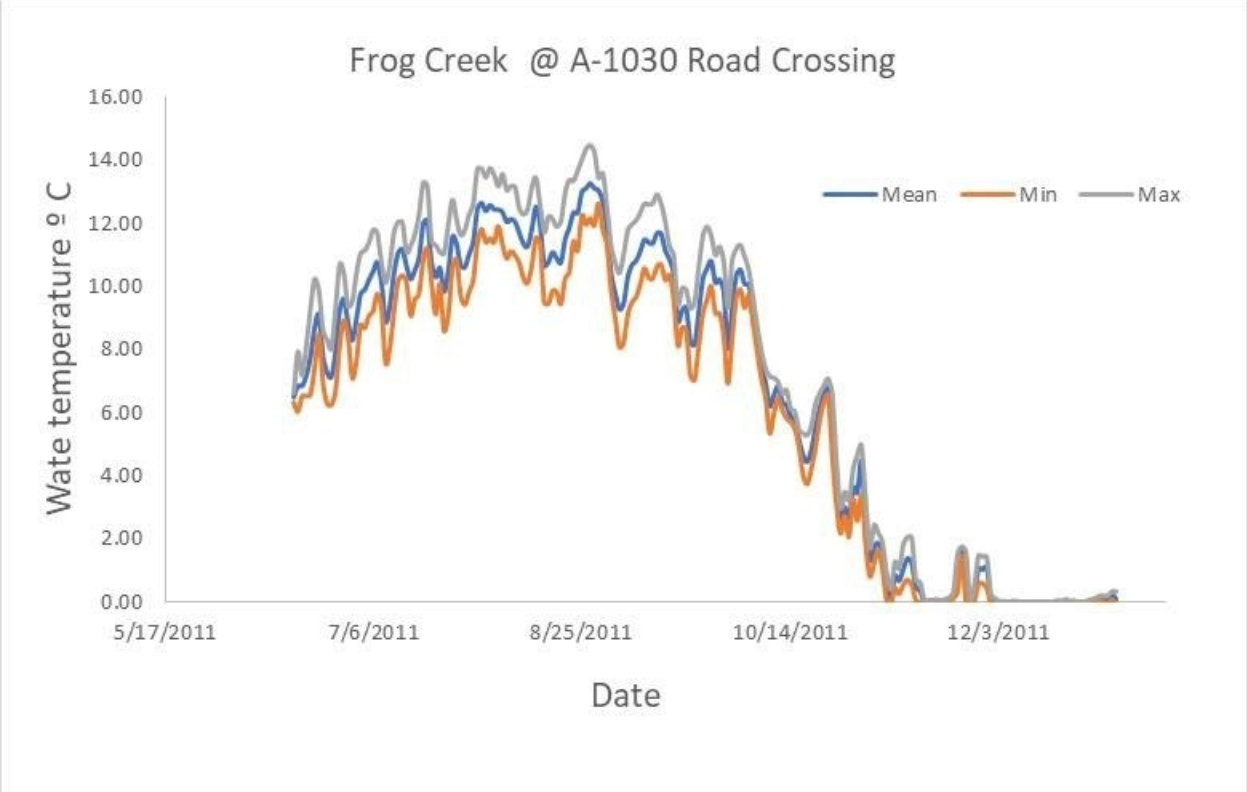


**Figure 3.2** Water temperatures recorded in Frog Creek at the A-1030 Road crossing during 2011.

# 3.5 Wildlife Species of Concern including Threatened and Endangered

## Listed Species

### 3.5.1 Grizzly Bear

Grizzly bears are a generalist species, meaning they can and will use a wide variety of habitat types and seral conditions. On the CSKT Flathead Reservation, grizzly bears utilize a wide variety of habitat types depending on seasons and local characteristics. These habitats include meadows, seeps, riparian zones, mixed shrub fields, closed timber, open timber, side-hill parks, show chutes, and alpine slab-rock. Primary use of the landscape for grizzly bears is dictated by food availability and access to secure habitat away from human disturbance (NCDE Subcommittee, 2019).

Status

Grizzly bears were listed as a threatened species under the Endangered Species Act in July, 1975. At a time when populations were estimated at just 700–800 individuals and their range had been reduced to approximately 2% of historical extent in the contiguous 48 states. Recovery efforts which include habitat protection in six designated recovery ecosystems and interagency coordination have since increased populations to nearly 2,000 bears across these recovery zones (Montana Natural Heritage Program & Montana Fish, Wildlife and Parks, 2024).

*Regulatory Framework*

Indicators and measures used to assess impacts to Grizzly bears are based on:

**Flathead Indian Reservation Forest Management Plan**

The 2000 FMP provides guidance for the management of all forested land on the FIR. It describes the goals, desired conditions, and objectives towards which the management of the forests should be directed. It establishes the natural resource guidelines and standards to help achieve or maintain the desired conditions while avoiding or mitigating undesirable effects or to meet applicable legal requirements. Revision of the FMP was initiated in 2019 to address changing conditions and scientific advancement in the natural resource department. Information included in this revision is updated existing conditions, amended standards and BMPs, and additional goals and desired conditions. This resulted in a working document where the most recent completed drafts provide the guidance for current harvest activities. The Forestry Management plan provides resource direction for a range of habitat conditions that may not be specific to grizzly bears, but may be applicable to bear management. The framework that provides specific grizzly bear management and habitat protection is the Conservation Strategy for the Grizzly Bear in the Northern Continental Divide Ecosystem, 2019.

**Conservation Strategy for the Grizzly Bear in the Northern Continental Divide Ecosystem**

For the grizzly bear assessment, NCDE Grizzly Bear Conservation Strategy will provide resource elements for measuring habitat changes or conflict as a result of the proposed action. These apply to

all areas within the Action Area as it is all within The FIR BMU in Zone 1 of the NCDE Demographic Monitoring (Figure 2).

The conservation strategy in Zone 1 will focus on managing open motorized route densities at or below levels as specified in the CSKT Forestry Management Plan, reducing human-bear conflicts, and maintaining habitat connectivity within and between ecosystems.

Resource indicators and Measures

**Table 3.6**. Resource Indicators and Measures for Grizzly bears as set forth by the Conservation Strategy for grizzly bears in the Northern Continental Divide Ecosystem.

| Resource Indicator | Measures |
|---|---|
| Open Road Miles in the FSMA | Temporary or Permanent changes to miles of open roads (No net increases) |
| Total Road Miles in the FSMA | Miles of open roads (No net increase) |
| Attractants | Attractants created as a result of the proposed action. |
| Habitat Connectivity within and between ecosystems | Measured by distance to open roads, and changes in secure habitat. |

*Existing Conditions*

The Flathead Reservation Occupancy Unit (OU) of Management Zone 1 of the Northern Continental Divide Ecosystem has been continuously occupied by female grizzly bears with offspring since time immemorial (CSKT, 1981; NCDE Subcommittee, 2019). Grizzly bears on the Flathead Indian Reservation occupy a wide range of habitat types and environmental conditions. Suitable habitat is not equally distributed throughout the reservation and bears do not occupy all available areas. Multiple radio-collared grizzlies are tracked on a yearly basis, as well as multiple management actions taken on grizzly bears from conflict on private land. GPS radiocollar locations have verified grizzly bear occurrence in the action area.

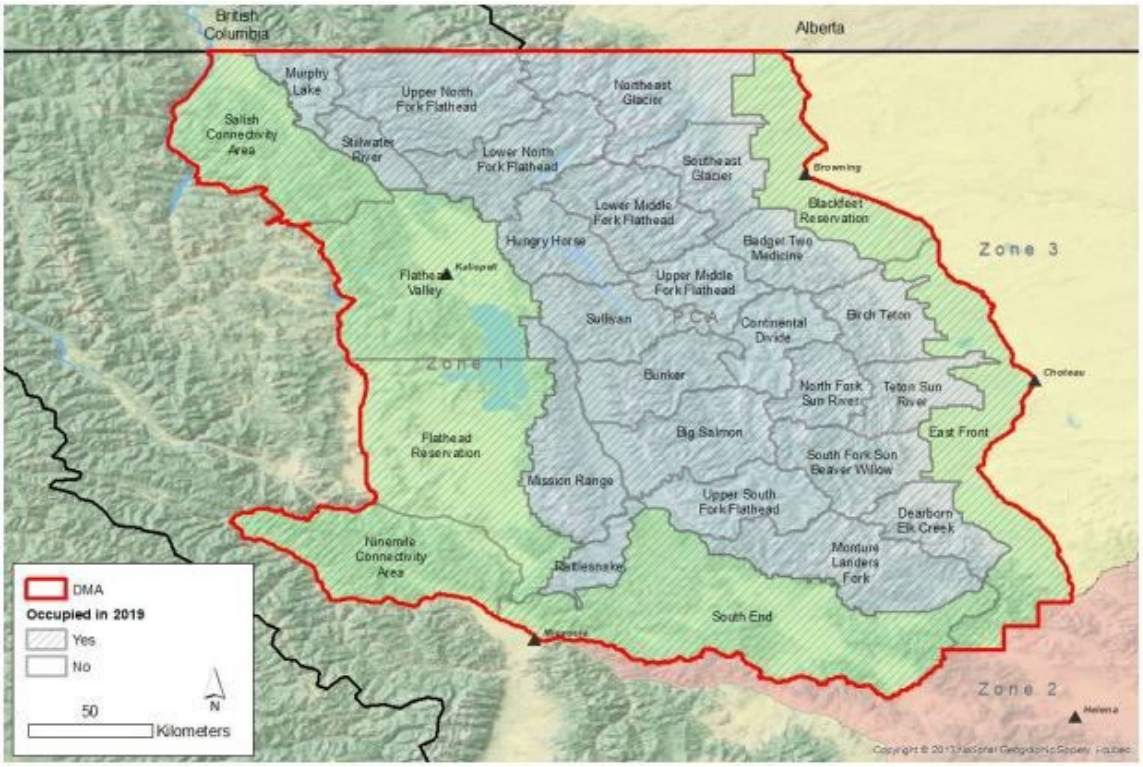


***Figure 3.3. Grizzly bear demographic management areas for the Northern Continental Divide ecosystem. The Flathead Reservation Occupancy Unit (OU) is within Management Zone 1.***

*Habitat*

Habitat use is highly variable between seasons, and movements of grizzlies within their home range are primarily dependent on riparian habitats and the availability of food sources. Grizzly Bears typically exhibit discrete elevational movements from spring to fall and require large corridors of contiguous forested land for movement within their home range. While some bears are resident to the Mission Mountains throughout the entirety of the summer months, others take residence at lower elevations in the Mission Valley during the spring through the fall and higher elevations in winter. There is also evidence suggesting a subset of bears utilize both higher elevation and lower valley elevations sporadically through the spring and summer seasons (Eneas, Kari Lynn, 2021). Den sites typically occur at higher elevations above 6,000 feet (U.S. Fish and Wildlife Service, 2021a) that have a slope of 28 to 35 degrees, with an aspect that maintains deep snow. During mild winters, grizzly bears can stay out of hibernation or hibernate for shorter amounts of time. Mitigation measures to reduce attractants and keep in communication with CSKT Wildlife Biologists will be adhered to.
The FSTH action area provides habitat and food resources for grizzly bears during the spring, summer, and fall. The area supports fruit-bearing shrubs and other plant, animal, and insect species preferred by bears. This action area is also the location of an overpass designed for wildlife, including grizzly bear sows with cubs, to safely cross Highway 93. The FSMA is a part of this corridor designed to allow for the safe passage of grizzly sows with cubs.

*Attractants*

To minimize the potential for human-bear conflicts associated with thinning operations in the FSTH action area, CSKT grizzly bear conservation measures will be implemented. These include food and attractant storage requirements, daily garbage removal, bear safety briefings, and restrictions on motorized access and vegetation treatments in sensitive areas. Adherence to these measures will reduce the likelihood of attracting bears to active project sites and ensure consistency with Tribal Forest and Resource Management Plans, past consultation requirements, and regionally accepted bear conflict prevention protocols. These practices are designed to maintain human safety, avoid adverse impacts to grizzly bears, and reduce habitat-level risk from increased access and temporary site disturbance.

### 3.5.2 Canada Lynx

Canada lynx are a habitat specialist species, strongly associated with boreal and subalpine forest landscapes that support high densities of snowshoe hare, their primary prey. On the CSKT Flathead Reservation, suitable lynx habitat occurs primarily in higher elevation forested areas with deep, persistent snow and dense horizontal cover near the ground or snow level. These habitats typically include mature or regenerating stands of spruce, fir, and lodgepole pine that provide both foraging opportunities and security cover. Primary use of the landscape by lynx is dictated by the availability of snowshoe hares and the presence of contiguous, secure habitat with minimal human disturbance (Canada Lynx Conservation Assessment and Strategy, 2013).

*Status*

On January 11, 2018, the USFWS announced the completion of a Species Status Assessment (SSA) for lynx contiguous United States Distinct Population Segment (DPS); (U.S. Fish and Wildlife Service, 2017). The SSA is a scientific review of lynx and compiles the best available scientific information regarding the historical, current, and potential future conditions for lynx in the lower 48 states. It is an extensive review of the best available scientific information and almost 20 years of working in partnership with state, federal, tribal, industry and other land managers on the conservation of this species. Refer to the SSA for information on the status of lynx, including but not limited to species description, life history, and status and distribution (Ibid.). The SSA evaluates the DPS's viability considering climate change, forest management and related regulations, wildland fire management, and other potential sources of habitat loss and fragmentation. The SSA incorporates information from the lynx expert elicitation workshop (Lynx SSA Team, 2016), which addresses the current and future status of, potential threats to, and likely viability of resident lynx populations throughout the DPS. The Canada lynx conservation assessment and strategy (LCAS), 3rd edition (Canada Lynx Conservation Assessment and Strategy, 2013) is another source of best available scientific information that provides a thorough review of lynx and lynx management. In addition, the following listing documents also include information on the status of lynx: the final rule listing lynx as a threatened species (65 FR 16052); the remanded determination in our clarifications of findings of our final rule (68 FR 40076); and the 2014 revised final rule designating lynx critical habitat (79 FR 54782). Finally, the 2007 biological opinion (U.S. Fish and Wildlife Service, 2007) and associated

2017 amended incidental take statement (U.S. Fish and Wildlife Service, 2017) on the effects of the Northern Rockies Lynx Management Direction on the DPS of lynx in the contiguous United States also includes detailed discussions on the status of lynx. These documents include the best available science regarding the status and distribution of lynx and are incorporated by reference.
In the November 29, 2024, proposed revision of lynx critical habitat, the USFWS identified four Western U.S. units, including the Northern Rockies unit, which overlaps portions of the FIR managed by the CSKT. Although these lands meet the definition of occupied lynx habitat, the Service is considering their exclusion from the final designation under section 4(b)(2) of the Endangered Species Act. The Federal Register explains that this consideration is based on: (1) the absence of large areas of suitable boreal or subalpine habitat on the reservation capable of supporting persistent breeding populations; (2) the sovereign authority of the Tribes to manage and protect their own wildlife and habitat resources; and (3) the existing CSKT wildlife programs that implement habitat management and conservation actions consistent with lynx conservation such as the FMP (2000). In prior critical habitat rules (2009, 2014), the Service concluded that Tribal land management plans, including those on the FIR, provide for the conservation of lynx and their habitat and that the benefits of exclusion outweighed those of inclusion, without increasing the risk of extinction. This approach recognizes both the trust responsibility of the United States toward Tribes and the ability of sovereign Tribal governments to develop and implement effective, culturally informed wildlife management strategies on their lands.

*Regulatory Framework*

Indicators and measures used to assess impacts to lynx are based on:

**Flathead Indian Reservation Forest Management Plan**

The 2000 FMP provides guidance for the management of all forested land on the FIR. It describes the goals, desired conditions, and objectives towards which the management of the forests should be directed. It establishes the natural resource guidelines and standards to help achieve or maintain the desired conditions while avoiding or mitigating undesirable effects or to meet applicable legal requirements. Revision of the FMP was initiated in 2019 to address changing conditions and scientific advancement in the natural resource department. Information included in this revision is updated existing conditions, amended standards and BMPs, and additional goals and desired conditions. This resulted in a working document where the most recent completed drafts provide the guidance for current harvest activities. The FMP provides resource direction for a range of habitat conditions that may not be specific to lynx, but may be applicable to lynx management, such as snowshoe hare habitat.

The framework that provides specific Lynx management and habitat protection is the **Canada Lynx Conservation Assessment and Strategy 3rd Edition, August 2013**.

1) The **Canada Lynx Conservation Assessment and Strategy, 3rd Edition (August 2013)** (LCAS) was developed by the Interagency Lynx Biology Team to provide consistent, science-based guidance for managing lynx habitat on federal lands across the contiguous United States. This strategy incorporates the best available information on lynx ecology,

habitat requirements, and threats, and serves as a key reference for implementing conservation measures that support lynx persistence and recovery.

Resource indicators and Measures

For the lynx assessment, the LCAS will provide resource elements for measuring habitat changes as a result of the proposed action. These apply to habitat within the LAU.

**Table 3.7.** Resource Indicators and Measures for Canada lynx as set forth by LCAS.

| *Resource Indicator* | *Measures* |
|---|---|
| ***Percent of lynx habitat within the LAU currently in an early seral stand initiation structural stage (ESI)*** | ***Existing percent of ESI within the LAU, maximum 30%*** |
| ***Change in the percent lynx habitat in an early stand initiation structural stage generated through timber harvest within the past 10 years*** | ***Areas of regeneration harvest proposed within lynx habitat, maximum 15%*** |
| ***Pre-commercial thinning that reduces snowshoes hare habitat within the stand*** | ***Acres of pre-commercial thinning proposed within stand initiation structural stage.*** |
| ***Reduction of snowshoe hare habitat within multistory forest as a result of vegetation management*** | ***Acres of treatment proposed within multistory forest.*** |

*Existing Conditions*

In accordance with the LCAS, Lynx Analysis Units (LAUs) were identified and mapped for the CSKT on the FIR. CSKT relied on lynx habitat criteria and information developed by the Interagency Lynx Biology Team and expressed in the LCAS to map potential lynx habitat to reflect on-the-ground habitat conditions. LAUs approximate the size of an area used by an individual lynx and encompass both lynx habitat and areas classified as non-habitat (Canada Lynx Conservation Assessment and Strategy, 2013). The project boundary is largely located within the Charity LAU on the FIR.
The LCAS (2013) establishes thresholds for vegetation conditions within each Lynx Analysis Unit (LAU) to maintain adequate habitat quality. Specifically, no more than 30 percent of the total LAU area may be in an early stand initiation structural stage or otherwise silviculturally treated to remove horizontal cover over any 30-year period, with a further limit of 15 percent in any 10-year period. Horizontal cover is a key habitat component for snowshoe hare, the primary prey for lynx, providing essential foraging and security cover.

*Habitat*

Canada lynx (lynx) habitat consists primarily of cool, moist subalpine fir and Engelmann spruce and moist lodgepole pine forests which receive abundant snow fall. Lynx occurrences in the western United States generally fall within the 1,500-2,000 m (4,920-6,560 ft) elevation range. Much of the habitat use by lynx overlaps with that of the snowshoe hare. Snowshoe hares are the primary prey source for lynx, composing 3597% of the diet throughout the range of the lynx. Therefore, a mosaic of well-connected young regenerating and mature multistory forest that provide year-round habitat for hares is key to lynx conservation. Denning habitat is found near foraging habitat and consists of abundant dead and down trees (Canada Lynx Conservation Assessment and Strategy, 2013).

### 3.5.3 North American Wolverine

Wolverines appear to prefer habitats that contain persistent spring snow (until mid-late May) for denning. Typical habitat consists of alpine tundra and high elevation boreal forest in Montana. Physical features of habitat include cirque basins, avalanche chutes, talus slopes, and alpine areas just above tree line. Wolverines have large home ranges (100-300 sq. miles) and need large tracts of undisturbed, roadless wilderness as they are highly vulnerable to human disturbance. Research suggests that wolverines select habitat primarily by balancing avoidance of disturbance and food availability. Seasonal movements are associated with snow cover and temperature, with wolverines moving to higher elevations during summer and lower elevations during winter, while usually remaining at high elevations between approximately 5,500 to 11,500 feet. Reproductive females use high-elevation habitat (generally above 7,500 feet) with late-season snowpack for natal denning sites. Juvenile dispersal typically occurs during late winter and early spring. Wolverine are known to use a wide variety of habitat types for dispersal (including agricultural lands) but still tend to avoid areas heavily disturbed by humans (particularly roads). Despite recent increases in research effort, our knowledge of wolverine habitat requirements as well as distribution and relative abundance of wolverines on the reservation remains incomplete. Wolverines are listed as a threatened species because wolverines have relatively large home ranges, low reproductive rates, intrinsically low population resilience, and are vulnerable to human disturbance and impacts to persistent late-spring snow in high elevations due to climate change (U.S. Fish and Wildlife Service, 2023).

*Status*

On November 29, 2023, the USFWS announced the final rule listing the North American wolverine as a threatened species under the Endangered Species Act (88 FR 83360). This listing follows several years of legal and scientific review, including prior proposed rules in 2013 and 2020, a 2014 withdrawal, and multiple court rulings directing the Service to reevaluate the species' status. The final listing is supported by a SSA that compiles the best available scientific information on the species' biology, current distribution, and the effects of ongoing and future threats, particularly climate change and habitat fragmentation due to snowpack loss. The SSA incorporates information from state and federal wildlife agencies, Tribes, and conservation partners and provides a thorough analysis of population viability across the species' U.S. range. The SSA and final listing rule are the most current sources of information on the wolverine's status and are incorporated by reference.

*Regulatory Framework*

Indicators and measures used to assess impacts to wolverine are based on USFWS Species Status Assessment for the North American Wolverine (2018) and Addendum to the SSA (2023), which outlines the species' ecological requirements, current condition, and projected future condition within the contiguous United States. The best available science indicates that wolverines require large home ranges in relatively inaccessible, high-elevation landscapes, generally between 5,906 and 11,483 feet (1,800 to 3,500 meters). They depend on a seasonally variable diet composed of both carrion and live prey and rely on rugged terrain and physical features such as talus slopes, deep snowfields, and rocky outcrops that are closely tied to reproductive behaviors, including denning. These ecological needs collectively influence the species' ability to persist and successfully reproduce across its range.

*Existing Conditions*

In 2013, Inman et al., identified areas suitable for wolverine survival and estimated potential and current distribution and abundance of wolverines in the western contiguous United States. They estimated the current (2013) population size to be approximately 318 individuals located within the Northern Continental Divide (Montana) and within the following ecoregions: Salmon-Selway (Idaho, portion of eastern Oregon), Central Linkage (primarily Idaho, Montana), Greater Yellowstone (Montana, Idaho, Wyoming), and Northern Cascades (Washington) (Inman et al., 2013). Wolverines have been detected within the Reservation Divide Mountain Range, but the majority of the FSTH and HFR actions occur below 5,500 ft elevation with a max elevation for the FSMA being 6,300 ft.

*Habitat*

Wolverines need large territories in relatively isolated areas; at high elevation (5,906-11,483 ft); access to a variety of food resources during all seasons; and topographic features like talus slopes and rugged terrain (U.S. Fish and Wildlife Service, 2023). Montana, Fish Wildlife and Parks predicted wolverine habitat in the Montana using the best available science, and higher elevations of the Ninemile/Reservation Divide Ecosystem are within the predicted habitat range in the FSMA action area, the project does not contain wolverines preferred habitat nor does the project restrict access to their preferred habitat. Transient wolverines are possible throughout the area, but the possibility is insignificant and discountable.

### 3.5.4 Yellow-billed Cuckoo

Yellow-billed cuckoos are neotropical migratory birds that breed in large tracts of riparian woodlands characterized by dense, multi-layered vegetation, often along low-gradient rivers and streams. In the western United States, including Montana, the species is strongly associated with mature cottonwood, willow, and aspen galleries. Nesting habitat typically includes closed-canopy stands that provide shade and concealment for nests, often near water sources. The western DPS of the yellow-billed cuckoo is listed as threatened due to widespread habitat loss, primarily from water diversion, grazing, and vegetation clearing (U.S. Fish and Wildlife Service, n.d.-c). In Montana, the species is rare and local, with occurrences on the FIR limited to one documented sighting recorded in the early to mid-1980s in the Northeast corner of the FIR at "Yellow-bay". Yellow-billed cuckoos are secretive and difficult to

detect, and their populations are believed to be declining due to the fragmentation and degradation of riparian systems.

*Status*

The western DPS of the yellow-billed cuckoo was formally listed as threatened by the USFWS on November 3, 2014, following recognition of significant population declines tied largely to widespread loss and fragmentation of riparian habitat. Prior to this, a July 2001 12-month petition finding concluded listing was "warranted but precluded," identifying continued threats from habitat degradation, including water diversion, grazing, and vegetation clearing. In 2017, a petition submitted by several agricultural and mining interests requested delisting based on perceived errors in DPS designation; the Service published a substantial 90-day finding in June 2018 but ultimately, on September 15, 2020, determined that delisting was not warranted and confirmed that the western DPS remains listed as threatened. Most recently, in April 2021, critical habitat was designated under the ESA to support the species' recovery. The yellow-billed cuckoo continues to face ongoing threats from riparian degradation, invasive species, and altered hydrology, and the listing remains in effect to guide conservation efforts across its dwindling western range (U.S. Fish and Wildlife Service, n.d.-c).

*Regulatory Framework*

Indicators and measures used to assess impacts to the yellow-billed cuckoo are based on the USFWS's Final Rule listing the western DPS as threatened (2014), the associated Species Report (2013), and the Critical Habitat Designation (2021). These documents outline the species' ecological requirements, current condition, and the factors influencing its viability across the western United States. The best available science indicates that the yellow-billed cuckoo relies on large tracts of structurally complex riparian woodlands, typically dominated by cottonwood, aspen, and willow, located along low-gradient rivers and streams. These habitats must provide dense canopy cover, vertical vegetation layering, and a reliable source of moisture to support nesting and foraging needs. Habitat loss and fragmentation, altered hydrologic regimes, and invasive vegetation are identified as primary threats to the species' persistence. The species' ecological needs and sensitivity to habitat quality inform impact assessments and guide conservation measures under the Endangered Species Act.

**Table 3.8.** Resource Indicators for Yellow-billed Cuckoo derived from the Federal Register, Volume 79. No. 192. October 3, 2014

| Resource Indicator | Description |
|---|---|

| | |
|---|---|
| *Small and widely separated habitat patches* | The western yellow-billed cuckoo is currently found in the largest contiguous and least-fragmented remaining habitat patches. Nesting western yellow-billed cuckoos are sensitive to patch size and seldom use patches smaller (100 × 300 m) (Hughes & Baker, 1999, p. 20). This observed preferential use of large patches strongly suggests that the western yellow-billed cuckoo is sensitive to fragmentation and reductions in habitat patch size. Moreover, patch-size reduction combined with the scarcity of larger patches keeps the western yellow-billed cuckoo breeding population size depressed. Such effects prevent the western yellow-billed cuckoo from reversing its long-term decline in population and range. |
| *Loss and degradation of habitat for the species* | -Altered watercourse hydrology<br>-Livestock overgrazing<br>-Encroachment from agriculture<br>-Conversion of native habitat to predominantly nonnative vegetations |
| *Climate change* | Warmer drier climate with changing precipitation events could contribute to the degradation of habitat across the range. |
| *Pesticides* | Reduction of prey insect abundance by the unauthorized or improper application of pesticides. |
| *Wildfire* | Destruction of habitat by uncontrolled wildfire. |

*Existing Conditions*

The western DPS of the yellow-billed cuckoo was listed as threatened under the Endangered Species Act in 2014 due to widespread habitat loss and degradation across its breeding range. Historically, yellow-billed cuckoos bred across much of the western United States, but populations have significantly declined and become highly localized. In Montana, the species is considered rare and occurs primarily in the western portion of the state. There have been a very limited number of

sightings for Yellow-billed cuckoos in western Montana and other areas in the DPS, but use of these areas cannot be discounted. While there are some stands of aspen and cottonwood in the FSMA, there are no confirmed records of yellow-billed cuckoo within or adjacent to the FSMA, and no critical habitat has been designated in the region.

*Habitat*

Yellow-billed cuckoos in the western DPS are a summer resident and require large patches (>200ac) of willowcottonwood forests with dense understory vegetation for nesting. They prefer moist conditions that support riparian habitat and typically exists in lower elevation, broad floodplains, and river and stream tributaries (U.S. Fish and Wildlife Service, 2020b).
In 2020, USFWS proposed a revision to critical habitat for the yellow-billed cuckoo based on areas that have breeding habitat or suspected breeding. The critical habitat is approximately 493,665 acres in Arizona, California, Colorado, Idaho, Nevada, New Mexico, Texas, Wyoming, and Utah (U.S. Fish and Wildlife Service, 2020b). There is no critical habitat anywhere on the Flathead Indian Reservation or Montana. Seasonal components

The western yellow-billed cuckoo is a neotropical migratory species wintering in Central and South America and breeding in North America each spring and fall. They travel extremely far distances to take advantage of food resources or habitat availability across their range so maintaining habitat resources outside the Southwest region of North America will be valuable for the conservation of the distinct population.

### 3.5.5 Spalding's Catchfly

Spalding Catchfly is a perennial plant found in open, mesic bunchgrass grasslands and sagebrush steppe in the valleys and foothills. Usually found with rough fescue, Nelson's needlegrass, Richardson's needlegrass, and Idaho fescue. The plants are found mostly on north aspects where later season moisture is retained. Existing populations are often small and isolated. Spalding's catchfly produce one to several vegetative or flowering stems that arise from a simple or branched persistent underground stem (caudex), which surmounts a long, narrow taproot. Plants range from 20 to 40 cm in height. Each stem typically bears 4 to 7 pairs of simple, opposite leaves that are 5-8 cm in length and 2-4 cm in width. Similar to the majority of plants in this family, Spalding's catchfly has distinctly swollen nodes located where the leaves are attached to the stem. Reproductive individuals produce 3-20 cream to pink or light green flowers that are borne in a branched, terminal inflorescence. All green portions of the plant (foliage, stem, and flower bracts) are covered in dense sticky hairs that frequently trap dust and insects, giving this species the common name catchfly. Plants (both vegetative and reproductive) emerge in mid-to late May. Flowering typically occurs from mid-July through August, but may occasionally continue into October. Rosettes are formed the first and possibly the second year, followed by the formation of vegetative stems. Above-ground vegetation dies back at the end of the growing season and plants either emerge in the spring or remain dormant below ground for one to several consecutive years. Spalding's catchfly reproduces solely by seed. It lacks rhizomes or other means of reproducing vegetatively. The species has been extirpated in some portions of its range due to extreme habitat loss and fragmentations from agricultural disturbance, urban development, grazing,

herbicide treatments, and invasive non-native weed invasion. Additionally, livestock grazing and fire suppression are reported threats to recruitment and survival of small plant populations (U.S. Fish and Wildlife Service, n.d.-a).

*Status*

Spalding's catchfly was listed as threatened in 2001 and a final recovery plan for this plant was released October 15, 2007. The goal of the recovery plan is to recover the plant by protecting and maintaining reproducing, selfsustaining populations so that the species no longer needs protection under the Endangered Species Act.

*Regulatory Framework*

**1. Recovery Plan for Silene spaldingii (Spalding's catchfly) 2007**

The Recovery Plan for Spalding's catchfly (*Silene spaldingii)* (2007) provides guidance for the protection and management of Spalding's catchfly and associated habitat. It describes the goals, objectives, and suitable conditions towards which the management should be directed for recovery and delisting of the species.

The focus of the recovery plan is to manage self-sustaining Spalding's catchfly populations through good habitat (ecosystem) management at key conservation areas. This will be done through the following primary actions:

1. Conserve, identify, develop, and expand Spalding's catchfly populations and habitat in each of the five physiographic regions where Spalding's catchfly resides.
2. Conduct general recovery actions across the range of Spalding's catchfly.
3. Develop a post-delisting monitoring plan.

*Existing Conditions*

Spalding's catchfly has not been identified in any portion of the FSMA. Habitat

Spalding Catchfly is found in open, mesic grasslands in the valleys and foothills usually with rough fescue, Nelson's needlegrass, Richardson's needlegrass, and Idaho fescue. The plants are found mostly on north aspects where later season moisture is retained. Existing populations are often small and isolated. Existing Conditions

Spalding's Catchfly has only been identified in a few locations in northwestern Montana. On the FIR, it exists in small populations around Niarada, Hog Heaven, and on Wildhorse Island (Pipp,2019). The southern Niarada/Flathead Lake area is located in intermontane valleys that were once covered by glacial Lake Missoula. Spalding's catchfly occurs in the Niarada area on low to moderate slopes, bottoms of draws, and in or along small drainages. It typically occurs along the lower treeline or near scattered trees, and on Wild Horse Island in Flathead Lake it is found on northwest-facing slopes in gravelly silt-loam soils (MNHP 2003b). There have been no known occurrences or reports of Spalding's Catchfly within the FSMA.

### 3.5.6 Whitebark Pine

Whitebark pine is a wide-ranging conifer that is slow-growing and long-lived, with trees on the landscape documented at 500 to over 1,000 years old. Whitebark pine occurs at high elevations across western North America and is considered a keystone and foundation species; whitebark pine stabilizes soils, regulates runoff, slows the progression of snowmelt, and provides nutritious seeds for numerous species of wildlife (U.S. Fish and Wildlife Service, n.d.-b).

*Status*

Whitebark pine was petitioned to be listed under the Act on February 5, 1991, by the Great Bear Foundation of Missoula, Montana. The petition stated whitebark pine was in rapid decline due to impacts from mountain pine beetles, white pine blister rust, and fire suppression. After reviewing the petition, the USFWS found that the petitioner had not presented substantial information indicating that listing whitebark pine may be warranted. This was published in the Federal Register on January 27, 1994 (59 FR 3824) (U.S. Fish and Wildlife Service, 2021b).

On December 9, 2008, USFWS received a petition dated December 8, 2008, from the Natural Resources Defense Council (NRDC) requesting whitebark pine is listed as endangered throughout its range and designate critical habitat under the Act. The petition clearly identified itself as such and included the requisite identification information for the petitioner, as required by 50 CFR 424.14(a). Included in this petition was supporting information regarding the species' natural history, biology, taxonomy, lifecycle, distribution, and reasons for decline. The NRDC reiterated the threats from the 1991 petition, and included climate change and successional replacement as additional threats to whitebark pine. In a January 13, 2009, letter to NRDC, the USFWS responded that they had reviewed the information presented in the petition and determined that issuing an emergency regulation temporarily listing the species under section 4(b)(7) of the Act was not warranted (U.S. Fish and Wildlife Service, 2021b).

The USFWS published a 12-month finding in the Federal Register on July 19, 2011 following a review of all available scientific and commercial information (76 FR 42631). In that finding, it was found that listing whitebark pine as threatened or endangered was warranted. However, at that time listing whitebark pine was precluded by higher priority actions to amend the Lists of Endangered and Threatened Wildlife and Plants and whitebark pine was added to our candidate species lists. Therefore, whitebark pine became a candidate for listing under the Act, and it remained a candidate until December 2, 2020, when the USFWS proposed a rule to list the species as Threatened (85 FR 77408) with a 4(d) rule (U.S. Fish and Wildlife Service, 2021b).

*Regulatory Framework*

Indicators and measures used to assess impacts to Whitebark Pine are based on:

**Flathead Indian Reservation Forest Management Plan**

The 2000 FMP provides guidance for the management of all forested land on the FIR. It describes the goals, desired conditions, and objectives towards which the management of the forests should be

directed. The FMP (2000) establishes the natural resource guidelines and standards to help achieve or maintain the desired conditions while avoiding or mitigating undesirable effects or to meet applicable legal requirements. Revision of the Forest Management Plan was initiated in 2019 to address changing conditions and scientific advancement in the natural resource department. Information included in this revision is updated existing conditions, amended standards and BMPs, and additional goals and desired conditions. This resulted in a working document where the most recent completed drafts provide the guidance for current harvest activities. The FMP provides resource direction for a range of habitat conditions that may not be specific to whitebark pine, but may be applicable to restoration and conservation of whitebark pine.

**The Crown of the Continent Ecosystem Whitebark Pine Restoration Strategy**

CSKT Forestry collaborates with conservation group Crown Manager's Partnership in 2016. Together we are restoring Whitebark pine and Limber pine for the Crown of the Continent Ecosystem which are a diverse set of ecosystems connected across the North American continent (Jenkins et al., 2020). The Crown of the Continent Ecosystem Whitebark Pine Restoration Strategy Pilot's principles for the Pacific Northwest Region are:

1. Restore degraded habitat.
2. Protect genetic resources though gene conservation.
3. Increase blister rust resistance in whitebark pine populations.
4. Evaluate the health and status of whitebark pine stands where lacking.
5. Increase the understanding the threats of Whitebark pine and develop practical and effective restoration techniques. CSKT is prioritizing restoration management in cultural significant areas, identifying locations with high conservation value (CV).

Weighing high CV areas with habitat stressors, a combination of management practices will be applied to:

1. Conserve and restore habitat.
2. Increase tree growth.
3. Eradicate insects and disease.
4. Enhance seed recruitment.

There are four major threats that are depleting whitebark pine at an alarming rate:

1. A fungal pathogen, white pine blister rust
2. Increased mountain pine beetle blight.
3. Climate change prolonging heated days.
4. Amplified fuel loads caused by fire suppression over years enabling an increase of wildland forest fires.

*Existing Conditions*

Surveys and field reconnaissance were conducted throughout the FSMA at elevations favorable to whitebark pine. This field work was carried out and analyzed by the CSKT Forestry staff. Analysis of data that was collected revealed whitebark pine to be absent within proposed harvest units, pre-commercial thin units, and the sale area at large.

*Habitat*

According to the USDA Forest Service's Fire Effects Information System, the habitable elevation range for whitebark pine is approximately 6,000-9,300 feet above sea level in Montana. Areas surveyed for reconnaissance ranged from 3,600-6,100 feet, while the FSMA itself extends to 6,500 feet. The maximum elevation in this area is at the lower end of the habitable range for whitebark pine in Montana.

*Existing Conditions*

Although some subalpine fir habitat does exist within the FSMA, no whitebark individuals were found in any stage of growth or regeneration within the area of the proposed action.

**Proposed Species**

### 3.5.7 Monarch Butterfly

The monarch butterfly is a migratory insect known for its multigenerational movement across North America. The western migratory population overwinters in forested groves along the southern California coast and Baja Peninsula, with occasional overwintering in central Mexico. In the spring, adults begin a northward migration, producing successive generations (typically 3–5) that expand into the Rocky Mountains and Pacific Northwest (McIntyre et al., 2024; U.S. Fish and Wildlife Service, 2024a). Eggs are laid on milkweed (*Asclepias spp.*), and larvae emerge in 2 to 5 days (Zalucki, 1982). After progressing through five larval instars over 9 to 18 days, larvae pupate and adult butterflies emerge 6 to 14 days later. Adults in summer generations live for 2 to 5 weeks, while the fall migratory generation enters reproductive diapause, migrates south, and may live for up to 6 to 9 months (Cockrell BJ et al., 1993; Herman & Tatar, 2001).

*Status*

The monarch butterfly is currently proposed for listing as a threatened species under the Endangered Species Act. The USFWS determined in its 2020 12-month finding that listing the species was warranted but precluded by higher priority actions (U.S. Fish and Wildlife Service, 2020a). Monarch populations have declined sharply in recent decades, with the western migratory population experiencing a 98% reduction since 1997 (Montana Natural Heritage Program, 2025). The species remains a candidate for federal protection and continues to be monitored closely through conservation partnerships and population trend analyses.

*Regulatory Framework*

Although the monarch butterfly is not currently listed under the ESA, it is a candidate species and receives conservation attention through multiple collaborative initiatives. The regulatory and conservation framework guiding monarch conservation includes the *USFWS Monarch Butterfly (Danaus plexippus) Species Status Assessment Report, Version 2.3*. While not subject to formal ESA consultation requirements at this time, actions that may impact monarchs are still assessed through a precautionary lens using the best available scientific information.

*Existing Conditions*

As of the time of this analysis, the USFWS has not designated critical habitat for the monarch butterfly due to the monarch's extensive range and highly variable use across its migratory lifecycle. Therefore, no designated critical habitat occurs within the Action Area of the FSMA.

*Habitat*

Habitats include native prairie, foothills, open valley bottoms, weedy fields, roadsides, pastures, marshes, suburban areas, and rarely above treeline in alpine terrain during migration (Glassberg, 2001; Opler, 1999; Pyle, 2002; Scott, 1992). Nectar plants needed during fall migration are typically associated with riparian corridors, river valleys, and irrigated agricultural areas (U.S. Fish and Wildlife Service, 2020a). It is important that fall nectar plants bloom during the same time that monarchs are migrating through the area, and sufficient quality and quantity of nectar plants are needed along the migration corridor. Size and spatial arrangement of patches of nectar plants may be important, but specifics are currently unknown (U.S. Fish and Wildlife Service, 2020a). Roosting trees that provide shelter are also important along fall migration corridors. Because most monarch observations in Montana have been in late summer or fall, nectar plants used during migration and roosting trees may be more important habitat features than milkweed plants in this region.

### 3.5.8 Suckley's Cuckoo Bumble Bee

Suckley's cuckoo bumble bee is an obligate social parasite that relies on host species within the genus Bombus to complete its life cycle. Females emerge in late spring, which is later than their hosts (Lhomme & Hines, 2019), and feed on nectar and pollen before locating and usurping host nests. They typically eliminate the host queen and destroy some host eggs and larvae to make room for their own. Offspring emerge in late summer, with males dying and mated females overwintering (U.S. Fish and Wildlife Service, 2024b). All individuals in the species are reproductive (Suhonen et al., 2015), and the bee is naturally rare and difficult to detect (U.S. Fish and Wildlife Service, 2024b). Although historically found across western North America, no records have been confirmed in Montana since 2015. The Jocko Valley Landscape and Reservation Divide Mountains provide suitable habitat for the host species *Bombus occidentalis*, and the two species are closely associated. It is thought that the varial zone around Flathead Lake contains the best potential habitat for Suckley's on the Flathead Indian Reservation (G. Davies, pers. comm.).

*Status*

Suckley's cuckoo bumble bee is currently proposed for listing as Endangered under the Endangered Species Act. Between 1900 and 2020, the species experienced an estimated 85% decline in probability of occupancy across its range (U.S. Fish and Wildlife Service, 2024b). The proposed listing is based on population-level declines and the presence of multiple interacting threats to long-term persistence.

*Regulatory Framework*

As a proposed species under the ESA, Suckley's cuckoo bumble bee is not yet afforded full regulatory protection but is evaluated under the framework of precautionary conservation. The primary conservation guidance and best available science are found in the 2024 U.S. Fish and Wildlife Service document, Suckley's Cuckoo Bumble Bee (*Bombus suckleyi*) Species Status Assessment, Version 1.0. This SSA assesses the status, threats, and species ecology associated with Suckley's cuckoo bumble bee. These documents describe the cumulative risks posed by land use, pesticide exposure, competition, pathogens, and climate change.

*Existing Conditions*

At this time, no designated critical habitat exists for Suckley's cuckoo bumble bee, and no critical habitat occurs within the Action Area of the FSMA.

*Habitat*

Suckley's cuckoo bumble bee has been documented from elevations ranging from 6 to 10,500 feet and occupies a broad range of habitats including montane meadows, prairies, fallow fields, croplands, urban areas, woodlands, and boreal forests. Population persistence requires suitable host colonies, floral resources from spring through fall, and overwintering habitat for mated females (U.S. Fish and Wildlife Service, 2024b). Host nests are often located in underground rodent burrows. Foraging habitats include meadows, grasslands, and developed areas with flowering plants such as *Melilotus, Trifolium, Rubus, Vaccinium, Salix*, and various *Asteraceae* species. Overwintering likely occurs in mulch, duff, or decomposing vegetation under shaded conditions. Important habitats include field boundaries, meadow margins, and forest edges. Small isolated patches may not be sufficient to support populations, but bees can use scattered habitat complexes (Evans, 2008; Goulson, 2010; Martin, M. et al., 2023; U.S. Fish and Wildlife Service, 2024b; Williams et al., 2014). Habitat loss due to native prairie conversion, pesticide use, livestock grazing, and urban development has been a significant factor in Montana. While no individuals have been detected recently in the Action Area, habitat features used by the species may be present.

# Chapter 4. ENVIRONMENTAL CONSEQUENCES

## 4.1Vegetation

The management practices implemented during this harvest operation would conform to the Forest Management Plan 2000 based upon ecosystem principles. Among other things it would:

- Move the forest closer to the desired recommended management variability (RMV) for the Jocko Landscape, based on the fire regimes and seral cluster distribution described in the *Flathead Indian Reservation Forest Management Plan* (FMP) (CSKT 2000).
- Reduce potential losses of stand inventory from, and increase stand resilience against forest diseases and pests such as Dwarf mistletoes, root rot fungi, bark beetles and defoliating insects.
- Enhance the productive state of the forest resource.
- Apply silvicultural prescriptions based on the principles of restoration, multiple-use and sustainable-yield.
- Provide income for the Confederated Salish and Kootenai Tribes and employment opportunities for Tribal members.

The timber sold within this sale would contribute approximately 4-6 MMBF to the annual allowable cut of 18.1 MMBF. The estimated value of the timber is $364,000 - $546,000 USD. These values are based on an estimated volume of 4-6 MMBF, which using a 6.5 Tons/MBF conversion rate equates to an estimated 26,000 – 39,000 Tons. Using current timber appraisals and green gate prices from local mills, the average rate for minimum stumpage is currently $14/T. Therefore, the value of this sale is estimated to be between $364,000 (26,000 T x $14) and $546,000 (39,000 x $14).

**Effects by Fire Regimes**

A combination of timber harvesting, understory thinning/slashing, machine piling, pile burning and understory burn treatments would be applied to stands across all fire regimes. These proposed treatments would create stands with characteristics more representative of those created by historic fire behavior and fire return intervals specific to each fire regime.

## Non-lethal Fire Regime

**Table 4.1** Impacts of vegetation treatments to the Non-lethal Fire Regime by Seral Cluster**.**

| FIRE REGIME A | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Seral Cluster | Desired Conditions | | | Exsisting Conditions | | | | Post-Treatment Conditions | | | |
| | Acre Range | | Percent | Acres | Percent | Deficiency Acres | Excess Acres | Acres | Percent | Deficiency Acres | Excess Acres |
| A1 | 59 | 176 | 5-15% | 29 | 2% | 30 | | 89 | 8% | | |
| A2 | 59 | 117 | 5-10% | 217 | 18% | | 100 | 514 | 43% | | 397 |
| B | 0 | 59 | 0-5% | - | 0% | 0 | | - | 0% | 0 | |
| C | 59 | 235 | 5-20% | - | 0% | 59 | | - | 0% | 59 | |
| D | 0 | 59 | 0-5% | 23 | 2% | | | 23 | 2% | | |
| E | 0 | 59 | 0-5% | 134 | 11% | | 75 | 134 | 11% | | 75 |
| F | 117 | 294 | 10-25% | 494 | 42% | | 201 | 393 | 33% | | 100 |
| G | 0 | 59 | 0-5% | 33 | 3% | | | - | 0% | 0 | |
| H | 0 | 59 | 0-5% | 244 | 21% | | 185 | 31 | 3% | | |
| I | 12 | 59 | 1-5% | - | 0% | 12 | | - | 0% | 12 | |
| J | 59 | 117 | 5-10% | - | 0% | 59 | | - | 0% | 59 | |
| K | 59 | 117 | 5-10% | - | 0% | 59 | | - | 0% | 59 | |
| L | 12 | 59 | 1-5% | - | 0% | 12 | | - | 0% | 12 | |
| TOTAL | | | | 1,174 | 100% | 229 | 561 | **1184** | **100%** | **200** | **571** |

There is some minor movement within the seral clusters of the Non-lethal fire regime. Most of these seral clusters currently have a deficit of acres, with only the B, D, and G seral clusters falling within the recommended management variability (RMV). Once implemented, prescribed treatments will move the A1, F, and H seral clusters into, or toward the RMV, through the use of Individual Tree Selection, Commercial Thin, Pre-commercial Thin, and Clearcut prescriptions. The A2 seral cluster will gain an excess of acres, moving it further outside of the RMV. Stands entering the A2 seral cluster are typically prescribed Seed Tree or Shelterwood treatments due to chronic Dwarf mistletoe or root disease infections. Effects of adverse movement will be relatively short term, as many of the existing A2 stands will move toward the B, C, or D seral clusters within 10-20 years, which will be a beneficial shift toward the RMV. These same effects will apply to the Mixed-lethality and Lethal fire regimes as well.

## Mixed Fire Regime

**Table 4.2** Impacts of vegetation treatments to the Mixed Fire Regime by Seral Cluster.

| FIRE REGIME B | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Seral Cluster | Desired Conditions | | | Exsisting Conditions | | | | Post-Treatment Conditions | | | |
| | Acre Range | | Percent | Acres | Percent | Deficiency Acres | Excess Acres | Acres | Percent | Deficiency Acres | Excess Acres |
| A1 | 69 | 344 | 5-25% | 52 | 4% | 17 | | 52 | 4% | 17 | |
| A2 | 69 | 137 | 5-10% | 604 | 44% | | 467 | 609 | 44% | | 472 |
| B | 69 | 137 | 5-10% | - | 0% | 69 | | - | 0% | 69 | |
| C | 206 | 412 | 15-30% | - | 0% | 206 | | - | 0% | 206 | |
| D | 69 | 137 | 5-10% | - | 0% | 69 | | - | 0% | 69 | |
| E | 0 | 69 | 0-5% | 89 | 6% | | 20 | 89 | 6% | | 20 |
| F | 137 | 344 | 10-25% | 629 | 46% | | 286 | 624 | 45% | | 281 |
| G | 206 | 412 | 15-30% | - | 0% | 206 | | - | 0% | 206 | |
| H | 0 | 69 | 0-5% | - | 0% | 0 | | - | 0% | 0 | |
| I | 14 | 69 | 1-5% | - | 0% | 14 | | - | 0% | 14 | |
| J | 69 | 137 | 5-10% | - | 0% | 69 | | - | 0% | 69 | |
| K | 69 | 137 | 5-10% | - | 0% | 69 | | - | 0% | 69 | |
| L | 14 | 69 | 1-5% | - | 0% | 14 | | - | 0% | 14 | |
| TOTAL | | | | 1,374 | 100% | 731 | 772 | **1374** | **100%** | **731** | **772** |

There is no movement within the seral clusters of the Mixed-lethality fire regime. Almost every cluster currently exists outside the RMV in either an excess or deficit of acres. However, as with the Non-lethal fire regime, stands within the A1 and A2 seral clusters will soon – within 10-20 years – shift into B, C, and D clusters through natural succession and Pre-commercial Thinning.

**Lethal Fire Regime**

**Table 4.3** Seral Cluster Analysis for Lethal (C) Fire Regime:

| FIRE REGIME C | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Seral Cluster | Desired Conditions | | | Exsisting Conditions | | | | Post-Treatment Conditions | | | |
| | Acre Range | | Percent | Acres | Percent | Deficiency Acres | Excess Acres | Acres | Percent | Deficiency Acres | Excess Acres |
| A1 | 180 | 450 | 10-25% | 139 | 8% | 41 | | 221 | 12% | | |
| A2 | 0 | 90 | 0-5% | 410 | 23% | | 320 | 630 | 35% | | 540 |
| B | 0 | 90 | 0-5% | 40 | 2% | | | 40 | 2% | | |
| C | 180 | 540 | 10-30% | 48 | 3% | 132 | | 48 | 3% | 132 | |
| D | 90 | 360 | 5-20% | 130 | 7% | | | 130 | 7% | | |
| E | 0 | 90 | 0-5% | 71 | 4% | | | 7 | 0% | | |
| F | 90 | 270 | 5-15% | 629 | 35% | | 359 | 449 | 25% | | 179 |
| G | 180 | 450 | 10-25% | 245 | 14% | | | 187 | 10% | | |
| H | 90 | 180 | 5-10% | 88 | 5% | 2 | | 88 | 5% | 2 | |
| I | 18 | 90 | 1-5% | - | 0% | 18 | | - | 0% | 18 | |
| J | 18 | 90 | 1-5% | - | 0% | 18 | | - | 0% | 18 | |
| K | 18 | 180 | 1-10% | - | 0% | 18 | | - | 0% | 18 | |
| L | 90 | 180 | 5-10% | - | 0% | 90 | | - | 0% | 90 | |
| TOTAL | | | | 1,800 | 100% | 319 | 679 | **1800** | **100%** | **278** | **719** |

As with the Non-lethal fire regime, there was minor movement among the seral clusters of the Lethal fire regime, mostly consisting of movement toward or within the RMV. The A2 seral cluster is the sole cluster to move away from the RMV. The cause and effects of this adverse movement are the same as with the other fire regimes.

## 4.2 Historic and Cultural Resources

Surveys and background research identified no known historic resources within the Area of Potential Effect, a determination of "No Adverse Effect" was made and concurred by the Tribal Historic Preservation Officer on August 18, 2025 (Appendix). Post operational field surveys may take place with members of Forestry and the Salish/Kalispell Cultural Committee.

The Tribal Archaeologist in agreement with the BIA Archaeologist obtained concurrence of a "No Adverse Effect" from the Tribal Historic Preservation Officer. Documentation is included in the Appendix.

## 4.3 Hydrology

**Description of Potential Impact Mechanisms**

Three primary concerns are analyzed related to impacts on water resources from the Proposed Action:

- Impacts to water quality as a result of sediment delivery (sedimentation) to all streams within and downstream of the MA.
- Impacts to water quantity as a result of modification of the flow regime (i.e., increased peak flows due to vegetation removal) that may cause channel instability in all streams within the MA.

- Impacts to compacting soils as a result of timber extraction. The sections below describe issues relevant to the evaluation of these impacts.

***Sedimentation***

Forest roads and ground-based timber harvest activities are significant sediment generators during timber harvests. Fine sediment deliveries into streams were evaluated for increases in road traffic (i.e., log hauling) using the WEPP: Road model. Background sediment delivery was quantified for all roads within 200 feet of streams, while sediment increases as a result of proposed actions were evaluated for haul routes within 200 feet of streams (Ketcheson and Megahan 1996; Rice 1979; Belt 1992). Sediment delivery from culvert installation/replacement activities were evaluated using culvert replacement and installation studies from adjacent federal agencies. Sediment deliveries into streams as a result of fuels reduction activities were evaluated using Disturbed WEPP. Sediment generation from landing zones and skidding activities were not evaluated because each sale is provided with BMPs and SMZ buffers. Given that timber harvest mitigation measures are implemented correctly, sediment deliveries into streams will be undetectable by background sediment functions (Belt 1992; Cristan et al. 2016).

***Fuels Proposal***

Fuels reduction has become a popular solution in forest management following decades of high-intensity wildfires driven by a century of fire exclusion. Common practices in reducing fuels include precommercial thinning, prescribed burning, and mechanical mastication. In many aspects of fuels reduction, objectives are to advance commercial timber by fostering fire-resilient timber stands (Klimas et al. 2020).

The proposal outlines precommercial treatments over 854 acres and includes thinning, slashing, and planting. Where appropriate for each method, site preparation may involve understory burning mechanical scarification, mastication, and piling and burning. Proposed units target objectives to achieve grizzly bear forage enhancement, aspen stand enhancement, western white pine restoration, and hazardous fuel reduction in the wildland-urban interface. These will use silvicultural methods similar to standard commercial harvests, with certain units (aspen, grizzly forage, and white pine restoration) receiving special prescription provisions. Slash generated from treatments will either be left for prescribed burning or piled and burned later.

Disturbed WEPP model scenarios were created to simulate proposed fuels activities within 200 feet of streams. All scenarios output 0 tons of sediment to be delivered to streams. The moderately sloped topography coupled with increased SMZs for the timber sale prevent detectable amounts of sediment to be delivered as a result of prescribed fire and mastication machinery.

***Roads***

Roads are among the largest contributors of legacy sediment input into streams and wetlands. Fine sediment from unpaved roads often enter stream channels at stream crossings or from drainage ditches connected to streams (Luce and Black 1999; La Marche and Lettenmaier 2001; Sugden and Woods

2007). WEPP:Road was used to address sediment delivery into streams from roads associated with proposed actions.

New Road Construction and Subsequent Culvert Installation

Alternative 2 proposes construction of 3.07 miles of temporary roads, all of which will be decommissioned after harvest activities. Of this total, only 0.10 miles are linked to delivering sediment into streams, while the remaining road segments are established more than 200 feet from perennial and intermittent streams. The segment of road to be reopened is evaluated using a study by a Forest Service study on sediment delivery into streams after reopening forest roads. One temporary culvert installation is proposed on a perennial stream to support a single segment of temporary road. The proposed structure is a bottomless arched culvert, selected to maintain the natural streambed and reduce in-channel disturbance.

For the road reopening component, a USDA Forest Service study in the Virginia Piedmont measured annual sediment delivery at road approaches to stream crossings. Bare, reopened road segments delivered approximately 98 Mg/ha/year, compared to 13 Mg/ha/year for gravel-surfaced approaches—nearly seven times higher for bare roads. Using this rate, reopening the 0.10-mile bare road segment within 200 feet of the unnamed perennial stream is projected to contribute approximately 108 tons of sediment over the course of the project (Brown et al. 2013).

For the culvert installation component, a Flathead National Forest study measured sediment delivery into streams from culvert projects. Installation of four-foot-wide round culverts on shallow stream channels delivered a maximum of 0.9 tons of sediment to streams. These estimates were derived from round culverts and should be considered conservative for bottomless arch culvert installations, which generally disturb less bed material and deliver less sediment. As discussed in more detail under Culvert Removal and Replacement, the same study also assessed sediment delivery from culvert removal and replacement projects, documenting higher sediment pulses than those observed during initial installations. Subsequently, 0.9 tons of sediment is projected to be delivered into the unnamed perennial stream during installation, and 4.4 tons following its removal.

Road Reconstruction and Maintenance

Proposed actions for Alternative 2 include a road maintenance package that would improve road conditions prior to hauling. Road maintenance includes 3.32 miles of light reconstruction, 0.85 miles of heavy reconstruction, 9.91 miles of heavy preparation, and 18.3 miles of light preparation. While some of these road maintenance activities provide a multi-year benefit to road drainage, short-term increases in sediment generation are anticipated as a result of these activities. Road disturbance from grading and ditch cleaning typically results in short-term increases in fine sediment. Post-road maintenance sediment levels have been observed to subside 60%-80% within the first two years after blading (Luce and Black 1999; Luce and Black 2001; Sugden and Woods 2007). The WEPP:Road model increased road widths and traffic levels to predict sediment delivery as a result of road maintenance for road segments within 200 feet of streams. GIS analysis estimates that approximately 0.38 miles of roads within 200 feet of streams will receive maintenance as a result of the proposed action Subsequently,

road maintenance activities are predicted to deliver 18.9 tons of fine sediment into streams and wetlands.

Road Recontouring

The sale proposes to recontour 4.18 miles of forest road in conjunction with recontouring 3.07 miles of temporary roads. Recontouring forest roads has been shown to reduce erosion, reestablish natural watershed hydrologic patterns, mitigate ecosystem discontinuity, and improve aquatic system health (Foltz, Copeland, and Elliot, 2009; Bell, 2000; Switalski et al., 2004). In areas where road densities exceed those outlined in the CSKT Forest Management Plan, road recontour is often a component of the proposed action. Such actions improve aquatic habitat and restore connectivity after removing stream crossing structures.

A study on the Lolo National Forest investigating road recontouring effects found that recontoured roads initially had higher surface runoff and sediment production than existing roads. Significantly, runoff rates and sediment delivery to streams receded to natural slope conditions after one year of recontouring. Reductions in sediment delivery were connected to revegetation in the recontoured area. The study demonstrates that forest managers must consider short-term (less than one year) sediment deliveries as a result of road recontouring activities (Hickenbottom 2000).

The WEPP: Road model was used to quantify potential short-term increases in sediment delivery into streams from road decommissioning. Specifically, road recontour activities are only evaluated if segments are within 200 feet of streams or less if observed to not have connection to adjacent streams. Sediment deliveries are estimated for 500 feet of road segments prepped for recontouring. Model outputs indicate that road recontouring efforts are projected to deliver 0.66 tons of fine sediment per year in streams. After one year, sediment deliveries are expected to return to natural conditions following the findings from Hickenbottom (2001).

Culvert Removal and Replacement

Culverts are installed on forest roads to drain roads and allow for safe traffic crossings. The longevity of steel culverts is often fifty to seventy-five years, making culvert replacement critical for water conveyance (USFWS 2024). The onset of climate change has significantly altered precipitation regimes with intense flooding becoming more common. This has consequently reduced the conveyance capacity of many culverts in the United States. The majority of culverts in the MA are in fair condition, while select culverts which have exceeded their life span are proposed for replacement and/or maintenance. Potential effects of undersized and undermaintained culverts are not limited to erosion and stream crossing obliteration from flooding.

Culvert installation and removal activities can generate short-term pulses of sediment to adjacent streams, with removal generally producing the largest sediment inputs. A study in the Flathead National Service quantified fine sediment delivery from various culvert projects, considering factors such as excavation volume and culvert position relative to the road prism. Sediment delivery from culvert replacement ranged from 0.4 to 1.4 tons, with levels returning to pre-disturbance conditions

within 24 hours. In contrast, removal of a 4-foot-diameter, 24-foot-long culvert generated 4.4 tons of sediment. Consistent with Hickenbottom (2001), the study also found that targeted post-construction BMPs such as straw wattles, seeding, and slash application effectively reduced sediment delivery within a year of project completion.

Projected sediment deliveries were assessed for two culverts proposed for replacement on intermittent streams. Based on erosion rates from the Flathead National Forest monitoring study, replacement activities could contribute an estimated 2.6 tons of sediment to adjacent waterways. Implementation of recommended BMPs is expected to reduce these volumes.

Log Haul

Increased traffic levels in each watershed will generate fine sediment that subsequently enter streams where segments are within 200 feet of streams. Total sediment deliveries are predicted to increase from 1.4 tons per year (from existing roads) to 3.5 tons per year. Such increases are anticipated to only occur during phases of elevated log hauling. Although short-term increases of sediment delivery are expected because of proposed sediment disturbances, long-term benefits are expected with road improvements. Limited channel scour may occur during high intensity precipitation events or elevated snowmelt; the magnitude of this process is more related to a potential driving hydrologic event, rather than the proposed action. Furthermore, impacts to streams in the watershed are not anticipated to change from the existing condition.

**Table 4.4.** Summary of sediment yield for existing conditions and proposed actions.

| **Fine Sediment Delivery to Streams (tons/year)** | **Existing Roads** | **Project Harvest and Vegetation** | **New Road Construction** | **Culvert Replacement** | **Temporary Culvert Install and Removal** | **Road Maintenance** | **Haul Route Traffic** | **Road Recontouring** | **Total Sediment Yield for Alternative 1 and 2** |
|---|---|---|---|---|---|---|---|---|---|
| Alternative 1 | 12.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12.0 |
| Total for Alternative 2 | 12.0 | 0.0 | 108 | 2.6 | 5.3 | 18.9 | 3.5 | 0.66 | 139 |
| *Short-term increases are generally expected to occur for 1-3 years depending on activity. Timber operations (3 years); New Construction (1 year); Haul (3 years); Reconstruction (1 year); Road Decommissioning (1 year); Crossing Replacement (1 year)* | | | | | | | | | |

***Modification of Flow Regime***

Forest management practices are understood to deviate hydrologic processes, both spatially and temporally. Changes in hydrologic regimes span from peak flows to baseflow conditions, with both affecting the water budget through timing and magnitude. Subsequently, channel morphology degradation may occur as a result of timber extraction and forest road construction. Hydrologic deviations are evaluated by completing an equivalent clearcut analysis (ECA) water yield model

(USDA-FS 1991) and by evaluating drainage density, both with and without road networks. Mitigation measures do not inform or assist the model. Therefore, model outputs only provide a measure of relative change between pre-disturbance, existing conditions, and proposed conditions.
The ECA model accounts for vegetative recovery as a result of historical cutting units. Peak water yield increases occur immediately following timber removal and continue to decrease as stands age, or "recover". Vegetative-hydrologic recovery curves follow studies by Galbraith (1973), who investigated post-harvest forest transpiration recovery rates for forest habitat types found on the Kootenai National Forest. Vegetative types are classified into nine hydrologic recovery curves. Habitat types for curves 1 through 5 recover in 60 to 100 years, respectively, after timber extraction. Curves 6 through 9 recover complete transpiration beyond 100 years.

Roads are considered constant in underpinning the duration of hydrologic impacts of the proposed sale. Roads hydrologically recover over decades to see minor improvements in streamflow reduction. Additionally, the ECA model does not account for abandoned roads which have revegetated from decades of non-use. Still, studies suggest roads have persistent impacts to hillslope hydrology, where road prisms intercept groundwater and generate more surface water than precipitation-induced runoff via road prisms. This conversion of groundwater to surface water alters baseflow regimes later in the season (Bowling and Lettenmaier 1997; La Marche and Lettenmaier 2001). Maintaining constant road effects throughout the duration of the vegetative hydrologic recovery of the watershed is warranted due to minimal recovery, even when abandoned.

The proposed action includes an estimated 5 MMBF of timber extraction and precommercial prescriptions across a wide spatial scale encompassing the upper Finley Creek watershed. Approximately sixty percent of harvest activities within the watershed analyzed are uneven-aged management. A moderate portion of even-aged management was initially thought to potentially alter the natural flow regime in areas with evidence of historic harvest; however, results presented in the following section indicate this effect is unlikely. Water yield analyses for the proposed actions are summarized in Table 6.0.

**Table 4.5 Summary of Water Yield Analysis for proposed action (full analysis summary attached)**

| Watershed | Proposed action and existing condition equivalent clearcut acres | | Proposed action and existing condition water yield | | | |
|---|---|---|---|---|---|---|
| | Road prisms and harvest units | | Annual increase | | Peak month increase | |
| | Acres (ac) | % of watershed | acre-feet (af) | % increase | acre-feet | % increase |

| | | | | above natural | | above natural |
|---|---|---|---|---|---|---|
| Finley Creek above E Canal | 3149 ac | 11% | 286 af | 3.8% | 112 af | 4.8% |

A 4.8% monthly peak flow increase is projected for the alternative action coupled with the existing condition. The Flathead Indian Reservation Forest Management Plan states that "[6)] Allowable peak flow increases as determined by the equivalent clearcut acreage method shall not exceed 18%" (pp 287). Peak flow increases anticipated from the proposed action alternative are below FMP thresholds.

While not mapped or included in the NRCS soil map for the watershed, erosive volcanic ash is observed in the watershed divide of the MA. These underlying soils have low undisturbed bulk densities and are highly susceptible to mechanical compaction to levels that limit growth (Page-Dumroese, 1993). Compaction reduces the growth of many commercial timber species, and has been demonstrated to persist for decades (e.g. Froehlich et. al., 1985). Compacted soils induce surface runoff and may compromise water yield values not quantified in the ECA model. It is common to harvest timber on a seasonal basis over andic soils, particularly when soils are dry and less prone to compaction.

Anticipated water yield impacts are within allowable tolerance limits for the watersheds analyzed. Cumulative effects would not be expected to translate downstream to tributary waterbodies. Data indicates that the quantity of water would increase by 11 percent of historic conditions and 1 percent from the existing condition. Peak flow is modeled to increase by 4.8 percent from historic conditions and 1 percent from existing conditions. Though the proposed actions will influence changes from the historical condition of the Finley Creek watershed, actions will be undetected from existing conditions.

## 4.4 Fisheries

Relevant issues and effects of concern for fisheries from the proposed action primarily include changes in water and sediment delivery to streams. Logging affects fish habitat and fish through a complex of mechanisms that result in changes in water, sediment, solar, and organic inputs (e.g., leaf litter and woody debris) to stream habitats. Timber harvest and the construction, maintenance, and use of associated roads and log landings have long been recognized as major contributors to increases in stream sediments (Lynch et al. 1977). A major source of sediment in logged watersheds is road-surface runoff (Scrivener and Brownlee 1989).

Increased sedimentation can adversely affect populations of cutthroat trout in a variety of ways. Sedimentation can negatively influence primary productivity and abundances of aquatic

macroinvertebrates, with the latter being prey for trout. Sedimentation also adversely affects spawning gravels. Fine sediment accumulations in the interstitial spaces of gravels reduces permeability and porosity, which in turn diminishes intragravel flow and dissolved oxygen levels in spawning redds (Woods 1980), and can even trap emerging alevins in spawning habitats (Scrivener and Brownlee 1989). Increased fine sediment inputs can also fill pool habitats, and pools are important holding areas for both adult and juvenile fish.

The proposed project entails road maintenance, building, and decommissioning along with timber harvest and hauling, and it may therefore result in short-term, localized minor increases in the risk of sediment introduction to waterways and increased water yield to streams within the management area. Nonetheless, we do not anticipate that these changes will be of sufficient magnitude or duration to result in a major shift in habitat conditions or otherwise measurably diminish habitat quality in the drainage. Streamside buffers included in this sale should negate any stream warming effects and, along with implementation of CSKT standard BMPs, should greatly reduce the potential for sedimentation resulting from timber harvest and hauling.

Mapped road densities, including unmapped roads, are high in many individual sections of this management area, and although roughly 5.3 miles of road would be recountored as part of the proposed action, road densities would nonetheless remain relatively high. Given this, negative and additive effects of the Proposed Action should be minimized through the use of road and harvest BMPs and by implementing the proposed minimization measures and procedures (road closure, road removal, erosion control measures).

## 4.5 Wildlife Species of Concern including Threatened and Endangered

### 4.5.1 Grizzly Bear

*Exposure to Stressors*

Grizzly bears may be exposed to short-term stressors from the FSTH and HFR in the FSMA through increased human activity, noise, and vegetation removal associated with mechanical harvest, PCT, and HFR operations. Exposure would occur during active implementation, likely between spring and fall months, overlapping with the grizzly bear's active season on the FIR. Bears are most likely to encounter project-related disturbances while foraging or moving along riparian corridors, particularly near any watercourses and highway 93 wildlife crossing corridors within the Action Area. Frog creek, Sim-heh creek, and portions of Finley creek run through the FSMA. There is record of multiple collared grizzly bears utilizing this area. Given the proximity to occupied habitat and known movement corridors, there is a real potential for grizzly bears to be present within the project area during the implementation period, and thus a risk of incidental encounter or behavioral disturbance exists.

*Response to Stressors*

Grizzly bears exposed to FSTH-related activities may respond with temporary avoidance behavior, displacement from foraging areas, or altered movement patterns. Although grizzly bears may occur within or adjacent to the Action Area, particularly during seasonal movements, the potential for incidental exposure to human activity is present. However, any such encounters are expected to be insignificant due to the short duration, localized nature, and limited intensity of project operations as well as mitigation measures aimed at reducing the chance of a negative encounter. Timing mitigation measures that reduce the chance of an early spring or summer encounter at lower elevations. Alternatively, there are timing restrictions on proposed actions at higher elevations in the FSMA during the winter to reduce the chance of displacing grizzlies about to den or those that have already located their den sites within the higher elevational portions of the FSMA. The likelihood of direct harm or harassment is discountable because the area lacks known den sites, reduces the total open road density, and the project does not include new permanent infrastructure or induce further human settlement.

*Effects on Habitat*

The goal of grizzly bear management on the FIR is to maintain a viable grizzly bear population in the Mission Mountains, maintain the habitat required for a viable bear population, minimize human-bear competition, and manage natural resources to minimize adverse effects and maximize benefits for grizzly bears while meeting the natural resource needs of the Tribes as laid out in the Flathead Indian Reservation Grizzly Bear Management Plan (1981), as well as maintaining a recovered, genetically diverse grizzly bear population throughout the DMA (including Zone 1) while maintaining demographic and/or genetic connectivity with other designated ecosystems such as the Cabinet-Yaak, Bitterroot, or Greater Yellowstone Ecosystems (NCDE Subcommittee, 2019).

Human-caused mortality is considered one of the most significant contributors to grizzly bear recovery. The potential for human-bear interactions and potential for mortality may increase with the logging activity in a known grizzly bear occupancy area (such as Zone 1). This may be due in part to an increase in attractants, changes in access due to temporary or permanent road construction, as well as the logging activity and timing of the proposed action.

The overall action area will encompass approximately 4,866 acres in size with 2,620 acres of actual harvest or HFR. The FSMA contains a wide diversity of habitats, conditions, and characteristics across 2,900 feet of elevation gradient. Lowland forests in the foothills of Schley consist of dry ponderosa pine and Douglas-fir. Mid-elevation stands mostly consist of mixed ponderosa pine, Douglas-fir, and western larch forests, with intermixed lodgepole pine throughout. Draws, northern aspect slopes, and sites with higher moisture availability contain many grand fir stands, with western red cedar being common near streams, springs, and moist or shaded slopes and draws. Higher elevation stands near the Frog communications tower have a high density of lodgepole pine. Subalpine fir and grand fir become co-dominant in the remaining overstory near the peak of the mountain, along with Douglas-fir and western larch. Serviceberry, chokecherry, huckleberry, elderberry, whortleberry, buffaloberry, and hawthorn berries along

with other sources of food for foraging including but not limited to animal matter, insects, roots, bulbs, tubers, seeds, and fungi which are necessary resources for bears to enhance caloric intake to endure the winter months (NCDE Subcommittee, 2019). Implementation of the project is expected to result in temporary disturbance to grizzly bears within the project area. Individuals traveling through the area may be displaced in the short term as they avoid active logging operations, and the availability of foraging resources within treatment units will be temporarily reduced until vegetation recovers.

The potential for disturbance will be highest during the first three years of the project during overstory and understory removal in harvest units, road construction and maintenance, scarification, and thinning and the use of heavy equipment. The effects would be temporary and the intensity of disturbance will decrease over time during follow up activities with less heavy equipment use, smaller human presence, and less habitat disturbance.

Servheen's Grizzly Bear Ecology and Management in the Mission Mountains (1981) states that grizzlies prefer to den on steep slopes between 6,500 and 8,100 feet in elevation. The FSMA reaches a peak elevation of around 6,500 feet in elevation. While this elevation is likely not suitable for grizzly bear denning habitat, many areas have snow that persists well into the spring making it more difficult for anthropogenic access, ideal for bear den selection. Additionally, this area is a movement corridor between the Rattlesnake mountains and the Reservation Divide Mountain Range with sufficient elevations to support denning in areas directly adjacent to the borders of the FSMA. Recent research and collar data collected in 2024–2025 documents grizzly bear denning activity occurring less than five miles from the FSMA. Because bears give birth in dens, cub loss from winter disturbance and den abandonment can have a significant fitness cost to the population.
Activities associated with temporary access changes to open road density and total road density as well as secure core habitat will be limited to the duration of the proposed action. Though there is 3.18 miles of new road construction proposed, the overall road management plan will reduce the miles of open road within the project area (from 5.45 mi/mi$^2$ to 4.92mi/mi$^2$). Temporary, and restricted roads used for project activities would remain closed to public motorized use. All project associated temporary roads would be decommissioned after the project and follow up activities are complete in accordance with guidelines set forth in the CSKT FMP (2000 and later revisions).

For the purposes of reducing road density, an unspecified amount of "pioneered" roads and off-road trails will be obliterated or recontoured during harvesting activities. Whether done intentionally or as a product of harvesting and timber skidding, these unmapped roads create unpermitted access between existing roads and are disruptive to wildlife and the landscape. Their use will be discontinued by obstructing entrances and obliterating road prisms. The general locations of some of these pioneered roads are as follows: One road runs between the A-1010, 1020, and 1040 roads, and another creates access to the Charity communications tower from the A-1090 road. Others are located within Unit 590603 in Schley.

Additionally, an as-of-yet unspecified number of roads in adjacent management areas will be selected and closed to offset the addition of new permanent roads in the FSMA.

*Effect Determination*

Implementation of the proposed project may cause short-term disturbance to grizzly bears as they avoid areas of active logging. Seasonal timing restrictions will be applied to minimize disturbance during sensitive periods. At higher elevations, operations will be excluded during the denning period to avoid disturbing denning females. At lower elevations, logging will occur primarily in the winter when soils are frozen or snow-covered. This timing reduces disturbance to soils and forage resources, and minimizes the potential for bear encounters since most bears are denned during this period.

In addition to timing adjustments, the project will reduce road density and associated human access within the analysis area, thereby lowering the potential for human–bear conflicts and increasing the availability of secure habitat. In the long term, forest treatments will create more open stand conditions that are expected to promote the growth of berry-producing shrubs, forbs, and graminoids. There are also specific units that have been proposed for grizzly bear forage enhancement and aspen enhancement, creating better foraging habitat for grizzlies. These changes will increase the abundance and diversity of foraging resources available to grizzly bears as vegetation recovers following treatment.

With the application of seasonal restrictions, reduced human access, and long-term improvements to habitat and forage, the proposed action **may affect, but is not likely to adversely affect grizzly bears**.

### 4.5.2 Canada Lynx

*Exposure to Stressors*

In western Montana, Canada lynx are most often found between approximately 4,200 feet and 5,900 feet, with some locations going up to 6,900 feet. While lynx do not appear to avoid forest roads, there exists a risk of disturbing a denning female lynx with kittens, especially in those areas above 5,000 in the FSMA. Because of this access and timing of operations presents a stressor to lynx populations in the FSMA. The most sensitive time for this to happen would be in the late April to late May, when removal of understory and downed woody debris in the higher elevational portions of the FSMA could disturb a denning lynx.

*Response to Stressors*

In the event that a lynx den were disturbed from any of the proposed actions, the abandonment or loss kittens would result. To mitigate this, the FSTH and HFR activities will have timing

restrictions preventing timber harvest, HFR, or PCT between November and the end of May above approximately 5,000 feet to prevent any potential conflict with a denning lynx.

*Effects on Habitat*

Canada lynx require boreal or subalpine forests with dense understory vegetation and persistent winter snow to support their primary prey, the snowshoe hare (Canada Lynx Conservation Assessment and Strategy [LCAS], 2013). Much of the FSMA lies within the Charity Lynx Analysis Unit (LAU). LAUs are designed to facilitate the evaluation and monitoring of management activities on lynx habitat. While they are not intended to depict actual home ranges, LAUs approximate the size of a female lynx home range and encompass the full suite of year-round habitat components. Given this, lynx presence within the FSMA is a reasonable possibility, particularly in the higher elevation units. While there has been no explicit designation of critical lynx habitat on the FIR, this does not preclude their presence, nor does it preclude the necessity of accounting for habitat changes when evaluating the effects of the proposed activities in the FSMA. According to the LCAS (2013), it is imperative to maintain mature multi-story conifer stands that have the capability to provide dense horizontal cover. This is especially true in regards to the designated LAUs on the FIR. In order to maintain the amount and distribution of suitable foraging habitat for lynx, we manage so that no more than 30% of the area within an LAU is in an early stand initiation structural stage or has been silviculturally treated, thus removing horizontal cover necessary for sufficient snowshoe hare abundance. Additionally, there is a managementinduced limit to the percentage of area that can be in early stand initiation structural stage or has had horizontal cover removed, this limit is 15% in a 10-year period.
The proposed activities, including hazardous fuels reduction (HFR) and precommercial thinning (PCT), would reduce horizontal cover across 1,168 acres of the 8,642-acre Charity LAU. This comes out to 13.5% of the Charity LAU being treated, under the 15% maximum. This cover is critical for snowshoe hare habitat, and its reduction may lower hare abundance and, by extension, prey availability for lynx. Additionally, treatment activities would reduce the availability of coarse woody debris such as downed logs and root wads that provide important denning structures for lynx.

*Effect Determination*

The proposed project may result in short-term impacts to lynx and lynx habitat within the FSMA by displacing female lynx with litters and reducing horizontal cover and coarse woody debris important for snowshoe hare foraging and lynx denning. However, several conservation measures have been incorporated to minimize the potential for adverse effects.

First, seasonal timing restrictions will be applied to eliminate the risk of disturbing denning females with kittens. No timber harvest, hazardous fuels reduction, or precommercial thinning will occur above 5,000 feet in elevation between November 1 and May 31. This restriction ensures that activities will not overlap with the denning season, thereby reducing the likelihood of direct take associated with den disturbance or abandonment.

Second, the project will comply with the standards outlined in the Canada Lynx Conservation Assessment and Strategy (2013). Treatments within the Charity Lynx Analysis Unit (LAU) will not exceed 15 percent of the LAU in any 10-year period, and no more than 30 percent of the LAU will be in an early stand initiation structural stage or otherwise lacking horizontal cover at any one time. These thresholds are designed to maintain sufficient foraging habitat for snowshoe hare and the distribution of suitable lynx habitat across the landscape.

Third, the project will adhere to coarse woody debris retention requirements outlined in the CSKT Forest Management Plan (2000), including retaining a minimum of one downed log greater than 15 inches DBH per acre. This measure will help preserve potential lynx denning structures and maintain habitat complexity following treatment.

Although the proposed activities will reduce horizontal cover and downed woody material in some treatment units, the combination of seasonal restrictions, adherence to LAU thresholds, and coarse woody debris retention will minimize risks to lynx. In the long term, the creation of more diverse forest structure is expected to improve prey availability by promoting regeneration of shrubs and other understory vegetation important to snowshoe hare populations. These treatments will also reduce the risk of catastrophic or stand-replacing wildfire that could otherwise remove extensive areas of lynx habitat from the LAU.

Based on the incorporation of timing restrictions, habitat thresholds, coarse woody debris retention, and the reduction of wildfire risk, the proposed action **may affect, but is not likely to adversely affect Canada lynx**.

### 4.5.3 North American Wolverine

*Exposure to Stressors*

Wolverines are habitat specialists requiring large, remote, high-elevation (5,500-11,500 feet) landscapes with persistent late spring snow cover for denning and reproduction (U.S. Fish and Wildlife Service, 2023). While there have been research activities that have documented wolverine in areas adjacent to the FSMA action area, most of the FSMA Action Area is situated at elevations below 5,000 feet in the Reservation Divide Mountains and lacks the snow-retentive features and rugged terrain associated with wolverine habitat. Although it is possible that a dispersing individual could move through the lower elevations of the project area, the probability of exposure to stressors associated with thinning operations is extremely low and would be incidental and short in duration.

*Response to Stressors*

Wolverines have large home ranges (100-300 sq. miles) and need large tracts of undisturbed, roadless wilderness as they are highly vulnerable to human disturbance. Research suggests that wolverines select habitat primarily by balancing avoidance of disturbance and food availability. Seasonal movements are associated with snow cover and temperature, with wolverines moving to

higher elevations during summer and lower elevations during winter, while usually remaining within the elevation band listed above. Because a majority of the area is below 5,000 feet in elevation, we don't expect to displace wolverine due to increased activity. Those areas above 5,000 feet that have the potential to hold enough late-spring snow to support denning activities will have timing restrictions that reduce the small chance of disturbing a denning wolverine in late spring.

*Effects on Habitat*

The majority of the FSMA does not contain habitat suitable for denning or for long-term occupancy by wolverines. The lower-elevation ponderosa pine, Douglas-fir, grand fir, and spruce forests and fragmented landscape of the Action Area are not consistent with the high-elevation talus slopes and late-spring persistent snow cover that wolverines depend on. No critical habitat for wolverines has been designated. Timber harvest, HFR, and PCT activities will not alter or reduce any existing high-quality habitat for this species. Wolverine denning does require horizontal structure and down and woody debris, these needs will be mitigated by CSKT FMP (2000) requirements for leaving coarse woody debris.

*Effect Determination*

The proposed project may result in short-term disturbance if a wolverine were to disperse through the FSMA. However, the majority of the Action Area is located below 5,000 feet and does not provide the high-elevation, snow-retentive habitat typically used by wolverines for denning or long-term occupancy. For the limited areas above 5,000 feet that may possibly retain late-spring snow capable of supporting denning, seasonal timing restrictions will be applied. No timber harvest, HFR, or PCT will occur in these areas during the denning period, thereby eliminating the potential for disturbing reproductive females or causing den abandonment.

In addition, the project will adhere to coarse woody debris retention standards outlined in the CSKT Forest Management Plan (2000), including the requirement to retain at least one downed log greater than 15 inches DBH per acre. This practice will preserve some limited horizontal structure important for denning habitat and maintain microsite complexity within treated units. Given that most of the project area lacks suitable denning habitat, combined with the application of highelevation timing restrictions and coarse woody debris retention measures, the potential for adverse effects to wolverines is extremely low. Accordingly, the proposed action **may affect, but is not likely to adversely affect wolverines**.

### 4.5.4 Yellow-billed Cuckoo

*Exposure to Stressors*

Yellow-billed cuckoos nest from approximately mid-June through mid-August, typically in large, interconnected riparian stands of cottonwood and willow. Within the FSTH Action Area, this type of habitat is largely absent due to the predominance of conifer forest. Two proposed treatment

units contain small aspen stands that provide some structural characteristics suitable for nesting or foraging, but the total extent of this habitat is minimal and highly fragmented. As a result, the potential for exposure to project activities during the breeding season is very limited.

*Response to Stressors*

Yellow-billed cuckoos are generally sensitive to habitat disturbance, particularly during the breeding season when they rely on extensive, contiguous riparian corridors for nesting and foraging. However, given the general deficiency of suitable habitat within the Action Area, specifically the lack of large, interconnected cottonwood and willow stands and no recorded occurrences of the species in the Action Area, it is highly unlikely that individuals would be present to respond to stressors. To mitigate this, the two proposed units containing aspen habitat elements with structural characteristics potentially suitable for yellow-billed cuckoo will be restricted to winter season operations only (November 30-April 1). Consequently, no measurable stressor-response pathway is anticipated for the yellow-billed cuckoo in association with the proposed action.

*Effects on Habitat*

Yellow-billed cuckoos require extensive, interconnected riparian forests of cottonwood and willow to support breeding and foraging. Within the FSTH Action Area, this type of habitat is absent, with the exception of two small aspen stands located within proposed treatment units. While these stands do not meet the full habitat requirements of the species, the prescriptions proposed for these units are designed to **enhance aspen habitat** by reducing conifer competition, improving light availability, and stimulating aspen regeneration and vigor. These actions are expected to increase structural diversity, promote suckering and stand expansion, and improve long-term habitat conditions.

In addition, CSKT Forest Management Plan Best Management Practices (BMPs) will be implemented within Streamside Management Zones (SMZs) to protect riparian vegetation and maintain riparian function. These practices will ensure that the limited areas with potential habitat elements are not degraded. Overall, the proposed treatments are expected to either maintain or improve the condition of marginal habitat within the Action Area, while the lack of high-quality, large-scale cottonwood–willow riparian systems precludes significant effects to yellow-billed cuckoo.

*Effect Determination*

The proposed project is not expected to have any effect on yellow-billed cuckoo. Suitable breeding habitat for this species is limited to large, interconnected riparian cottonwood and willow complexes, which are absent within the FSTH Action Area. The two proposed treatment units that contain small aspen stands provide only marginal structural elements, and prescriptions in these units are designed to enhance aspen vigor and stand condition over the long term. Seasonal restrictions requiring winter-only operations (November 30–April 1) will further ensure that no activities occur during the nesting period.

Implementation of CSKT Forest Management Plan Best Management Practices (BMPs) within Streamside Management Zones (SMZs) will protect riparian vegetation and maintain riparian function. Given the absence of suitable habitat at the scale required by the species, the lack of documented occurrences within the Action Area, and the application of habitat protections, the proposed action will have **no effect** on yellow-billed cuckoo.

### 4.5.5 Spalding's Catchfly

*Exposure to Stressors*

Within the FSTH Action Area, potential habitat for Spalding's catchfly is extremely limited due to the predominance of closed-canopy conifer forest. The primary stressors associated with project activities include direct disturbance of individual plants or suitable habitat through soil compaction, mechanical harvest, or understory burning during the growing and seed-setting period. Additional possible stressors include loss of suitable habitat to invasive weeds and the potential introduction or spread of weeds into disturbed areas.

*Response to Stressors*

If individuals were present, project activities conducted during the active growing season (July–September) could result in trampling, crushing, or removal of plants, and could reduce reproductive success. Habitat suitability could also be diminished if invasive plants were introduced or spread into disturbed areas, outcompeting native bunchgrasses and forbs. To mitigate these risks, the project will implement CSKT Forest Management Plan Best Management Practices (BMPs), including weed management protocols and restrictions on operations during spring break up conditions to minimize soil disturbance. These measures reduce the potential for invasive species establishment, limit ground compaction, and protect fragile forb and bunchgrass understories.

*Effects on Habitat*

The proposed action will not significantly alter the limited areas of potential habitat for Spalding's catchfly within the FSTH. Prescriptions that reduce canopy closure and promote understory vigor are expected to benefit native bunchgrasses and forbs over the long term by reducing competition from shade-tolerant shrubs and conifers. In combination with weed management BMPs, restrictions on logging during spring breakup, and soilprotection measures, the proposed activities are expected to maintain or improve the suitability of potential habitat and limit the risk of invasive plant establishment.

*Effect Determination*

Given the absence of documented populations within the Action Area, the limited extent of suitable habitat, and the application of timing restrictions, weed management BMPs, and soil

protection measures, the potential for adverse effects to Spalding's catchfly is extremely low. Therefore, the proposed action will have **no effect** on Spalding's catchfly.

### 4.5.6 Whitebark Pine

*Exposure to Stressors*

The proposed project area lies largely below the typical elevational range for whitebark pine and is dominated by mid-elevation mixed conifer forest types. Comprehensive field surveys conducted in the FSMA did not identify any whitebark pine individuals or stands within the Action Area. As a result, there is no pathway for exposure to project-related stressors such as tree removal, soil disturbance, or altered fire regimes.

*Response to Stressors*

Because no individuals or stands of whitebark pine occur within the Action Area, there is no potential for response to stressors associated with the proposed activities.

*Effects on Habitat*

The FSMA contains limited potential habitat at elevations or site conditions suitable for sustaining whitebark pine. Accordingly, the proposed action will not alter or reduce habitat quality for the species.

*Effect Determination*

Given the absence of whitebark pine within the FSMA and the discountable amount of suitable high-elevation habitat, the proposed action will have **no effect** on whitebark pine.

### 4.5.7 Monarch Butterfly

*Exposure to Stressors*

Monarch butterflies require milkweed (*Asclepias* spp.) for reproduction, as it serves as the obligate host plant for egg-laying and larval development. Adults also depend on a wide variety of nectar-producing forbs throughout the breeding and migration season. Within the FSTH Action Area, milkweed distribution is generally limited, and might be found in open meadows, riparian edges, roadsides, and disturbed sites, while the majority of the project area is dominated by conifer forest with limited potential habitat. Potential stressors from the proposed action include vegetation removal, prescribed burning, or ground disturbance that could temporarily reduce localized milkweed or nectar availability.

*Response to Stressors*

If milkweed occurs within treatment units, project activities could temporarily reduce host plant availability or damage plants during implementation, which may in turn reduce reproductive

potential in the short term. However, monarchs and their host plants are disturbance-adapted. Reductions in canopy cover and low- to moderate-intensity understory burning are expected to improve habitat conditions over the long term by increasing sunlight, stimulating early-successional vegetation, and promoting both milkweed regeneration and nectar-producing forb abundance.

*Effects on Habitat*

Overall, monarch habitat within the Action Area is limited and highly fragmented. The proposed silvicultural prescriptions (individual tree selection, thinning, and understory burning) are expected to increase light availability and understory productivity, thereby improving long-term conditions for milkweed and associated nectar species. Implementation of CSKT Forest Management Plan Best Management Practices (BMPs), particularly protections for riparian vegetation within Streamside Management Zones (SMZs), will maintain or enhance meadow edges and riparian openings where milkweed is most likely to occur. In combination, these measures are expected to maintain or improve the limited monarch habitat present in the FSTH Action Area.

*Effect Determination*

The proposed action may affect individual monarch butterflies or their host plants in the short term through localized disturbance. However, given the limited extent of potential habitat, the application of BMPs, and the expected long-term benefits to milkweed and nectar resources following treatment, the proposed action is **not likely to jeopardize the continued existence** of the monarch butterfly.

### 4.5.8 Suckley's Cuckoo Bumblebee

*Exposure to Stressors*

The FSTH Action Area is dominated by conifer forest with limited meadow or prairie openings that provide the foraging resources and nesting habitat necessary to support host species and, by extension, Suckley's cuckoo bumble bee. Project-related stressors that could overlap with potential habitat include vegetation removal, soil disturbance, prescribed fire, or competition from invasive weeds that reduce floral diversity. However, these conditions are highly limited in the Action Area, and no occurrences of the species have been documented in the FSMA.

*Response to Stressors*

If host species were present in small meadow or riparian openings, temporary reductions in floral resources could occur during or immediately following treatment activities. However, low- to moderate-intensity prescribed fire and canopy thinning are expected to increase light penetration and stimulate the growth of forbs and flowering shrubs over the long term, improving forage conditions for both host bumble bees and Suckley's cuckoo bumble bee. Best Management Practices (BMPs) in the CSKT Forest Management Plan, including weed management and

restrictions on logging during spring break up, will further reduce the risk of habitat degradation and invasive plant establishment.

*Effects on Habitat*

Because the Action Area contains very limited suitable habitat, the potential for effects to Suckley's cuckoo bumble bee is low. Where habitat does occur, the proposed treatments are expected to improve long-term forage conditions and plant diversity. Project design features, including soil-protection measures, invasive weed control, and riparian protections, will help maintain or enhance the small amount of habitat that may be suitable for this species and its hosts.

*Effect Determination*

Given the absence of documented occurrences within the Action Area, the very limited extent of suitable habitat, and the expectation that long-term forage resources will be enhanced by the proposed action, the project is **not likely to jeopardize the continued existence** of Suckley's cuckoo bumble bee.

**Summary of Determination of Effects**

The following effects determinations have been made for the ESA listed species and critical habitat analyzed in this BA:

- Grizzly Bear (*Ursus arctos horribilis*) [Threatened]: **May Affect, Not Likely to Adversely Affect**
- Canada Lynx (*Lynx canadensis*) [Threatened]: **May Affect, Not Likely to Adversely Affect**
- North American Wolverine (*Gulo gulo luscu*s) [Threatened]: **May Affect, Not Likely to Adversely Affect**
- Yellow-billed Cuckoo (*Coccyzus americanus*) [Threatened]: **No Effect**
- Monarch Butterfly (*Danaus plexippus*) [Proposed Threatened]: **Not likely to jeopardize the continued existence of the species.**
- Suckley's Cuckoo Bumble Bee (*Bombus suckleyi*) [Proposed Endangered]: **Not likely to jeopardize the continued existence of the species.**
- Spalding's Catchfly (*Silene spaldingii*) [Threatened]: **No Effect**
- Whitebark Pine (*Pinus albicaulis*) [Threatened]: **No Effect**

The FSTH, PCT, and HFR activities are anticipated to have **no effect** on yellow-billed cuckoo, Spalding's catchfly, and whitebark pine because the Action Area lacks suitable habitat, occurs outside of the elevational range used by these species, and/or is dominated by conifer forest not consistent with their ecological requirements. The project is anticipated to be **not likely to jeopardize the continued existence** of the monarch butterfly and Suckley's cuckoo bumble bee due to the very limited extent of suitable habitat in the Action Area, the absence of known populations, and the potential for long-term improvement of foraging conditions and host plant vigor through canopy thinning and understory burning.

The proposed action **may affect, but is not likely to adversely affect** grizzly bear, Canada lynx, or wolverine. This determination is based on the application of conservation measures such as seasonal timing restrictions, coarse woody debris retention, and strict adherence to grizzly bear food storage and mitigation measures. The project includes grizzly bear forage enhancement units and aspen restoration units that will promote long-term improvements in forage availability and habitat quality. In addition, treatments within the Charity LAU will adhere to early stand initiation structural stage thresholds identified in the Lynx Conservation Assessment and Strategy (2013), ensuring that habitat suitability for lynx and their prey is maintained. These measures will help support both site-specific and landscape-level habitat conditions. The action will not result in significant alteration of important habitat or forage, and portions of the canopy will be opened to allow more light through, and the potential for increased forage resources such as berries and forbs, is not expected to increase mortality risk appreciably, and is expected to maintain or improve long-term ecological conditions by reducing the potential for stand-replacing wildfire.

### 4.5.9 Need for Re-assessment Based on Changed Conditions

The Confederated Salish and Kootenai Tribes and BIA have prepared this BA to comply with Section 7 of the ESA for the Frog/Schley Timber Harvest and Fuels Reduction project, with timber harvest activities proposed to commence in the fall of 2025 and end in the winter of 2027. Follow-up activities such as mastication, slashing, thinning, and mechanical/hand piling will be completed by 2037. Duration of follow-up in a unit ranges from days to weeks and should be completed within 1-10 years following the timber sales. The USFWS has regulatory jurisdiction over any activities that may harm ESA-listed species or their critical habitat. This BA and associated findings are based on the most current scientific information available. A new analysis and revised BA must be prepared if one or more of the following occurs: (1) new species information (i.e., newly discovered presence, activity area, species requirements/needs) reveals effects to threatened, endangered, proposed species, or designated/proposed critical habitat in a manner or extent not considered in this assessment; (2) the action is subsequently modified or is not fully implemented as described herein, which may cause an effect that was not considered in this assessment; or (3) a new species is listed or critical habitat is designated that may be affected by the action not analyzed herein.

## 4.6 Cumulative Impacts and Unavoidable Adverse Impacts

“Cumulative impact” is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes can result from individually minor but collectively significant actions taking place over a period of time 40 CFR §1508.7.

The Frog Schley Management Area has undergone several timber harvests beginning in the early 1900's, with the latest occurring in 1998. Table, 4.6, displays the historic timber sale record for the area as a whole.

**Table 4.6** Historic Timber Harvesting in the Frog/Schley M.A. (in millions of board feet – some volumes are approximated)

| Timber Sale | Dates | Acres | Volume MMBF |
|---|---|---|---|
| Evaro Timber Sale | 1917-1921 | - | 61.93 |
| Jabez Doney | 1909-1921 | - | 10.87 |
| Lower Frog Crk Timber Sale | 1921-1922 | - | 0.045 |
| Upper Frog Crk Timber Sale | 1926-1928 | - | 0.81 |
| F. Matt Timber Sale | 1923 | - | 0.044 |
| Arlee 1-4 Timber Sales | 1957-1960 | 760 | 1.7 |
| Arlee Timber Sale - L. Trahan | 1970-1972 | - | 2.3 |
| Frog Timber Sale | 1976-1978 | - | 4.9 |
| Charity Peak Timber Sale | 1981-1985 | - | 11.4 |
| Frog & Arlee Timber Sale | 1998 | 1,838 | 9.4 |
| Schley Timber Sale | 1996-1998 | 793 | - |

Under this action, 1,502 acres is proposed to be harvested and 98 additional acres in three units would be treated for fuels reduction and prescribed fire between 2025 and 2029, and it will be considered at an undetermined date in the future. It is adjacent to other areas harvested and burned from wildfire and prescribed fire by the CSKT. Cumulative Impacts include visual aesthetics disturbance, compromising wildlife habitat corridors, grow-back of vegetation homogeneity.

Cumulative effects associated with a modification in the streamflow hydrograph of the Finley Creek watershed should be limited at the watershed scale. The proposed road maintenance to improve the drainage infrastructure for the harvest would reduce but not eliminate the influence of roads, which will continue to concentrate and route flows to stream channels and alter hydrologic regimes as described above. Additionally, units overlying unmapped volcanic ash will experience compaction. Following defined mitigation measures will impede or dissolve negative impacts common in logging activities.

## 4.7 Relationship of Short-Term Uses/Long-Term Productivity

Several short-term impacts are described above in previous sections. Forests would be visually modified, but harvest boundaries would mimic natural disturbance as much as possible. Overtime, conifer regeneration and re-growth would ameliorate any visual impacts and would restock lands for future harvest.

Recruitment of larger diameter seral trees previously removed in historic logging would lead to conditions closer to pre-European forests and improved habitat for numerous wildlife species. By lowering fire hazard and insect and disease risk, forests would be less susceptible to large-scale, high-mortality disturbance events.

## 4.8 Irreversible and Irretrievable Commitments of Resources

The proposed project would not commit resources to irreversible use. Where roads are closed through earthen barrier, the remainder of road prisms would be kept relatively intact should they be needed in the long-term for future management activities. Improvements in wildlife security would be gained as a result of limiting road access.

## 4.9 Climate Change

The Confederated Salish & Kootenai Tribes (CSKT) Climate Change Strategic Plan 2016 represents an early step towards addressing the impacts of climate change on the Flathead Reservation in Montana. This initiative's purpose is to improve the Tribal community and Natural Resources resiliency by effectively informing climate change impact planning decisions made by the Tribes. It is designed to initiate collectively beneficial climate change impact mitigation and adaptation solutions.

It was completed in collaboration with the Tribes' administration, elders, scientific leaders, and other stakeholders and experts. Historical information was adapted from the Flathead Reservation Comprehensive Resource Plan and local climate change scenarios were adapted from the Missoula County Climate Action: Creating a Resilient and Sustainable Community report. Traditional Ecological Knowledge was provided by the Salish-Pend d 'Oreille Culture Committee, Kootenai Culture Committee, and Historic Preservation/ Cultural Preservation Department. Local impact assessments on forestry, land, fish, wildlife, water, air, infrastructure, people, and culture were developed by CSKT Tribal Departments and local organizations.

The CSKT Climate Change Strategic Plan and related information is located at http://www.csktclimate.org.

# Chapter 5. CONSULTATION

A biological assessment (BA) was sent to the USFWL Service on September 3, 2025, via email from Kari Kingery, Program Manager, Wildlife Management Program, of the Confederated Salish and Kootenai Tribes' (CSKT) Wildlife Management Program. A response stating concurrence was sent to Ms. Kari Kingery on October 10, 2025 (attached).

The CSKT Cultural Preservation Department conducted field visits within the FSMA. There are no concerns of adverse effect to historic structures and/or cultural resources. Although there were important cultural resources reported but would not be impacted by the harvest treatment. This proposed project has received high interest from the Salish Qlispe' Culture Committee Director, the Salish Qlispe' Culture Elders Advisory Committee.

# Chapter 6. LIST OF CONTRIBUTORS

| | |
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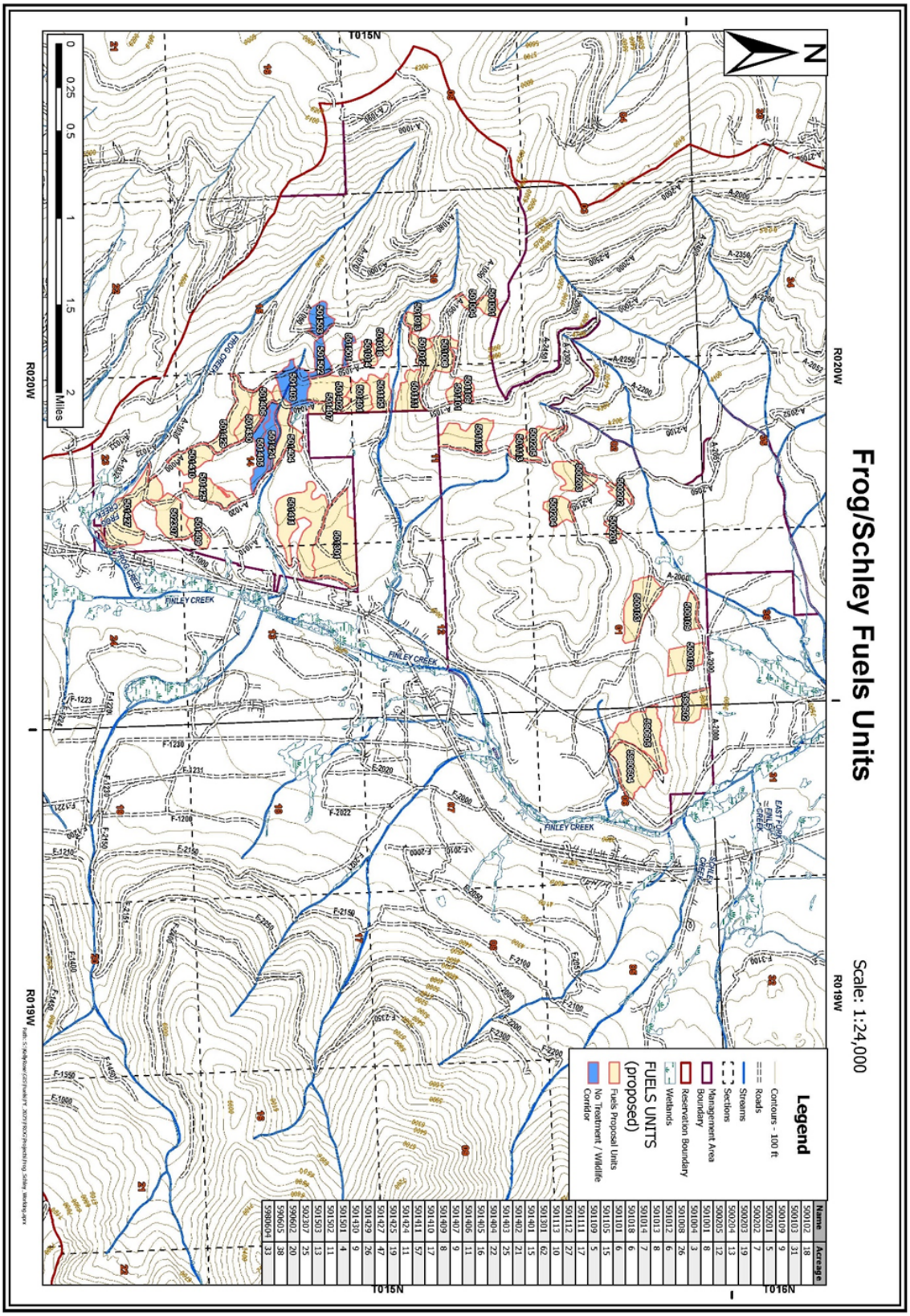
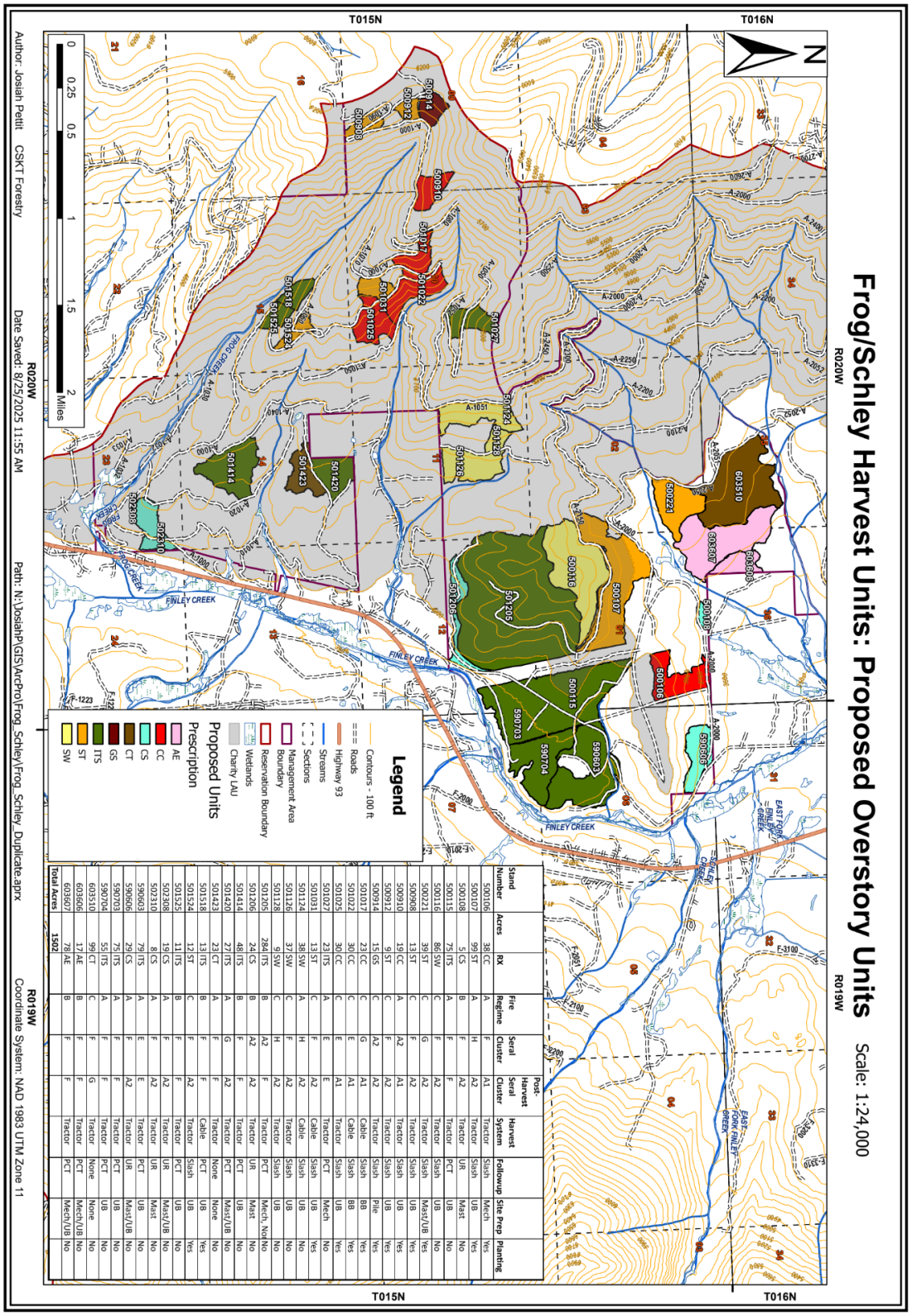
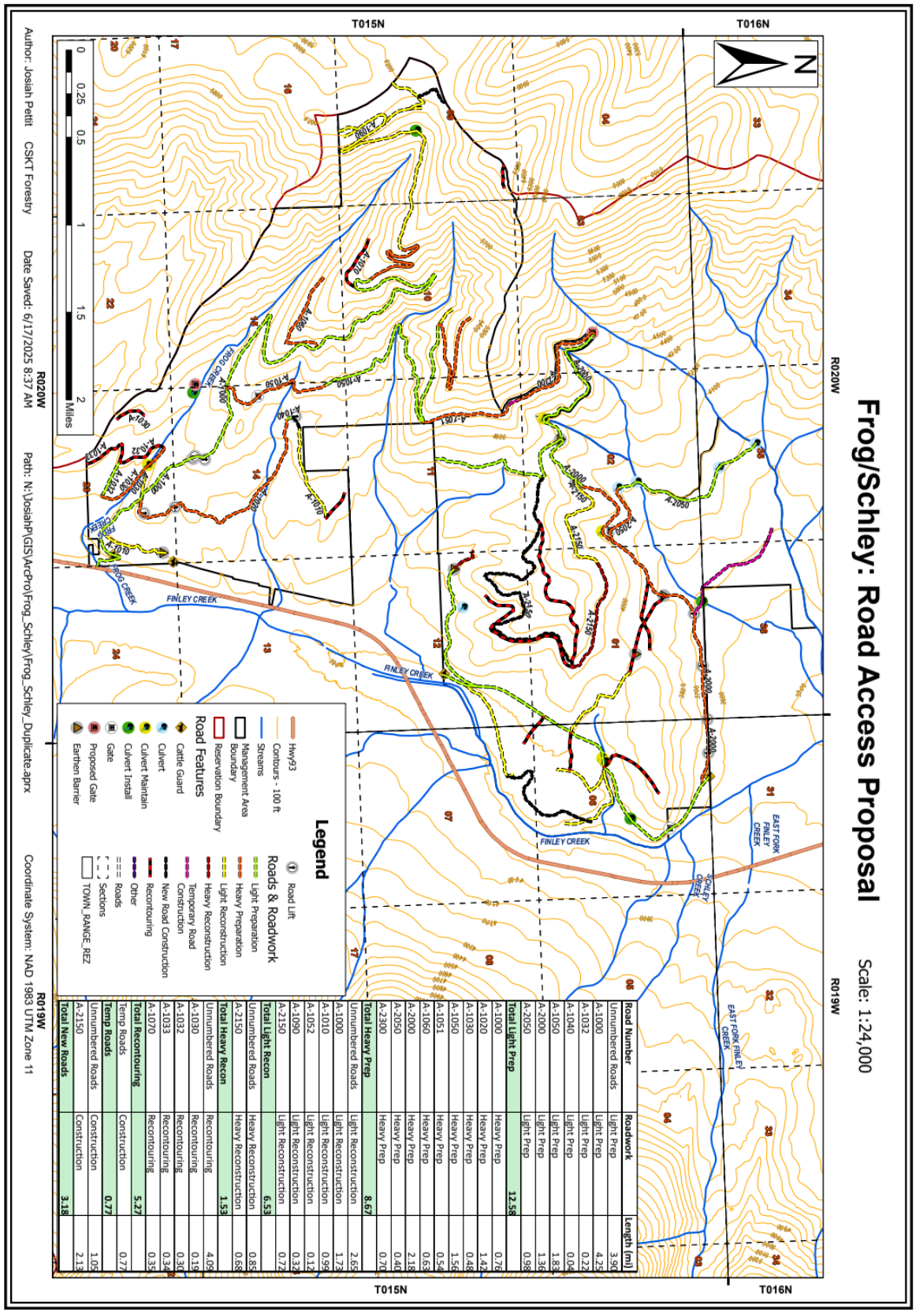
# APPENDIX



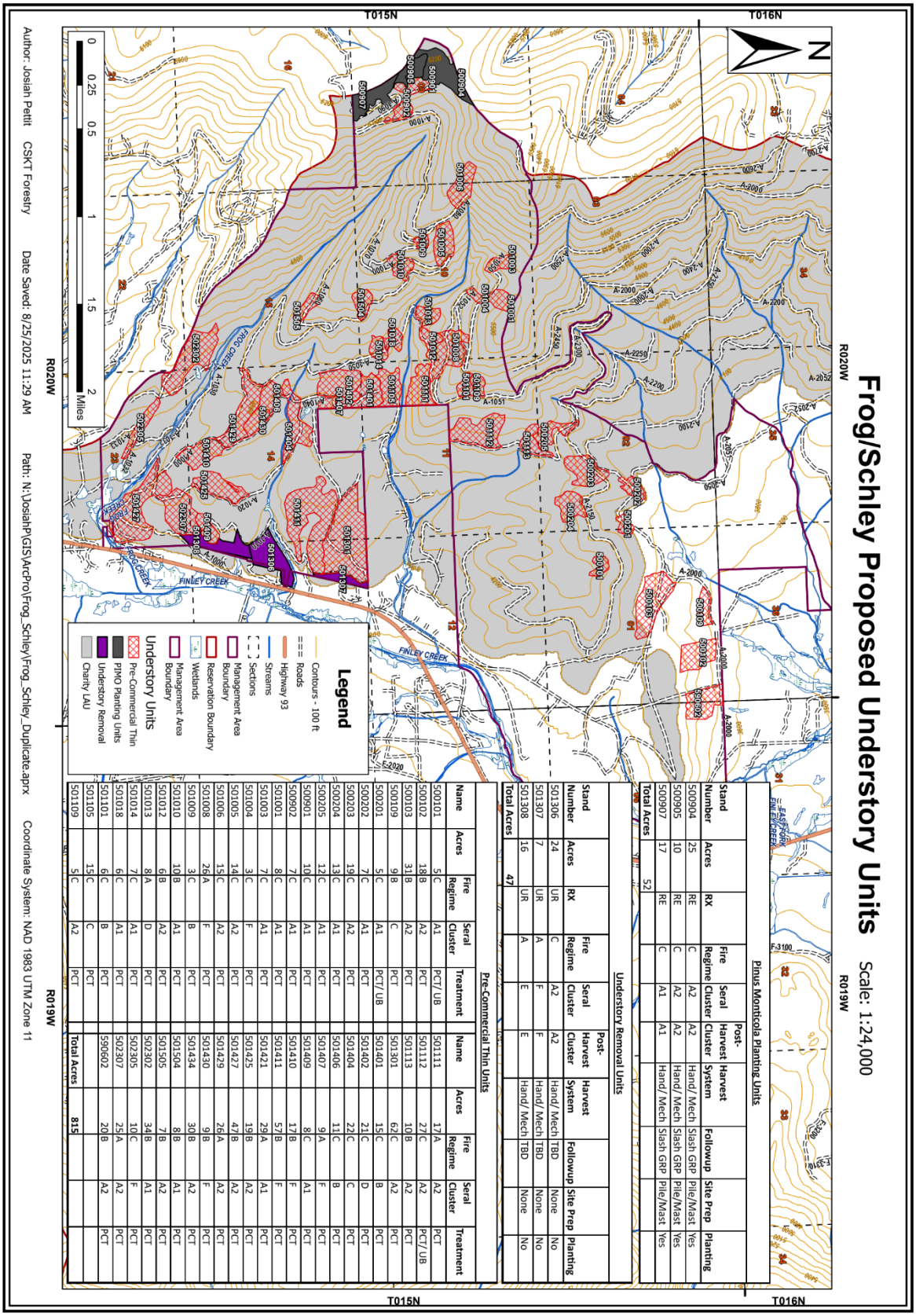

| Name | Acreage |
|---|---|
| 500102 | 18 |
| 500103 | 31 |
| 500109 | 9 |
| 500201 | 5 |
| 500202 | 7 |
| 500203 | 19 |
| 500204 | 13 |
| 500205 | 12 |
| 501001 | 8 |
| 501004 | 3 |
| 501008 | 26 |
| 501012 | 6 |
| 501013 | 8 |
| 501014 | 7 |
| 501018 | 6 |
| 501101 | 6 |
| 501105 | 15 |
| 501109 | 5 |
| 501111 | 17 |
| 501112 | 27 |
| 501113 | 10 |
| 501301 | 62 |
| 501401 | 15 |
| 501402 | 21 |
| 501403 | 25 |
| 501404 | 22 |
| 501405 | 16 |
| 501406 | 11 |
| 501407 | 9 |
| 501409 | 8 |
| 501410 | 17 |
| 501411 | 57 |
| 501424 | 11 |
| 501425 | 19 |
| 501427 | 47 |
| 501429 | 26 |
| 501430 | 9 |
| 501501 | 4 |
| 501502 | 11 |
| 501503 | 13 |
| 502307 | 25 |
| 590602 | 20 |
| 590605 | 38 |
| 5980604 | 33 |




| Stand Number | Acres | RX | Fire Regime | Seral Cluster | Post-Harvest Seral Cluster | Harvest System | Followup | Site Prep | Planting |
|---|---|---|---|---|---|---|---|---|---|
| 500106 | 38 | CC | A | F | A1 | Tractor | Slash | Mech | Yes |
| 500107 | 99 | ST | A | H | A2 | Tractor | Slash | UB | Yes |
| 500108 | 5 | CS | B | F | A2 | Tractor | UR | Mast | No |
| 500115 | 75 | ITS | A | F | F | Tractor | PCT | UB | No |
| 500116 | 86 | SW | C | F | A2 | Tractor | Slash | UB | No |
| 500221 | 39 | ST | C | G | A2 | Tractor | Slash | Mast/UB | Yes |
| 500908 | 13 | ST | C | F | A2 | Tractor | Slash | UB | Yes |
| 500910 | 19 | CC | A | A2 | A1 | Tractor | Slash | UB | Yes |
| 500912 | 9 | ST | C | F | A2 | Tractor | Slash | UB | Yes |
| 500914 | 15 | GS | C | A2 | A2 | Tractor | Slash | Pile | Yes |
| 501017 | 23 | CC | C | G | A1 | Cable | Slash | BB | Yes |
| 501022 | 30 | CC | C | E | A1 | Cable | Slash | BB | Yes |
| 501025 | 30 | CC | C | E | A1 | Tractor | Slash | UB | Yes |
| 501027 | 23 | ITS | A | E | E | Tractor | PCT | Mech | No |
| 501031 | 13 | ST | C | F | A2 | Cable | Slash | UB | Yes |
| 501124 | 38 | SW | A | H | A2 | Cable | Slash | UB | No |
| 501126 | 37 | SW | C | F | A2 | Tractor | Slash | UB | No |
| 501128 | 9 | SW | C | H | A2 | Tractor | Slash | UB | No |
| 501205 | 284 | ITS | B | A2 | F | Tractor | PCT | Mech, No | No |
| 501206 | 24 | CS | B | F | A2 | Tractor | UR | Mast | No |
| 501414 | 48 | ITS | B | F | F | Tractor | PCT | UB | No |
| 501420 | 27 | ITS | A | G | A2 | Tractor | PCT | Mast/UB | No |
| 501423 | 23 | CT | A | F | F | Tractor | None | None | No |
| 501518 | 13 | ITS | B | F | F | Cable | PCT | UB | Yes |
| 501524 | 12 | ST | C | F | A2 | Tractor | Slash | UB | Yes |
| 501525 | 11 | ITS | B | F | F | Tractor | PCT | UB | No |
| 502308 | 19 | CS | A | F | A2 | Tractor | UR | Mast/UB | No |
| 502310 | 8 | CS | A | F | A2 | Tractor | UR | Mast | No |
| 590603 | 79 | ITS | A | F | E | Tractor | PCT | UB | No |
| 590606 | 29 | CS | A | F | A2 | Tractor | UR | Mast/UB | No |
| 590703 | 75 | ITS | A | F | F | Tractor | PCT | UB | No |
| 590704 | 55 | ITS | A | F | F | Tractor | PCT | UB | No |
| 603510 | 99 | CT | C | F | G | Tractor | PCT | None | No |
| 603606 | 17 | AE | B | F | F | Tractor | PCT | Mech/UB | No |
| 603607 | 78 | AE | B | F | F | Tractor | PCT | Mech/UB | No |
| Total Acres | 1502 | | | | | | | | |




| Road Number | Roadwork | Length (mi) |
|---|---|---|
| Unnumbered Roads | Light Prep | 3.90 |
| A-1000 | Light Prep | 4.25 |
| A-1032 | Light Prep | 0.22 |
| A-1040 | Light Prep | 0.04 |
| A-1050 | Light Prep | 1.83 |
| A-2000 | Light Prep | 1.36 |
| A-2050 | Light Prep | 0.98 |
| **Total Light Prep** | | **12.58** |
| A-1000 | Heavy Prep | 0.76 |
| A-1020 | Heavy Prep | 1.42 |
| A-1030 | Heavy Prep | 0.48 |
| A-1050 | Heavy Prep | 1.56 |
| A-1051 | Heavy Prep | 0.54 |
| A-1060 | Heavy Prep | 0.63 |
| A-2000 | Heavy Prep | 2.18 |
| A-2050 | Heavy Prep | 0.40 |
| A-2300 | Heavy Prep | 0.70 |
| **Total Heavy Prep** | | **8.67** |
| Unnumbered Roads | Light Reconstruction | 2.65 |
| A-1000 | Light Reconstruction | 1.73 |
| A-1010 | Light Reconstruction | 0.99 |
| A-1052 | Light Reconstruction | 0.12 |
| A-1090 | Light Reconstruction | 0.32 |
| A-2150 | Light Reconstruction | 0.72 |
| **Total Light Recon** | | **6.53** |
| Unnumbered Roads | Heavy Reconstruction | 0.85 |
| A-2150 | Heavy Reconstruction | 0.68 |
| **Total Heavy Recon** | | **1.53** |
| Unnumbered Roads | Recontouring | 4.09 |
| A-1030 | Recontouring | 0.19 |
| A-1032 | Recontouring | 0.30 |
| A-1033 | Recontouring | 0.34 |
| A-1070 | Recontouring | 0.35 |
| **Total Recontouring** | | **5.27** |
| Temp Roads | Construction | 0.77 |
| **Temp Roads** | | **0.77** |
| Unnumbered Roads | Construction | 1.05 |
| A-2150 | Construction | 2.13 |
| **Total New Roads** | | **3.18** |




**Pinus Monticola Planting Units**

| Stand Number | Acres | RX | Fire Regime | Seral Cluster | Post-Harvest Cluster | Harvest System | Followup | Site Prep | Planting |
|---|---|---|---|---|---|---|---|---|---|
| 500904 | 25 | RE | C | A2 | A2 | Hand/ Mech | Slash GRP | Pile/Mast | Yes |
| 500905 | 10 | RE | C | A2 | A2 | Hand/ Mech | Slash GRP | Pile/Mast | Yes |
| 500907 | 17 | RE | C | A1 | A1 | Hand/ Mech | Slash GRP | Pile/Mast | Yes |
| Total Acres | 52 | | | | | | | | |

**Understory Removal Units**

| Stand Number | Acres | RX | Fire Regime | Seral Cluster | Post-Harvest Cluster | Harvest System | Followup | Site Prep | Planting |
|---|---|---|---|---|---|---|---|---|---|
| 501306 | 24 | UR | C | A2 | A2 | Hand/ Mech | TBD | None | No |
| 501307 | 7 | UR | A | F | F | Hand/ Mech | TBD | None | No |
| 501308 | 16 | UR | A | E | E | Hand/ Mech | TBD | None | No |
| Total Acres | 47 | | | | | | | | |

**Pre-Commercial Thin Units**

| Name | Acres | Fire Regime | Seral Cluster | Treatment | Name | Acres | Fire Regime | Seral Cluster | Treatment |
|---|---|---|---|---|---|---|---|---|---|
| 500101 | 5 | C | A1 | PCT/ UB | 501111 | 17 | A | A2 | PCT |
| 500102 | 18 | B | A2 | PCT | 501112 | 27 | C | A2 | PCT/ UB |
| 500103 | 31 | B | A2 | PCT | 501113 | 10 | B | A2 | PCT |
| 500109 | 9 | B | C | PCT | 501301 | 62 | C | A2 | PCT |
| 500201 | 5 | C | A1 | PCT/ UB | 501401 | 15 | C | B | PCT |
| 500202 | 7 | C | A1 | PCT | 501402 | 21 | C | D | PCT |
| 500203 | 19 | C | A2 | PCT | 501404 | 22 | C | C | PCT |
| 500204 | 13 | C | A1 | PCT | 501406 | 11 | C | B | PCT |
| 500205 | 12 | C | A1 | PCT | 501407 | 9 | A | F | PCT |
| 500901 | 10 | C | A1 | PCT | 501409 | 8 | C | A1 | PCT |
| 500902 | 7 | C | A1 | PCT | 501410 | 17 | B | F | PCT |
| 501001 | 8 | C | A1 | PCT | 501411 | 57 | B | F | PCT |
| 501003 | 7 | C | A1 | PCT | 501421 | 29 | A | A1 | PCT |
| 501004 | 3 | C | F | PCT | 501425 | 19 | B | A2 | PCT |
| 501005 | 14 | C | A2 | PCT | 501427 | 47 | B | A2 | PCT |
| 501006 | 15 | C | A2 | PCT | 501429 | 26 | A | A2 | PCT |
| 501008 | 26 | A | F | PCT | 501430 | 9 | B | F | PCT |
| 501009 | 3 | C | B | PCT | 501434 | 30 | B | A2 | PCT |
| 501010 | 10 | B | A1 | PCT | 501504 | 8 | B | A1 | PCT |
| 501012 | 6 | B | A2 | PCT | 501505 | 7 | B | A2 | PCT |
| 501013 | 8 | A | D | PCT | 502302 | 34 | B | A1 | PCT |
| 501014 | 7 | C | A1 | PCT | 502305 | 10 | C | F | PCT |
| 501018 | 6 | C | A1 | PCT | 502307 | 25 | A | A2 | PCT |
| 501101 | 6 | C | B | PCT | 590602 | 20 | B | A2 | PCT |
| 501105 | 15 | C | C | PCT | | | | | |
| 501109 | 5 | C | A2 | PCT | Total Acres | 815 | | | |

# BEST MANAGEMENT PRACTICES (BMP's)

# CONFEDERATED SALISH AND KOOTENAI TRIBES

The following definitions and recommendations are a compilation of best management practices (BMP's) for activities on forested lands. These BMP's are a supplement to existing infrastructure, which includes the Tribal Aquatic Lands Conservation Ordinance (ALCO), the Tribal Water Quality Ordinance and the interdisciplinary approach employed to evaluate proposed timber sales. Many of the activities described below are subject to permitting and review through this existing infrastructure.

While BMP's are designed to be strictly adhered to across the landscape, any and all may be modified for specific resource concerns and after approval of an interdisciplinary team review.

## 1.0 DEFINITIONS:

**Channel**: A channel is a feature capable of confining and conducting flowing water. A channel has a bed with material influenced by flowing water. Bed materials generally include silt, sand, gravel, bedrock, vegetation, debris, or a combination of these materials. A channel has banks which are incised relative to immediately surrounding topography.

**Dry Draws**: Linear depressions in the surrounding topography which conduct flow on a sporadic basis, but not often enough to scour a definable channel. Dry draws often support plant species which favor higher soil moisture levels, but dry draws do not necessarily exhibit full riparian vegetative characteristics. Dry draws generally have higher soil moisture levels than surrounding topography and they may exhibit seasonal saturated soil conditions.

**Hazardous Substance**: A material, which is by its nature toxic, dangerous to handle or dispose of, or a potential environmental contaminant. Hazardous substances include, among other potential substances, petroleum products, pesticides, herbicides, chemicals, and biological wastes.

**High Water Mark**: The location on a stream bank or other body of water where the water level normally reaches during peak flow.

**Other Body of Water**: Other bodies of water include all aquatic related resources exclusive of streams and wet14nds. Examples include lakes, ponds, canals and drainage systems.

**Stream:** Natural water course of perceptible extent with definite bed and banks which confine and conduct continuously or intermittently flowing water.

**Class 1 Stream**: A stream, or reach of stream, which maintains flow for at least six months of the year. Class 1 streams have a channel able to confine and conduct flowing water.

**Class 2 Stream**: A stream, or reach of stream, which maintains flow annually, but does not necessarily flow for six months of the year. Class 2 streams have a channel able to confine and conduct flowing water.

**Class 3 Stream:** A stream, or reach of stream, which may or may not flow on an annual basis, but which has a defined channel of perceptible extent which is capable of confining and conducting flowing water. Class 3 streams have width not more less than 3 feet, as measured from high water mark to high water mark.

**Wetlands**: These include, at a minimum, areas that remain wet long enough to support a prevalence of plants that are adapted to saturated soil conditions. Wetlands include, but are •not limited to marshes, swamps, bogs, elk wallows, springs, seeps and riparian areas.

**Streamside Management Zone:** The SMZ is a zone located on both sides of a stream or surrounding a wetland or other body of water.

**Class 1 Stream (Excluding Jocko River and all Forks which has a 300 ft buffer width):** The SMZ consists of a 150-foot buffer on both sides of a stream as measured from the high-water mark of a stream. When a stream braids, or has multiple channels, a SMZ is measured from the high-water mark of the outermost channels.

**Class 2 Stream** The SMZ consists of a 150-foot buffer on both sides of a stream as measured from the high-water mark of a stream. When a stream braids, or has multiple channels, a SMZ is measured from the high-water mark of the outermost channels.

**Class 3 Stream**: The SMZ consists of a 100-foot buffer on both sides of a stream as measured from the high-water mark of a stream.

**Wetland or Other Bodies of Water:** The SMZ consists of a 50-foot buffer around all sides of a wetland or other body of water.

## 2.0 ROADS

### 2.1 Planning and Location:

2.1.1: Minimize the number of roads constructed in a watershed through comprehensive road planning.

2.1.2: Locate roads to fit natural topography and avoid grades greater than 8%, drainage bottoms and topography where large cut slopes would be required.

2.1.3: Locate roads on stable soil and geologic materials. These would include well-drained soils and rock formations which dip into the slope.

- Avoid slumps and slide-prone areas which may be characterized by steep slopes, highly weathered bedrock, clay layers, concave slopes, hummocky topography and rock formations that dip parallel to the slope.
- Avoid wet areas, including saturated or unstable toe slopes, wetlands, other bodies of water and wet meadows.

2.1.4: Locate roads outside of a SMZ when roads run parallel to stream channels.

2.1.5: Minimize the number of stream crossings and choose stable stream crossing sites perpendicular to stream channels.

2.1.6: Locate roads to provide access to log landing areas which would minimize soil disturbance.

2.1.7: Avoid placing roads in areas suspected to have shallow subsurface drainage which may be intercepted during road construction.

## 2.2 DESIGN

2.2.1: Vary road grades to reduce concentrated flow in road drainage ditches, culverts and on fill slopes and road surfaces.

2.2.2: Design stream-crossings for passage of fish, minimum impact on water quality and passage of the 100−year peak discharge event.

## 2.3 DRAINAGE FROM ROAD SURFACE

2.3.1: Provide adequate drainage from the surface of all permanent and temporary roads by using out-sloped or crowned roads or rolling dips.

2.3.2: Space road drainage features so peak flow on a road surface or drainage ditch would not exceed the capacity of the individual drainage facilities.

2.3.3: Out-sloped roads are appropriate when fill slopes are stable, road drainage would not flow directly into stream channels and safety concerns can be met. Road surfaces should not be out sloped on slopes in excess of 35%.

2.3.4: Properly constructed rolling dips would drain concentrated runoff from a road surface. Construct rolling dips deep enough into the subgrade so traffic would not obliterate them.

2.3.5: Skew ditch relief culverts 20 to 30 degrees toward the inflow from the ditch to improve inlet efficiency. At minimum, use 18" culverts and 3' catch basins. Protect the upstream end of cross-drain culverts from plugging.

2.3.6: Install ditch relief culverts at the gradient of the original ground slope. Armor inlets and outlets with rock or other energy dissipators.

2.3.7: Cross drains, culverts, water bars, rolling dips and other drainage structures should not discharge into erodible soils, unstable fill materials or into SMZ's where adequate sediment filtration would not occur.

## 2.4 CONSTRUCTION

2.4.1: Keep slope stabilization, erosion control, and drainage work current with road construction activities.

2.4.2: Ensure that road drainage features are fully functional prior to seasonal runoff and ensure that road sections are not left in an unstable condition over winter.

2.4.3: Stabilize erodible, exposed soils by seeding or other suitable means prior to seasonal runoff.

2.4.4: At the toe of fill slopes within a SMZ, pile slash in a row parallel to a road. Limit the height, width and length of "slash filter windrows," so not to impede wildlife movement.

2.4.5: Reseed fill slopes.

2.4.6: Never incorporate large woody debris into the fill portion of a road prism.

2.4.7: Minimize sediment production from borrow areas by designing for stable slopes, controlling drainage and reseeding.

## 2.5 MAINTENANCE:

2.5.1: During advance maintenance work, reconstruct only to the extent necessary to provide adequate drainage and safety.

2.5.2: Avoid disturbing stable road surfaces.

2.5.3: Do not disturb roadside vegetation more than required to safely serve traffic needs.

2.5.4: Minimize road related activities when soils appear excessively wet.

2.5.6: Do not berm road material on either side of a road perimeter.

2.5.7: Maintain drainage features through periodic inspection and maintenance, including cleaning rolling dips and cross drains, repairing ditches and clearing debris from culverts.

2.5.8: Provide breaks in a snow berm to allow for drainage during winter activities.

2.5.9 **:** Do not side-cast graded materials within an SMZ, and haul excess road materials removed by maintenance operations to stable sites away from SMZ's.

## 2.6 ROAD CLOSURE

2.6.1: Remove cross drainage and ditch relief culverts and provide for permanent runoff control on abandoned roads.

2.6.2: Reseed all road surfaces, cut and fill slopes, log decking areas and borrow areas.

2.6.3: When culverts and bridges are retained, provide for long term maintenance.

2.6.4: When culverts and bridges are removed, reconstruct stream crossing to a stable configuration.

## 3.0 STREAM CROSSINGS

### 3.1 General:

3.1.1: Locate stream crossings perpendicular to the main channel.

3.1.2: Adjust road grade to reduce the volume of water carried by road drainage structures toward stream crossings.

3.1.3: Direct road drainage away from streams and stream crossing sites.

3.1.4: Bridges, open-arch, and squash culverts must be evaluated and preferably implemented rather than round culverts.

3.1.5: For temporary crossings, consider improved drive through stream crossings (requires ALCO permit).

3.1.6: Minimize stream channel disturbances and potential sediment problems during installation of stream crossing structures.

- Do not place erodible material into stream channels.
- Remove stockpiled material from high water zones.
- Locate temporary construction bypass roads in locations which all have minimal disturbance.

3.1.7: Install culverts to conform to the natural bed and slope of stream channels.

- Place culverts slightly below normal stream grade to avoid culvert outfall barriers.
- Do not alter stream channels upstream from culverts, unless unavoidable.

3.1.8: Install culverts to prevent erosion of fill. Compact fill material to prevent seepage and potential failure.

3.1.9: Armor the inlet and outlet with rock or other suitable material.

3.1.10: Install culverts during low flow, when possible.

3.1.11: Do not install culverts less than 18 inches in diameter for permanent stream crossings and cross drains.

## 4.0 STREAMSIDE MANAGEMENT ZONE

### 4.1 General Guidelines:

4.1.1: Avoid mechanical harvest or hauling activities within SMZ's.

4.1.2: Do not conduct prescribed burns in a SMZ, unless the purpose is to utilize the SMZ as a control line for an adjoining management unit. All other resource objectives in the SMZ must be approved by an IDT.

4.1.3: When operations would occur adjacent to a SMZ, clearly mark the SMZ boundary to avoid operation in a SMZ.

4.1.4: Do not handle, store, apply or dispose of hazardous or toxic materials in a SMZ.

### 4.2 DRY DRAWS

4.2.1: Apply harvest prescriptions which maintain at least 30 percent of total shrub and tree canopy cover in dry draws.

4.2.2: Limit mechanically disturbing activities to frozen and dry weather conditions.

4.2.3 Water bar and seed skid trails which run parallel to dry draws.

4.2.4: Avoid concentrations of slash which, when burned, would produce bare soils and inhibit normal revegetation of the site.

4.2.5: If, during saturated soil conditions, shallow subsurface drainage is intercepted and brought to the surface, restore the subsurface drainage pattern. If this fails, concentrate flow into stable drainage structures.

## 5.0 TIMBER HARVESTING:

### 5.1 Harvest Design:

5.1.1: Do not harvest in SMZs unless for the purposes of achieving specific resource objectives approved by an IDT.

5.1.2: Design and locate skid trails and skidding operations to minimize soil disturbance. Consider erosion potential and possible alternative yarding systems prior to planning tractor skidding on steep or unstable slopes.

5.1.3: Avoid locating log decking and landing areas where skidding across drainage bottoms would be required.

### 5.2 ADDITIONAL HARVESTING ACTIVITIES

5.2.1: Tractor skid only when compaction, displacement and erosion would be minimal.

5.2.2: Do not skid with the blade down.

5.2.3: For each landing, skid trail, fire trail or borrow area, provide a drainage system to control the dispersal of water and to prevent soil displacement.

5.2.4: Do not use switchback ("go−back") skid trails.

5.2.5: When natural revegetation is inadequate to prevent soil displacement, apply seed and construct water bars or other structures on skid trails, landings, fire trails and borrow areas.

5.2.6: Drainage features should be installed or reconstructed on roads upon completion of seasonal operations. Roads should be re-seeded as needed and berms on road perimeters should be removed at this time.

5.2.7: Trees which impede proper road maintenance should be removed during harvest operations.

## 5.3 SLASH TREATMENT AND SITE PREPARATION

5.3.1: Use brush blades on dozer when piling slash. Avoid use of dozers with angle blades. Site preparation equipment producing irregular surfaces is preferred.

5.3.2: Scarify the soil only to the extent necessary to meet the reforestation objective of a site.

5.3.3: Carry out brush piling and scarification when soils are frozen or dry enough to minimize soil compaction or displacement.

5.3.4: Stabilize or reclaim landings and temporary roads upon completion of use.

5.3.5: Avoid heavy slash piling and burning in swales and dry draws.

# 6.0 WINTER LOGGING

## 6.1 Harvest Planning:

6.1.1: Consider snow-road construction and winter harvesting when logging in sensitive areas including wet meadows, areas with high water tables, SMZ's, wetlands, or other bodies of water.

6.1.2: Conduct winter logging operations when the ground is frozen, or snow cover is adequate to minimize site disturbance. If conditions change and erosion hazard increases, suspend operations.

## 6.2 ROAD CONSTRUCTION AND HARVESTING CONSIDERATIONS:

6.2.1: During cold weather, plow snow cover off roadway to facilitate deep freezing of a road grade prior to hauling. During heavy snowfall, leave openings in snow berms large enough for wildlife passage.

6.2.2: Before logging, mark existing culvert locations. During and after logging, make sure that all culverts and drainage ditches are open and functional.

6.2.3: Construct snow roads of compacted snow for single-entry harvests and temporary roads in sensitive areas.

6.2.4: Designate, or mark, all stream courses prior to snowfall.

6.2.5: Do not use a stream channel as a roadway or skid trail.

6.2.6: Avoid steep areas where skid trails may be subject to erosion the next spring. Return the following season and build erosion controls on any skid trails which have soil displacement.

## 7.0 HAZARDOUS MATERIAL

7.1.1: Know and comply with regulations governing the storage, handling, application and disposal of hazardous substances.

7.1.2: Do not transport, handle, store, load, apply or dispose of any hazardous substance or fertilizer in such a manner as to pollute water supplies or waterways or cause damage to land, humans, plants and animals.

7.1.3: Develop a contingency plan for hazardous substance, spills, including cleanup procedures and notification to appropriate Tribal staff.

7.1.4: Always follow the label directions of a product in use.

7.1.5: Apply chemicals during appropriate weather conditions and during the optimum time for control of a target pest or weed.

# Road Exemption Summary

## FARM, FOREST, OR TEMPORARY MINING ROADS

Pursuant to Section 404 of the Clean Water Act (33 USC 1344) and Federal Regulations (33 CFR 323.4), certain discharges have been exempted from requiring a Section 404 permit. Included in this exemption is construction or maintenance of farm roads, forest roads, or temporary roads for moving mining equipment. To meet this exemption, such roads must be constructed and maintained in accordance with the best management practices (BMPs) to assure that flow and circulation patterns and chemical and biological characteristics of waters of the United States are not impaired, that the reach of the waters of the United States is not reduced, and that any adverse effect on the aquatic environment would be otherwise minimized.

The following best management practices must be followed in order for the activity to be exempted from requiring a permit:

Permanent roads (for farming or forestry activities), temporary access roads (for mining, forestry, or farm purposes) and skid trails (for logging) in waters of the U.S. shall be held to the minimum feasible number, width, and total length consistent with the purpose of specific farming, silvicultural or mining operations, and local topographic and climatic conditions.

All roads, temporary or permanent, shall be located sufficiently far from streams or other water bodies (except for portions of such roads which must cross water bodies) to minimize discharges of dredged or fill material into waters of the U.S.

The fill shall be bridged, culverted, or otherwise designed to prevent the restriction of expected flood flows.

The road fill shall be properly stabilized and maintained during and following construction to prevent erosion.

Discharges of dredged or fill material into waters of the United States to construct a road fill shall be made in a manner that minimizes the encroachment of trucks, tractors, bulldozers, or other heavy equipment within waters of the U.S. (including adjacent wetlands) that lie outside the lateral boundaries of the fill itself.

In designing, constructing, and maintaining roads, vegetative disturbance in the waters of the U.S. shall be kept to a minimum.

The design, construction, and maintenance of the road crossing shall not disrupt the migration or other movement of those species of aquatic life inhabiting the water body.

Borrow material shall be taken from upland sources whenever feasible.

The discharge shall not take, or jeopardize the continued existence of, a threatened or endangered species as defined under the Endangered Species Act, or adversely modify or destroy the critical habitat of such species.

Discharges into breeding and nesting areas for migratory waterfowl, spawning areas, and wetlands shall be avoided if practical alternatives exist.

The discharge shall not be located in the proximity of a public water supply intake.

The discharge shall not occur in areas of concentrated shellfish production.

The discharge shall not occur in a component of the National Wild and Scenic River System.

The discharge of material shall consist of suitable material free from toxic pollutants in toxic amounts.

All temporary fills shall be removed in their entirety and the area restored to its original elevation.

Any discharge of dredged or fill material resulting from the above activities which contains any toxic pollutant listed under Section 307 of the Clean Water Act shall be subject to any applicable toxic effluent standard or prohibition, and shall require a permit.

Any discharge of dredged or fill material into waters of the United States incidental to the above activities must have a permit if it is part of an activity whose purpose is to convert an area of the waters of the United States into a use to which it was not previously subject, where the flow or circulation of waters of the United States may be impaired or the reach of such waters reduced. Where the proposed discharge would result in significant discernible alterations to flow or circulation, the presumption is that flow or circulation may be impaired by such alteration. For example, a permit would be required for the conversion of a wetland from silvicultural to agricultural use when there is a discharge of dredged or fill material into waters of the United States in conjunction with construction of dikes, drainage ditches, or other works or structures used to affect such conversion. A discharge which elevates the bottom of waters of the United States without converting it to dry land does not thereby reduce the reach of, but may alter the flow or circulation of, waters of the United States.

If the proposed discharge satisfies all of the above restrictions and the best management practices, it is automatically exempted and no further permit action from the Corps of Engineers is required. If any of the restrictions of this exemption would not be complied with, a permit is required and should be requested using ENG Form 4345 (Application for a Department of the Army permit). A nationwide permit authorized by the Clean Water Act may be available for the proposed work. State or local approval of the work may also be required.

**Preservation Department**
**Confederated Salish and Kootenai Tribes**
**P.O. Box 278**
**Pablo, MT 59855**
**(406) 675-2700 Ext. 1075**

Confederated Salish & Kootenai Tribes

Cultural Clearance Form

Date 08/18/2025

Cultural Clearance # 25-131 Project Name: Frog / Schley Timber Harvest Project

Applicant Name: Josiah Pettit Phone #: josiah.pettit@cskt.org

Agency Name: CSKT Forestry

The Tribal Preservation Office requires the following conditions:

☐ *There are **NO KNOWN** cultural or historical site locations present. Project may commence as described in Cultural Clearance application.*

■ *This undertaking will have **NO ADVERSE EFFECT** to cultural and /or historical site(s). Project may commence as described in Cultural Clearance application.*

☐ *This undertaking will have an **ADVERSE EFFECT** to cultural and /or historical site(s). Special conditions are required to be in compliance with CSKT's Cultural Resource Protection Ordinance. See comments and/or attached document(s).*

*This project qualifies as a NEPA Categorical Exclusion?* Yes ■ No ☐

COMMENTS: After research, review, and completion of field survey, there are no concerns of adverse effect to historic structures and/or cultural resources. Therefore, with these studies and/or investigations, by the CSKT Tribal Historic Preservation Office, the project to conduct a timber harvest project (Frog/Schley), to include road maintenance and slash piling & understory burning, with a 4,866 acre area of tribal lands, at the locations of:T16N, R20W, Sections 35,36; T15N, R19W, Sections 6,7; T15N, R20W Sections 1,2,3,9,10,11,12,13,14,15,22,23, in or near Schley/Evaro, MT area, may go forward.

****All areas** within the exterior boundaries of the Flathead Indian Reservation have the potential to contain cultural and historical resources. If any such resources or site locations are located during the project, cease activity in the vicinity of the cultural and/or historical resource and contact the Tribal Preservation Office (TPO) immediately.****

Travis L. Arlee
Compliance ~~Technician~~ Manager

Approving Official

IMPORTANT STIPULATIONS: This Cultural Clearance permit is only valid for the activity described within the original application for one year. Any alterations to project plans invalidate this permit. All conditions established by the TPO must be adhered to or this permit is invalid. The applicant/agency are subject to penalties as defined in CSKT's Cultural Resource Protection Ordinance.

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Montana Ecological Services Office
585 Shephard Way, Suite 1
Helena, Montana 59601

In Reply Refer to: M.01 Bureau of Indian Affairs
Ecosphere #: 2025-0155855

October 10, 2025

Ashton Harp, Acting Natural Resources Officer
Bureau of Indian Affairs: Northwest Regional Office
Email: Ashton.Harp@bia.gov
Phone: 971-378-2302

Kari Kingery, Program Manager
Wildlife Management Program
Confederated Salish and Kootenai Tribes
P.O. Box 278
Pablo, MT 59855

Dear Ms. Harp and Ms. Kingery:

Thank you for your letter on September 19, 2025 requesting U.S. Fish and Wildlife Service (Service) written concurrence with the Bureau of Indian Affairs' (BIA) effect determinations for the Frog/Schley Management Area Timber Harvest (FSMA) and Hazardous Fuels Reduction Project (project). We received your letter and supporting Biological Assessment (BA) prepared by the Confederated Salish and Kootenai Tribes' (CSKT) Wildlife Management Program.

The FSMA project is a joint management area encompassing approximately 4,866 acres of CSKT-managed Tribal lands on the Flathead Indian Reservation (FIR), Missoula County (Sections 35–36, T16N R20W; Sections 1–3, 9–15, 22–23, T15N R20W; Sections 6–7, T15N R19W). The project area lies along the southwestern boundary of the FIR within the Reservation Divide and Jocko area, approximately 0.5 mile north of Evaro, Montana, spanning the Frog Creek, Finley Creek, and Charity Creek drainages. Harvest units were identified based on forest health conditions, economic considerations, wildfire risk reduction, wildlife habitat improvement, and restoration of native tree species. The proposed action is a commercial timber harvest with follow-up hazardous fuels reduction treatments using ground-based equipment and associated best management practices as described in the BA.

The BA evaluated the potential effects of the project on the following federally listed and proposed species:

- Grizzly bear (*Ursus arctos horribilis*) – Threatened
- Canada lynx (*Lynx canadensis*) – Threatened
- North American wolverine (*Gulo gulo luscus*) – Threatened
- Yellow-billed cuckoo (*Coccyzus americanus*) – Threatened
- Monarch butterfly (*Danaus plexippus*) – Proposed Threatened
- Suckley's cuckoo bumble bee (*Bombus suckleyi*) – Proposed Endangered
- Spalding's catchfly (*Silene spaldingii*) – Threatened
- Whitebark pine (*Pinus albicaulis*) – Threatened

BIA/CSKT determined:

- *May affect, not likely to adversely affect* – Grizzly bear, Canada lynx, North American wolverine
- *Not likely to jeopardize the continued existence of the species* – Monarch butterfly, Suckley's cuckoo bumble bee.
- *No effect* – Yellow-billed cuckoo, Spalding's catchfly, whitebark pine

Written concurrence from the Service with *no effect* determinations is not required by the Endangered Species Act.

The project design features, seasonal timing restrictions, and fuels treatments are expected to minimize potential adverse effects to listed wildlife through reduced disturbance and maintenance/improvement of habitat structure at the stand and landscape scales.

- For Canada lynx, proposed activities are consistent with maintaining a functional mosaic of foraging and movement habitats; any temporary reductions in horizontal cover are offset by patch retention, riparian buffers, and anticipated recruitment of understory structure.
- For grizzly bear and wolverine, adherence to activity/timing restrictions, sanitation and attractant management, and retention of secure habitat are expected to avoid measurable adverse effects on individuals or key habitat features in the action area.
- For vegetation communities and site conditions within modeled/known occurrences for Spalding's catchfly and whitebark pine, these are either absent from treatment footprints, adequately avoided, or protected by conservation measures outlined in the BA.
- For monarch butterfly and Suckley's cuckoo bumble bee, the BA describes avoidance of known/likely concentration areas, preservation of flowering/larval resources where present, and implementation of treatment methods that limit impacts to forbs and pollinator habitat; as proposed, effects are not expected to appreciably reduce the likelihood of survival or recovery of these species.

The Service has reviewed the BA and supporting materials. Pursuant to 50 C.F.R. § 402.13(a), the Service concurs with the BIA/CSKT effect determinations for this project as summarized above. This concurrence is based on the understanding that all conservation measures described in Section 2.4 of the BA, including adherence to the specified project timing, will be fully implemented. Therefore, formal consultation is not required for any listed species.

This concludes informal consultation pursuant to the regulations implementing section 7(a) (2) of the Endangered Species Act (50 C.F.R. 402.13). This Project should be re-analyzed if new information reveals effects of the action that may affect listed or proposed species or designated or proposed critical habitat in a manner or to an extent not considered in this consultation; if the action is subsequently modified in a manner that causes an effect to a listed or proposed species or designated or proposed critical habitat that was not considered in this consultation; and/or, if a new species is listed or critical habitat is designated that may be affected by this Project.

The Service appreciates your efforts to ensure the conservation of listed and proposed species as part of our joint responsibilities under the Endangered Species Act. If you have questions or comments related to this consultation, please contact Brian ham at brian_ham@fws.gov.

Sincerely,

BENJAMIN CONARD

Digitally signed by BENJAMIN CONARD
Date: 2025.10.09 09:27:20 -06'00'

*for* Amity Bass,
Field Office Supervisor