DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

Final Environmental Assessment for the proposed Lynx Mountain Forest Management Project on the Colville Reservation, Ferry County, Washington

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 Tribes of the Colville Reservation, has prepared a final Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the Lynx Mountain Forest Management Project on the Colville Reservation, Ferry County, Washington. This notice also announces the EA is now available in hard copy at the addresses below.

ADDRESSES: You may request a hard copy of the EA and FONSI by writing the BIA Colville Agency, PO BOX 150, Nespelem, Washington, 99155, and the Colville Tribe, PO BOX 111, Nespelem, Washington, 99155.

FOR FURTHER INFORMATION CONTACT: Randall Friedlander, BIA Colville Agency Superintendent, at (509) 634-2316 and Chasity Swan, Colville Tribe Integrated Resource Management (IRMP) Coordinator, at (509) 722-7656.

SUPPLEMENTAL INFORMATION: The Colville Tribe, through contractual obligations to the BIA, has proposed the Lynx Mountain Forest Management Project. The activities under the agency proposed action to harvest approximately 22.42 million board feet of timber on approximately 2,490 acres of tribally owned and tribal allotted lands within the Inchelium District of the Colville Reservation in Ferry County, Washington. The activities will occur under guidelines in the Colville Confederated Tribes of the Colville Indian Reservation Integrated Resource Management Plan (IRMP)(CTCR 2015) and associated Final Programmatic Environmental Impact Statement (FEIS)(CAR 2018).

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

_____ _____

Randall Friedlander Date
Colville Agency Superintendent
Bureau of Indian Affairs
U.S. Department of the Interior

Finding of No Significant Impact

Lynx Mountain Forest Management Project
Colville Reservation, Ferry County, Washington

Based on the attached final Environmental Assessment's (EA) for the Lynx Mountain Forest Management Project for a proposal to harvest 22.42 million board feet of timber on approximately 2,490 acres of tribally owned and tribally allotted lands in the Inchelium District of the Colville Reservation in Ferry County, Washington, I have determined that by implementation of the agency proposed action and environmental mitigation measures as specified in the EA, the proposed Lynx Mountain Forest Management 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:

1. Agency and Tribal Interdisciplinary Team involvement was conducted and environmental issues related to development of the Lynx Mountain Forest Management Project were identified. Alternative courses of action and mitigation measures were developed in response to environmental concerns and issues. Tribal community outreach was conducted CTCR Integrated Resource Management Plan (IRMP) (2015) and associated Final Programmatic Environmental Impact Statement (FEIS)(2018). A public field tour was given of the project area in June of 2023 (EA section 1.6).

2. The EA discloses the environmental consequences of the "proposed action" and "no action" alternatives.

3. Protective measures will be levied to protect air (Clean Air Act as amended 42 USC 7401 et seq.), noise, and water quality (Clean Water Act of 1977, 33 U.S.C. 1251 et seq.), as outlined in the Mitigation Measures (Section 4 of EA), CTCR Forest Practices Handbook (Colville Tribal Law and Order Code Title 4-7, 2023), CTCR IRMP (CTCR 2015) and associated FEIS (CAR 2018).

4. The proposed action will not jeopardize threatened and endangered species (Threatened and Endangered Species Act of 1983, as amended, 16 U.S.C. 1531 et seq.) (EA Section 4.4, and Appendix B).

5. There are no adverse effects on historic properties (National Historic Preservation Act, as amended 16 U.S.C. 470) for the purpose of 36 CFR 800.9 (b) by preserving archeological value through conduct of appropriate research in accordance with applicable standards and guidelines. Should undiscovered archeological remains be encountered during project ground-disturbing activities, work will stop in the area of discovery and the stipulations 36 CFR 800.11 be followed. The BIA Regional Archaeologist and Tribal Historic Preservation Officer (THPO) were consulted for this project (EA Appendix B).

6. The proposed action will not affect public health or safety.

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 Lynx Mountain

Forest Management 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.) (EA section 4.3).

8. The cumulative effects to the environment are mitigated to avoid or minimize effects of implementation of the proposed project (EA Section 4).

9. The proposed action will improve the economic and social conditions of the effected Indian community (EA Section 4.9).

10. The proposed action will not affect unique characteristics of the geographic area such as the proximity to park lands, wild and scenic rivers, or ecologically critical areas.

11. Approximately 1,943.9 acres (18.48%) of potential prime farmland exist within the project boundary. Prime farmland within the project area is located within forested land that is part of the CTCR designated commercial timber base. It is unlikely that timber harvesting would have any detrimental effect on the functional integrity of the land classification and CTCR does not have future plans to develop the prime farmland within this project area (Section 4.2 of EA).

12. There are approximately 124.05 acres of mapped wetlands within the project area footprint. All wetlands and surface water are buffered to minimize impacts of the project to these water systems (CTC Chapter 4-7 Forest Practices, Section 4.3 of EA).

13. The Lynx Mountain Forest Management 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; national monuments; eagles and migratory birds, and other ecologically significant areas.

14. 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.

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

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

17. The Lynx Mountain Forest Management Project is not related to other actions with individual insignificant but cumulatively significant environmental effects.

18. There will be no disproportionately high and adverse human health or environmental effects on minority or low-income communities (Environmental Justice E.O. 12898; Title VI of the Civil Rights Act of 1964).

19. 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).

20. Logging and related activities can introduce new invasive species to a site via uncleaned equipment and soil disturbing activities or cause currently present invasive species to spread more rapidly. In order to insure 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 promote the introduction, growth, or expansion of the range of such species, cleaning equipment prior to using on site, washing equipment in a centralized area, re-seeding heavily disturbed sites such as skid trails and landings is required. The use of biological controls on large weed infestations and herbicides is recommended as needed primarily along roadsides. If borrow pits or fill material are used from offsite, it is recommended that these materials be weed free to reduce the spread of invasive species. (EA Section 4.6)

21. 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.).

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

_____ _____

Date

Randall Friedlander, Superintendent
Colville Agency
Bureau of Indian Affairs
U.S. Department of the Interior

LYNX MOUNTAIN FOREST MANAGEMENT PROJECT
ENVIRONMENTAL ASSESSMENT

Proposed Action: The Bureau of Indian Affairs and the Confederated Tribes of the Colville Indian Reservation propose the harvest of approximately 22.42 million board feet (MMBF) of timber from 2,490 acres of tribal land in the Inchelium District of the Colville Reservation.

Prepared by:

The Bureau of Indian Affairs and the Colville Confederated Tribes of the Colville Indian Reservation

Official Decision Maker: Randy Friedlander, Superintendent, Colville Agency, BIA

For further information: Chasity Swan

IRMP Coordinator

PO BOX 150 Nespelem, WA 99155

(509) 722-7656

Chasity.Swan.bia@colvilletribes.com

FINAL

April 2024

BIA FILE NO: EA-24-19

Table of Contents

1.0 Purpose and Need

1.1 Introduction

The following Environmental Assessment (EA) analyzes the impacts of Lynx Mountain Forest Management Project. The Bureau of Indian Affairs (BIA) and the Confederated Tribes of the Colville Indian Reservation (CTCR) propose the harvest of approximately 22.418 MMBF of timber from approximately 2,490 acres of Tribal land in the Inchelium District of the Colville Indian Reservation in Ferry County, Washington State, Township 33N, Range 35 and 36. This harvest would require about 5.95 miles of road construction and about 37.61 miles of road reconstruction.

The federal action (40 CFR 1508.18) is the BIA approval of the Lynx Mountain Forest Management Project, which triggers BIA's National Environmental Protection Act (NEPA) compliance review of the project 42 USC § 4321- 4347) and associated regulations found in 40 CFR 1500-1508 (as amended) and 43 CFR 46.

This EA contains the minimum requirements found in 43 CFR 46.310 (a) including brief discussions of the following:

(1) The proposal;
(2) The purpose and need for the proposal;
(3) The environmental impacts of the proposed action;
(4) The environmental impacts of the alternatives considered; and
(5) A list of agencies and persons consulted.

1.2 Purpose and Need for Action

The purpose of the action is to be able to implement the activities under the federal action to meet the primary need meeting the goals outline in the CTCR 2015 Integrated Resource Management Plan (IRMP). The CTCR utilized consensus building process (Chadwick 1995) for gathering input from the Tribal Membership to develop the Tribes Holistic Goal and Desired Future conditions enacted by the Colville Business Council by Resolution 1996-23 (Appendix F). The CTCR IRMP has set an annual harvest level of 77.1 million board feet (MMBF)(CTCR 2015). This project would contribute toward reaching this target volume. The IRMP sets goals and objectives to manage the Reservation forestlands with management practices that integrate

protections for water quality and quantity, fish and wildlife, soils, vegetation, cultural resources, recreation and scenic beauty. Forest Management also allows the tribe to maintain a sustainable forest products industry to provide revenue for the Colville Tribes and economic benefits for the people of the Reservation.

The Lynx Mountain Project Area contains stands of timber that present a high risk of sustaining losses to several forest insect and disease agents. The most notable of these are Dwarf Mistletoe, Fir Engraver beetle (high mortality), and Armillaria root disease. Harvest of the stands with the most hazard for these agents – either by: (1) removing the damaged & most susceptible trees or (2) by regenerating the stand to trees of the most well adapted species, or (3) by some combination of 1 or 2 – would reduce the risk of mortality loss.

A more detailed discussion of the forest health issues on the Colville Reservation and the need for treatment can be review in the 2023 Forest Management Plan (FMP). Environmental impacts from the management of CTCR Natural Resources under the IRMP and the FMP have been analyzed in the Final Programmatic Environmental Impact Statement (FEIS) (CAR 2018).

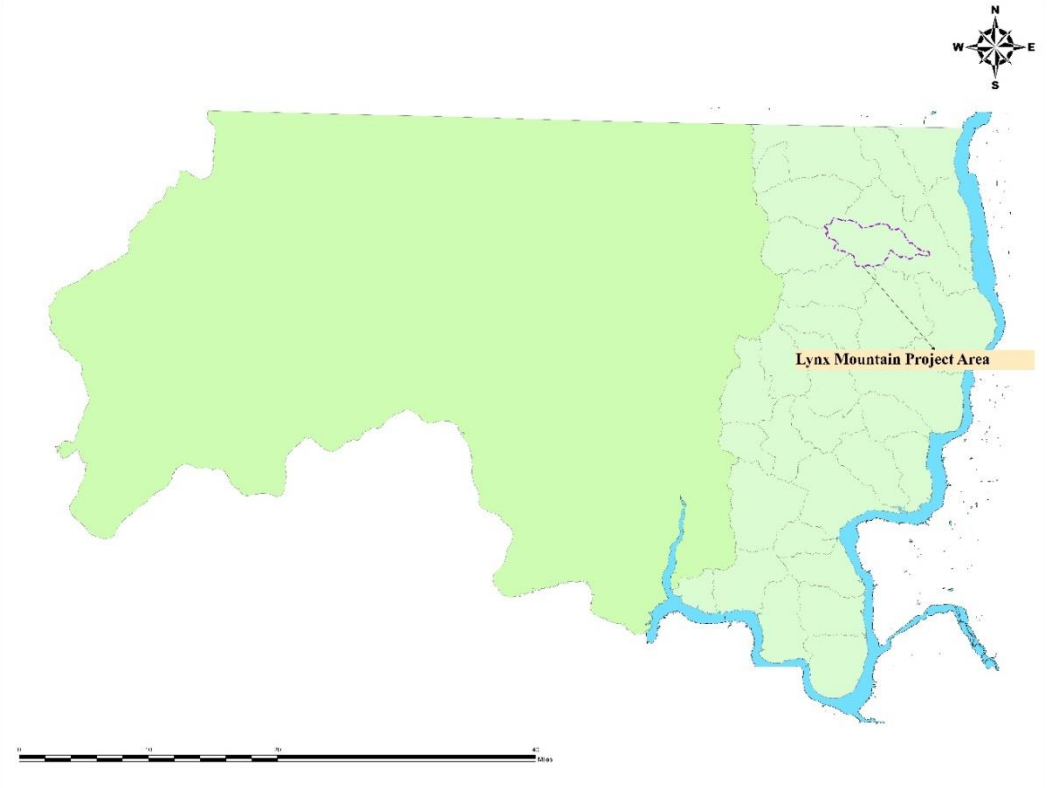


Figure 1. Lynx Mountain Project Area on the Colville Indian Reservation.

Objectives

To provide income for the Colville Tribes.

Indicator:

A. Estimated stumpage produced by each alternative.

1. To provide employment for the tribal membership.
2. To provide profit for tribally owned businesses.

Indicator:

A. Estimated volume of timber harvested per alternative.

Soil Resource Objectives

1. To avoid causing detrimental soils conditions on more than 25% of the treatment (logged) area.

Indicators:

A. Displacement: movement or removal of topsoil.

B. Compaction: topsoil is noticeably compressed or flattened, decreasing several inches in depth in contrast to nearby undisturbed soils of similar character.

C. Fire damage: most of the topsoil is consumed and the top layer of mineral soil has changed color.

D. Rutting of soil in the bottom of swales and draws.

Hydrology Objectives

1. To minimize erosion and sediment delivery to surface waters and prevent streambank/wetland disturbance.

Indicators:

A. Road construction and use.

B. Road density by watershed.

C. Road construction/use within 200ft of surface water.

D. Harvest within 200ft of surface water.

E. Harvest on vulnerable soils.

Fish and Wildlife Objectives

1. To maintain and restore critical forest structure; old growth forests, deciduous stands, wetlands, large woody debris, etc.

Indicator:

A. Wetland and stream adjacency acres.

2. To reduce alterations to fish and wildlife habitat in order to sustain viable populations and communities through maintained thermal, forage and travel cover and reduction of habitat fragmentation.

   Indicators:

A. Block size and adjacency, acres.

B. Road density, mi/mi^2.

C. Miles of new road construction.

3. To maintain or increase the quantity and quality of habitat necessary to sustain and restore fish populations through high quality habitat and water.

   Indicators:

A. Miles of new road construction.

B. Density of stream crossings (new, existing, removed).

C. Miles of stream adjacency.

1.4 Compliance with Other Codes and Regulations

This project is designed to be compliant with CTCR Forest Practices Code (208), CTC 4-9: Hydraulic Project Permitting, 4-10: Water Resources Use and Permitting, the Endangered Species Act, Clean Water Act, National Environmental Policy Act, Tribal Forest Protection Act, National Indian Forest Resources and Management Act, National Historic Preservation Act, Clean Air Act and other applicable Tribal and Federal Regulations.

1.5 Determination

The Colville Agency BIA Superintendent with the concurrence of the Colville Business Council (CBC) would determine which alternative is selected for implementation.

a) To take no action (Alternative A).
b) To approve the proposed action (Alternative B).
c) To direct an additional alternative be created.

The BIA Superintendent would also determine whether the environmental consequences are significant and prepare either a Finding of No Significant Impact (FONSI) or determine that Environmental Impact Statement (EIS) would be required.

1.6 Public Involvement

In the process updating of the IRMP which provides goals and objectives to manage the Tribes' natural resources a Colville Reservation Community survey was conducted to document the priorities, preferences and concerns regarding the management of the Tribes' natural resources (Center for Applied Research [CAR] 2015). A total of 1,026 individuals participated. Respondents indicated the forests provide essential revenue source (47%) and jobs (52%) for the tribal membership and community. The strongest response on forest management (54%) was for forest-wide thinning of insect and fire prone tree stands and to treat forest health issues. Many community meetings were held to help shape the CTCR management strategy during the 2001 and 2015 IRMP planning processes.

The Lynx Mountain Forest Management Project was presented to the 3P Team in March of 2023. The 3P Team and public also had a field tour of the project area in June of 2023. This project is a part of that 15-year plan for Forest Resource Management on the Reservation (CTCR 2015).

2.0 Alternatives Considered

2.1 General Discussion: Alternative Design

The National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ), the Department of the Interior (DOI) and the BIA have developed regulations that require that a reasonable range of alternatives be considered in NEPA documentation, including the "Proposed Action" and "No Action" alternatives.

For this project, Alternative A (No Action) is included to fulfill the requirements of NEPA and to provide baseline values by which to measure the effects of other alternatives. For the purposes of this document, "no action" means that no harvest or other resource manipulation would occur if this alternative were adopted.

Alternative B (the Proposed Action) was constructed to fulfill the purpose and need. That is, Alternative B was designed to:

- Reduce risk of loss of timber to insects, disease and fire,
- Provide stumpage income for the Tribal Government of the Colville Tribes,
- Provide employment for tribal members,

- Provide opportunity for profit for tribally owned businesses,
- Improve general forest health,
- Expand forest regulation.

All alternatives are designed to meet all legal and procedural requirements to which the CTCR and the BIA must adhere.

2.2 Alternative A: No Action

The "No Action Alternative" includes the BIA not approving the Lynx Mountain 2024 Project at this time and/or the BIA and Tribe not implementing activities under the project. Under this alternative no timber harvest, road reconstruction, or other manipulation of resources would take place.

2.3 Alternative B: Proposed Action

The Proposed Action Alternative includes the BIA approving the Lynx Mountain Forest Management Project and the BIA and CTCR implementing the activities under the proposal. This Alternative does meet the Purpose and Need of the project. This alternative was proposed by Inchelium Forestry District (IFD) to meet forest health needs, and provide volume for the Annual Allowable Cut (AAC) of 77.1 MMBF outlined in the IRMP.

Foresters of the IFD of the CTCR propose harvest of approximately 22.42 MMBF of timber from about 1,726.5 acres. This harvest would require about 5.95 miles of road construction and about 37.61 miles of road reconstruction. There would be an estimated 1,726.5 acres of mechanical site preparation (MSP) and 763.2 acres of prescribed herbicide followed by either mastication/burning associated with the various treatments. These prescriptions are calculated to regenerate stands that are mature (of rotation age) or are severely affected by forest health concerns.

Table 1. Prescription Summary for Alternative B.

Prescription	Acres	%	Volume	%
Commercial Thinning	330.5	13%	4,227.5	18.9%
Site Prep	763.2	31%	0.0	0.0%
Removal w/Reserve	113.6	5%	1,263.1	5.6%
Seed Tree	357.7	14%	4,275.0	19.1%
Shelterwood	924.7	37%	12,652.0	56.4%
Totals	2,489.7	100%	22,417.5	100.0%

Table 2. Slash Site Preparation.

Slash/Site Prep Rx	Ac	%
Accumulate	330.5	13%
Broadcast Burn	58.4	2%
Ex. Pile & Scarify	357.7	14%
Herbicide w/Broadcast Burn/Mastication	763.2	31%
Lop & Scatter	924.7	37%
Mastication	55.2	2%
Totals	2,489.7	100%

Table 3. Alternative B harvest systems.

Logging Systems	Abbrev	Ac
Cable	C	163.3
Cable Assisted	CA	687.2
Ground Based	GB	876.0
Site Prep	Null	763.2
Totals		2,489.7

Table 4. Alternative B road construction and reconstruction.

Roads	Abbreviation	Miles
New Construction	Proposed	5.95
Reconstruction	Reconstruct	37.61

Road Closure Plan

All newly constructed roads would be closed following post-harvest activities in accordance with forest practices 4-7-60 2(E).

Other Project Design Features

When timber harvest takes place, Best Management Practices (BMP's) outlined in the Colville Confederated Tribes Forest Practices Handbook (CTCR 2023) would be employed. Timber contract compliance by the Timber Sale Officer (TSO) would be the foremost method ensuring that the BMP's are followed and implemented. Proper maintenance of roads and skid trails after logging operations would be implemented to reduce erosion. Designated skid trails and cable logging would help reduce impacts to the soil resources.

Culverts would be replaced at certain locations depending on the necessity which would be determined by the TSO's, District Officer, or the road engineer in accordance with 4-7-5 C (6), 4-7-60, 4-9-49 (H).

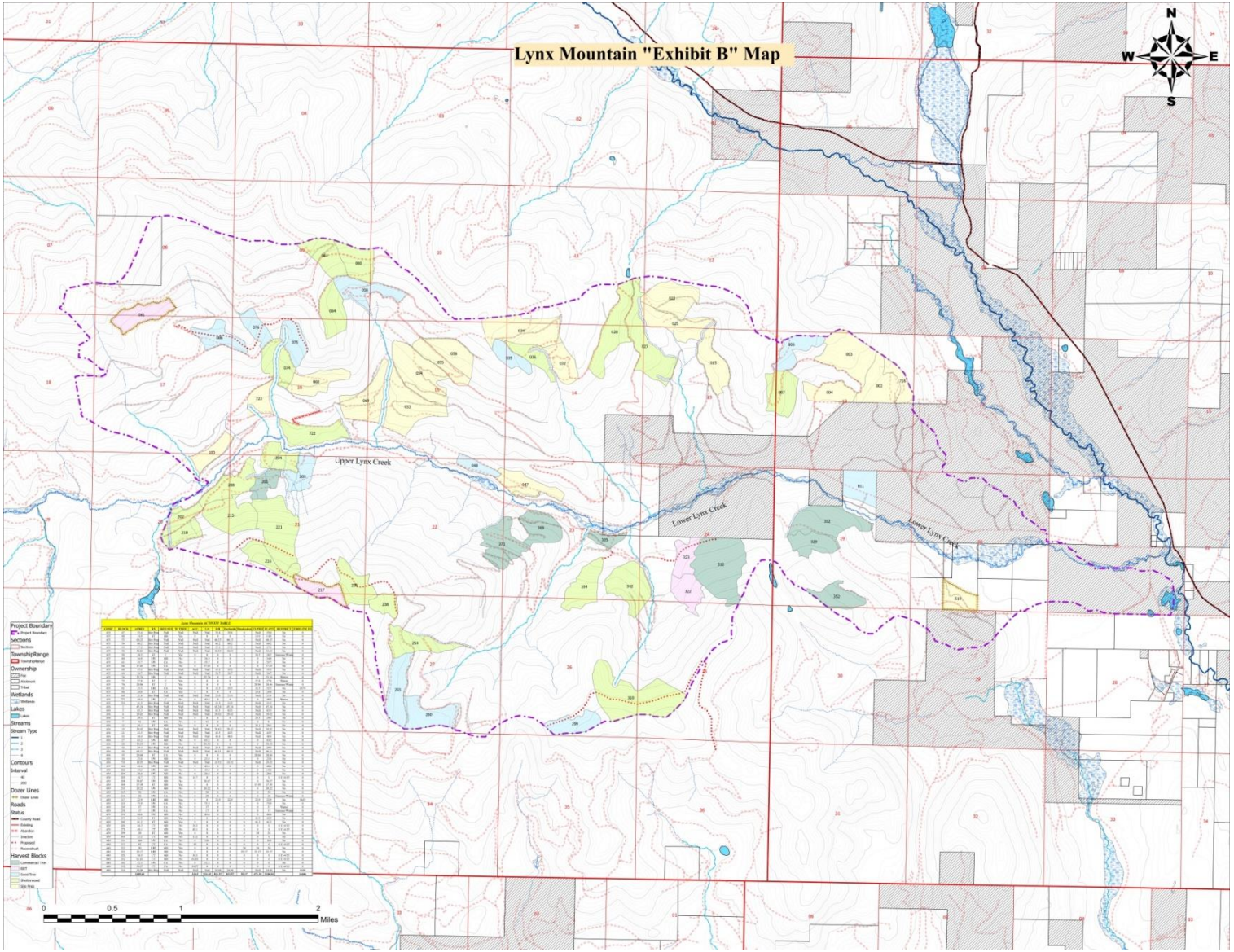


Figure 2. Lynx Mountain Project Area Harvest Blocks.

3.0 Affected Environment

3.1 Forestry

Affected Environment

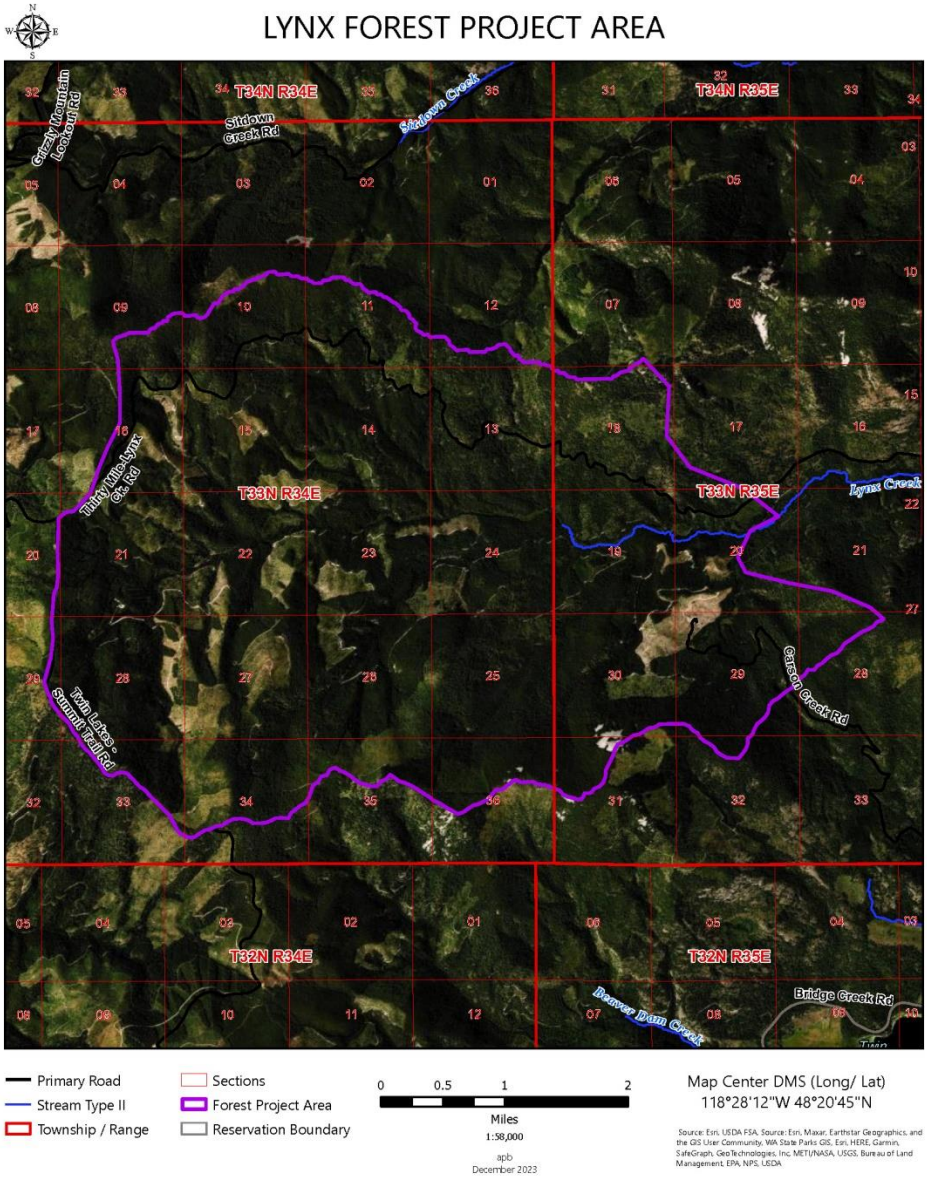


Figure 3. Ariel View of Proposed Lynx Mountain Project Area.

General Discussion

The Lynx Mountain Project Area is on the Inchelium District of the Colville Indian Reservation, located in Northeastern area of Washington State. This area encompasses Lower Lynx Creek and part of Upper Lynx Creek watersheds. The project area stops when Lynx Creek connects to Hall Creek.

The project area itself is located in the Northern central part of the Inchelium District. Local landmarks include Carson Mountain, Lynx Mountain, and Bitterroot Ridge. Access to the area is from Hall Creek Road following Lynx Creek Road towards Carson Mountain.

The entire area encompassed by the project boundary is approximately 10,511 acres. There are approximately 278 acres of Indian Allotments within the boundary and 1,178 acres in FEE land ownership within Lynx Mountain Project Area. Approximately 9,055 acres are in the commercial timber base area.

Forest Health

Past management practices of fire suppression, reduction in grazing, and single tree selection had the cumulative effect of creating a forest that is very different ecologically than the historically. Another aspect of forest health is that of direct damage to trees by insects, diseases, and parasitic plants. The forest condition is described in detail in the 2023 CTCR Forest Management Plan and 2015 IRMP. Please refer to that those plans to understand the forest health issues occurring on the Colville Reservation.

The Lynx Mountain Project Area had last been managed in the early 2000's with a majority the silvicultural prescriptions being seed tree cuts (ST) or shelterwood cuts (SW). This was to revert the species composition back to Western larch/Ponderosa pine by thinning and creating new stands with planting.

Herbicide Applications

Across the reservation there is a need to manage the land for species which are hindering desired forest habitat. Brush species are out competing any potential form of regeneration of the forested stands. Forest stands are degrading into brush/shrub communities which convert forest habitats to shrub steppe. Herbicide use is a means to be able to restore and/or maintain forested habitats

to continue providing flora species biodiversity. As stated in the IRMP goals of Forestry, the top priority of Forestry is to improve the health of the Forest (pg. 92)(CTCR 2015). In part, the management of brush species is tied to multiple points within this goal. Herbicide can improving the health of the stand, manage composition, improving resistances to insect & disease attack, and reduce wildfire risk. There are current Standard Operating Procedures the CTCR Integrated Weed Management Plan (IWMP) (CTCR 2017) and the CTCR Forest Management Plan discusses the use of herbicides for reforestation on the reservation (CTCR 2023). **A**ll herbicide designated blocks within the Lynx Mountain Project are to be treated with herbicide post-harvest as a method of site prep to prepare the block for either broadcast burning or mastication to reduce the competitive brush growth and restore the Forested stands back to forest habitat types and preparing the stands for the next harvest cycle.

3.2 Soils

The landscape throughout the project area is dominated by mountain slopes. Soils are formed predominantly from residuum and colluvium, volcanic ash, and loess. Soil parent materials largely derived from colluvium and residuum derived from metamorphic rock with a mantle of volcanic ash and loess. Table 5 shows the general soil types and their landscape characteristics. Soils data for the Colville Indian Reservation comes from the detailed soil survey of the Colville Indian Reservation (NRCS 2002).

General Soil Types	Map Unit Names	Landform	Approx. % of Area
Silt Loam	Elbowlake, Newbell, Inkler, Nevine	Mountain Slopes	57.50%
Rock Outcrop	Oxerine, Raisio, Nevine, Inkler	Mountain Slopes	28.00%
Sandy Loam	Merkel, Hudnut, Wapal, Phoebe, Tunkcreek	Outwash Terraces, Mountain Slopes	8.10%

Table 5. General soil types and their landscape characteristics of the project area.

3.3 Hydrology

The present condition of the affected environment is variable across the project area. The affected environment is influenced by the Lynx Mountain Project Area in the Inchelium District of the Colville Reservation located in northeastern Washington State. This project area is

10,511.38 acres, and contains the entire Lower Lynx Creek WMU (6,672.9 acres), and 3,757.1 acres of the Upper Lynx Creek WMU.

The Lynx Mountain drainage is not influenced by any drainages other than the half of the Upper Lynx Creek WMU, which is not contained in the project area. The Johns Mountain, Sitdown, and Lower Hall Creek WMUs are located in the contributing area north of the project area, and flow into Hall Creek before the confluence with Lynx Creek. All of these drainages are located in the Hall Creek Resource Management Unit (RMU). Beaver Dam Creek, Cornstalk Creek and North Twin Lake WMUs abut the Lynx Creek WMUs to the south, but independently feed the Columbia River without flowing into Hall Creek first, as they are located in the Twin Lakes RMU.

In addition to direct impacts in the Lynx Creek watershed, landscape-scale impacts from activity in the Lynx Creek watershed would be detected in the main stem of Hall Creek, or in the Columbia River. Generally, timber sales are active for five years after approval, resulting in five years of direct impacts from timber harvest, though indirect impacts can last longer. In the past five years (since 2018), three other green timber sales have occurred in the Hall Creek RMU: Elbow Lake (2020), Sleepy Hollow (2021), and Hall Creek (2023). Additionally, 44,218.3 acres in the Hall Creek RMU have burned in the last 5 years, most of which occurred during the Inchelium Complex (2020) and Summit Trail (2021) fires. 11,749.8 acres of the Summit Trail fire were located in the Upper Lynx Creek WMU, directly upstream of, and extending into, the proposed project area. The Summit Trail Fire was followed by 15,368 acres of salvage harvest within the Hall Creek RMU, including 2,228 acres in the Upper Lynx Creek WMU. The Lynx Mountain project area is located within Range Unit 11, which is not currently utilized.

Water resources in the project area include 33.24 miles of streams and 124.05 acres of wetlands, as well as an unknown number of seeps and springs. Lynx Creek is the major watercourse through the project area, flowing west to east before joining Hall Creek, dividing the project area essentially in half. Tributaries to Lynx Creek include type 3 streams, which are generally perennial and fish-bearing, and type 4 streams, which are generally intermittent, high-gradient headwater streams. Lynx Creek itself is both perennial and fish-bearing.

Water quality is monitored at the mouth of Lynx Creek, immediately upstream of the confluence with Hall Creek. Water quality monitoring and analysis from 2016-2021 identified exceedances of the standards outlined in Colville Tribal Code 4-8 Water Quality Standards (Axthelm 2022). Lynx Creek exceeded the temperature standard for Class II waters (18°C) on 7/27/2016 (18.4°C), and reached the limit again on 7/27/2020 (18°C). Under the pH standard for Class III waters, Lynx Creek should maintain a pH between 6.5 and 8.5. Values of 6.23 and 8.65 were recorded on 10/26/2021 and 4/29/2020, respectively. During the analysis period, Lynx Creek also recorded exceedances of the 6.45 NTU turbidity standard in 10 out of 24 observations (42%), with a high value of 48.1 on 5/2/18. There were no recorded exceedances of the dissolved oxygen standard, and lab metrics (fecal coliform, e.coli, ammonia, nitrate/nitrite, TKN and orthophosphates) were not analyzed at this location.

3.4 Fish and Wildlife

Wildlife

Federally Threatened or Endangered Species

Section 7 of the Endangered Species Act (ESA) (16 USC 1531 et seq.) of 1973 as amended and its implementing regulations found at 50 CFR 402, require federal agencies to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat. Upon review of the location of the proposed action, consultation with the

The BIA and Tribal Wildlife Biologist determined that the proposed actions and associated activities would have ‘No Effect’ to threatened or endangered species, or candidate or proposed species, or suitable or critical habitat within the action area. Documentation is found in Appendix B.

Information for Planning and Conservation was acquired from the United States Department of Interior Fish and Wildlife Service (USDOI-FWS) for Endangered Species Act Species List. An Official Species List from the United States Department of Interior Fish and Wildlife Service (USDOI-FWS), is included as Appendix B.

Species	Scientific Name	Status	Effect

			Determination
Yellow-billed Cuckoo	Coccyzus americanus	Threatened	NE
Monarch Butterfly	Danaus plexippus	Candidate	NE
Bull Trout	Salvelinus confluentus	Threatened	NE

Table 6. US-DOI-Fish and Wildlife Service: Official Species List. Table Notes: CH = Critical Habitat, LTAA = Likely to adversely affect, NLTAA = Not likely to Adversely Affect, NE = no effect.

Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), of 1940, as amended, and Migratory Bird Treaty Act (16 U.S.C. 703-712), of 1918, as amended, prohibits anyone, without a permit, from "Taking" eagles or any bird, including their parts, nests, or eggs. Within this Act, eagles/nests/eggs/young are not to be "Disturbed" including agitated or bothered. Aerial surveys have been conducted in the past by the Colville Tribe to identify eagle and raptor nests. All known nests are buffered and have seasonal restrictions.

The Lynx Mountain Project Area supports habitat for a variety of birds including American Goshawks, great gray owls, other raptors, pileated woodpeckers and other cavity nesters, gold and bald eagles, owls, and a wide range of songbirds. Habitat components that provide requirements for the highest concentration of birds are found in and around riparian areas and areas with deciduous vegetation. Other critical habitat components include large diameter trees, snags and an abundance of large woody debris.

Other Species

The American Goshawk (*Accipiter atricapillus)* is a large forest raptor, strongly associated with mature forests where there is dense and closed canopy cover, open understory for flyways, and multiple canopy layers for protection. These attributes are critical for nesting and foraging for American Goshawks. Great gray owls (*Strix nebulosi)* share similar habitat requirements as the American Goshawk with the additional requirement of open meadows for hunting. Pileated woodpeckers (*Hylatomus pileatus*) and white-headed woodpeckers (*Picoides albolarvatus*) are residents of the project area. Woodpeckers seek habitat that contains large diameter trees and mature stands of timber with an abundance of woody debris.

The Lynx Mountain Project Area contains habitat that meets the life requirements of a variety of mammal species including snowshoe hares (*Lepus americanus*), mice (*Cricetidae spp.*), voles

(*Cricetidae spp.*), beaver (*Castor canadensis*), several species of bat (*Chiroptera spp.*), coyotes (*Canus latrans*), black bears (*Ursus americanus*), bobcats (*Lynx rufus*) and cougars (*Puma concolor*). Reptiles and amphibians are also residents of the project area and are sensitive to habitat changes. Areas used for reproduction are among the most important areas to protect for these species. Each of these species would react differently to the impacts of logging operations but maintaining species diversity and structural complexity would ensure the continuance of the greatest suite of species.

Mule deer (*Odocoileus hemionus*), White-tailed deer (*Odocoileus virginianus*), Rocky mountain elk *(Cervus elaphus nelsoni)*, and Moose (*Alces alces)* are culturally significant species to tribal members for both subsistence and ceremonial uses and are found within and adjacent to the project area throughout the year. Additionally, aerial big game surveys have documented winter range for white-tailed deer, mule deer, and moose within the perimeter of the project area. Mule deer can be found throughout the area from steep forested ridges to lowland shrub-steppe habitat at all elevations. There is a large area on the south slope of Bitterroot Mountain that is known winter range for mule deer. Mule deer populations have been declining in this area over the past several years. White-tailed deer are primarily found using riparian associated habitat adjacent to streams, rivers, meadows or agriculture at elevations below 3,500 feet.

The Colville Reservation is currently home to eight known wolf packs. Gray wolves (*Canis lupus*) as apex predators play an important role in ecosystem function, preying primarily on ungulates such as deer, elk, and moose. Currently, there is a wolf pack utilizing the Lynx Mountain area, with habitat and prey existing to support wolves. This area provides travel habitat and movement for resident and migrant wolves. Wolves in Eastern Washington are state threatened species, but not a federal listed species.

Canada lynx (*Lynx canadensis*) are present in some areas of the Lynx Mountain Project Area due to its high elevation and habitat type, using the area for both forage and travel. Additionally, pine marten (*Martes martes*), wolverine (*Gulo gulo luscus)*, and fishers (*Pekania pennanti*) historically have been documented on the Colville Reservation. These rare forest carnivores are extremely susceptible to logging and harvesting of old growth forests. Snags are used for denning sites and the bigger snags should be left when possible.

3.5 Cultural Resources

National Historic Preservation Act (NHPA)

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 federal action. The significance of the resource 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]).

The Lynx Mountain Forestry Project is within the ancestral lands of the sx̌ʷiyíʔłp (Colville) Tribe, who can identify their ancestry back over a thousand years in this area. The languages of the twelve tribes comprising the Confederated Tribes of the Colville Reservation have been grouped into general Salishan and Sahaptian language families. The majority spoke the Interior Salish languages of nxaʔamcín and nsləxcín, though the Sahaptian languages of the Nez Perce (nímípuʔ) and Palus (palús) were also spoken. The language of the sx̌ʷiyíʔłp is nsləxcín.

This project includes various forest and fire management treatments for approximately 1726.50 acres of land within the Inchelium Forestry District (IND). The project area encompasses approximately 10,511 acres. For the purposes of consultation with the Tribal Historic Preservation Officer (THPO) under Section 106 of the National Historic Preservation Act, the 2,243 acre timber treatment areas and attendant landings, 5.95 miles of new road construction and 37.61 miles of road reconstruction as well as all existing roads utilized for logging operations shall be considered the Area of Potential Effect (APE).

Approximately 91.50 acres were previously surveyed within and immediately adjacent to the Lynx Mountain Forestry Project area (Meyer 2005; Marchand 2008). These inquiries have resulted in documentation three archaeological sites within or immediately adjacent to the Lynx Mountain Forestry project area and a review of the Colville Confederated Tribe History/Archaeology Program documented six TCPs and one historic cemetery within the project area for a total of ten cultural resources.

A search of Bureau of Land Management/General Land Office (BLM/GLO) records indicates that there are seventeen historic Indian allotments, six land patents and approximately five miles of roads crisscrossing the project area.

For the current project, a predictive model was used to select areas within the Lynx Mountain Project area for a cultural resource survey which resulted in no new resources observed or documented.

Five of the ten cultural resources identified within/adjacent to the entire project area are located within the APE for the current project. Multiple treatment blocks are within five TCPs, which are documented as TCP-WA-FE-34, TCP-WA-FE-39, TCP-WA-FE-145, TCP-WA-FE-149 and TCP-WA-FE-235. These sites may be considered eligible for the National Register of Historic Places, as described in 36 CFR Part 60.4.

All TCPs and archaeological sites must meet at least one of the following criteria to be considered eligible for evaluation to the National Register: A) they must be associated with events that have made a significant contribution to the broad patterns of history, B) they must be associated with the lives of persons significant to our past, C) they must embody the distinctive characteristics of a type, period, or method of construction or they represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components make individual distinction, or D) they must have yielded, or be likely to yield, information important in prehistory or history. Additionally, to be a "property" a TCP must have tangible boundaries (36 CFR 60.4; Parker & King 1998).

Shannon and Moura (2007) have aptly observed that due to the unique nature of TCPs, the standards identified above must also be evaluated with perception of Native American history. When reviewing TCPs for continued use of at least 50 years, for instance, it must be recalled that federal and state policies common in the 1800s restricted, regulated and denied access to property to Tribal people which had previously been in their exclusive territory. Oftentimes, Indian people may shift their area of use to adjacent or nearby locations if a previously utilized property suddenly (and beyond Tribal control) became unavailable. Therefore, a location may still retain value and continue to be a TCP when access is restored (Shannon & Moura 2007).

In pre-contact and historic times, the knowledge of these TCPs and their locations and use provided people with a means for subsistence and important cultural items for personal use or trade, cultural practices which continue to this day. Additionally, the nature of these sites and their close proximity to other documented cultural resources, including pre-contact, historic and additional TCP sites increases their potential to yield information important to the CCT.

Oral history accounts of the region identify the general areas of Lynx Mountain, Bitterroot Mountain, Carson Mountain, Seyler Valley, Lynx Creek and Hall Creek as possessing traditional value in addition to those locations observed during the archaeological survey. It is the position of the CCT that "A place is significant due to its location and the meaning assigned to it, not the language of the name by which it is known. While recording place names in the original languages is of immeasurable value, the places would continue to have meaning and significance regardless of the language used to describe them (George 2011).

It is likely that cairns, rock alignments, and other rock features may be found throughout the area due to the prominent landscape of the mountains in the area. Small pre-contact camps may be present on the upland areas adjacent to springs or creeks, or in sheltered canyons, where people would have camped while taking advantage of upland resources. Evidence of early historic-period occupation, logging and mining features and\or graves may be present within the project area.

The project area is located within the Hall Creek Watershed, which contains all or portions of Stall Creek, North Fork of Hall Creek, Hall Creek, Spring Creek, Barnaby Creek, Elbow Lake, Nicholas Lake, LaFleur Lake, Simpson Lakes and Lynx Creek. Land-based cultural activities occur in the summer and fall within this watershed, with the most prevalent use during the summer. Traditional use of sweathouses perpetuates within the Hall Creek watershed, as do harvest of culturally significant plant species across the landscape. Fourteen locations within the watershed have been documented as important areas for water-related resources and legendary landscapes. Some of these areas include Simpson Lakes, Lynx Creek, Hall Creek and the West Fork of Hall Creek. The project area falls within a portion of the watershed which is documented as a principle gathering location for at least twenty-one native plant species for consumption, construction, weaving, and religious purposes (Table 7).

Table 7. Traditional Cultural Plants gathered within the Hall Creek Watershed (Marker et al. 2011).

Indian Carrots, *Perideridia gairdneri*	**Wild Mushrooms,** *Multiple Species*	**Cottonwood,** *Populus trichocarpa*
Vine Maple, *Acer circinatum*	**Tall Oregongrape,** *Berberis aquifolium*	**Wild raspberry,** *Rubus spp*
Foamberry, *Shepherdia canadensis*	**Wild blackberry,** *Rubus spp*	**Indian potato,** *Claytonia lanceolata*
Wild thimbleberry, *Rubus spp*	**Red Willow (Dogwood),** *Conrus stolonifera*	**Fir,** *Multiple Species*
Wild strawberry, *Fragaria vesca*	**Cedar,** *Thuja plicata*	**Lodgepole Pine,** *Pinus contorta*
Western Larch, *Larix occidentalis*	**Buckbrush**, *Ceanothus*	**Bunchgrass,**
Reed Canary Grass, *Phalaris arundinacea*	**Tule (aka bulrush),** *Schoenoplectus acutus*	

3.6 Range Management

All the proposed treatment blocks in the Lynx Mountain Forest Project are within the boundary of Range Unit 11. The range programs infrastructure GIS layer indicates the project activity area does not have range assets such as fences, cattle guards, or developed watering facilities. Range assets may exist that are not recorded in the range programs infrastructure layers. The CTCR Range Program requests that if infrastructure is encountered, we be notified as to type and location so that the structures can be assessed as to condition to determine if repairs are needed or if the structure materials should be removed from the forest. Additionally, if viable infrastructure is damaged during project activity the project proponent would be responsible for notifying the range program and seeing that damage is repaired in a timely manner. Although there is no active grazing at this time in this range unit it is still in the land base that the Range Program manages for grazing. If in the near future livestock are grazed on this unit, the range program would notify forestry staff that livestock may be in areas of harvest activity.

3.7 Air Quality

Smoke Management and Air Quality

A. Compliance: Air quality within the reservation boundaries is regulated by the Environmental Protection Agency (EPA) under 40 CFR, Part 49, Section 131,137 Federal Air Rules for Indian Reservations (FARR) effective June 7, 2005. Implementation of this prescribed fire plan would comply with FARR regulations.

B. Permits to be Obtained: No permits are required to implement this Prescribed Fire Plan. Dispatch would notify Washington State DNR of intent to burn on a daily basis.

C. Smoke-Sensitive Receptors: There is no Class I air - sheds adjacent to or within the boundaries of the Colville Confederated Tribes Indian Reservation. The following small airports border the reservation boundary but would not be impacted.

General Aviation Airports		
City		Airport Name
Brewster	S97	Anderson Field
Colville	63S	Colville Municipal Airport
Electric City	3W7	Grand Coulee Dam Airport
Omak	OMK KOMK	Omak Municipal Airport
Other Public Use Airports		
Chewelah	1S9	Sand Canyon Airport
Okanogan	S35	Okanogan Legion Airport

D. Potential Impacted Areas: Smoke as a result of ignition, would be transported into the higher levels of the atmosphere by general and transport winds minimizing smoke impacts to the public during the day. Some significant smoke impacts are anticipated. The volume of smoke created on any given day is not anticipated to be enough to create a significant impact within the Lynx creek drainage.

Mitigation Strategies and Techniques to Reduce Smoke Impacts: The Burn Boss would coordinate on a daily basis with the Operation Specialist in scheduling and prioritizing prescribed fire activities across the Colville Indian Reservation. By doing so, air quality can be managed and duration of smoke exposure minimized.

1. Prior to the planned burn day(s), Fire Management staff would post public notification posters that display areas where burning is planned and would include Fire Management contact information if public has questions or concerns.
2. If there is an expectation that nearby local residents would be impacted by smoke, the Burn Boss would arrange for fire management staff to contact them. If personal contact cannot be made a flyer would be left that would include Fire
3. Management contact information. The Burn Boss would attempt to manage smoke impacts where necessary by limiting the number of acres burn in the area each day.
4. No local residents with respiratory health issues have been identified at this time. Temporary living arrangements would be offered if a resident is identified.

If roadway visibility is impacted signs would be posted as required in the State and County Signing Guidelines.

4.0 Environmental Consequences

Summary Table of Issues Indicators

Table 8. Summary table of issue indicators for goals and objectives.

Resource	Issue	Issue Indicator	Alt. A	Alt. B
Vegetation /Timber	**Forest Health**	**Acres Treated**	0	2,490 ac
	Support of Tribal Wood Processing	**Timber Volume for Processing**	0	22.42 MMBF
	Tribal Income	**Projected Stumpage**	$0	$5,056,876.95

4.1 Forestry

Impacts to Forestry Resources Alternative A: No Action

• No profits for Colville Tribe and would not meet the AAC of 77.1 MMBF.

• Forest management would not receive the 10% funds.

• No timber industry employment would be generated.

• Forest health would decline.

• No Improvements in forest roads.

• Area would move farther away from the Desired Future Condition's in the Integrated Resource Management Plan.

• No new acres would be added to the regulated forest.

Under this alternative, no conifer trees would be harvested. No timber stumpage revenue would be generated. No Forest Management Deduction (10%) funds would be generated. No logging industry employment would be generated. No silvicultural treatments would be implemented. Forest health issues and concerns could possibly worsen, and the desired objectives would not be achieved in regards to desired future conditions. Overstocking of forest stands; predominance of climax tree species, over mature trees, tree mortality, competing vegetation, forest insects and diseases problems and other current forest conditions would continue to affect the overall forest health. The potential forest site-productivity may never be achieved on some locations.

Forest roads would not be maintained and/or reconstructed, and potentially upgraded by culvert installation and erosion control which would affect the access and use of resources by the Colville Tribe and public. Under-sized culverts and plastic culverts would not be replaced.

"No Action" on the Lynx Mountain Project could put the pressure of achieving the projected stumpage revenue onto other reservation-wide project areas and natural resources. Specifically, the "No Action" alternative could be detrimental to the health of the forest.

Impacts to Forestry Resources Alternative B: Proposed Action

- Approximately $5,056,876.95of profit for the Colville Tribe with an estimated harvest of 22.418 MMBF.
- Species composition on 1,726.5 acres would be shifted to Ponderosa pine and Western larch.
- Forest health would improve, diseased trees would be removed and disease resistant species would be regenerated naturally and with planting.
- Understory encroachment would be piled and/or burned, reducing the likelihood of catastrophic fire.
- Density would be reduced in thick stands, creating a healthier forest.
- Desired Future Condition's outlined in the IRMP would be met over time.
- 5.95 miles of new road construction to facilitate logging.
- 37.61 miles of existing road would be improved. All newly constructed roads would be closed following post-harvest activities.
- All of these things cumulatively would create a faster growing, disease resistant, more productive forest landscape that would yield much higher volumes and value in the future.

In terms of vegetation management, the implementation of Alternative B would improve forest health. The result of management would be to: increase stand and individual tree vigor, increase insect and disease resistance, reduce the fuel quantity, and provide more fire-resistant fuel arrangement in timber stands. The Proposed Action would move a substantial portion of the vegetation in the Project Area toward the stand structure distributions and size/age classes outlined as the desired. This alternative would also achieve the goals for regulation of the long-term timber supply, supply of wood to processing facilities, and stumpage return to the Tribal Government and to Tribal Members.

Evaluation/Comparison of Alternatives

The conditions of the trees and stands were interpreted by the Silviculturist into overall risk ratings for various insect and disease damaging agents. The main damaging agents at work in the project area are, in order of decreasing severity: Dwarf Mistletoe (Arceuthobium spp.) in the Douglas-fir (*Pseudotsuga menziesii*), Western larch (*Larix occidentalis*); and root disease (primarily Armillaria).

This hazard rating was used to help select stands as harvest candidates. Therefore, any action alternative would show treatment of a large percentage of the stands with elevated risk. The No Action alternative would not treat high-risk acres and an increased rate of loss to insects and/or disease would be expected.

Some of the potential negative impacts that a timber sale may create, include the following: Visual landscape changes or disturbances would occur. Man-made “signs” (ribbon, tags, paint) are introduced into the area to guide the forest management. Noise and dust are created from logging operations. Existing vegetation is temporarily disturbed, but their resiliency to disturbances would allow them to come back. Skid trails and landings are created. Woody slash material is created.

4.2 Soils

Impacts to Soil Resources Alternative A: No Action

The “no action” alternative would have no impact on the soil resource within the project area.

Impacts to Soil Resources Alternative B: Proposed Action

Soil would be impacted by ground-based logging, cable or cable assisted logging, excavator piling and broadcast burning. Approximately 876 acres would undergo ground-based logging. Blocks that are cable logged and/or cable assisted logged, comprising approximately 850 acres, typically have fewer significant soil impacts. If tethered logging is used instead of cable, soil impacts would vary depending upon localized conditions, but tend to improve overall safety. Approximately 758 acres would undergo broadcast burning, 2,106 would undergo excavator piling, and 822 acres would undergo lop and scatter. Approximately 1,943.9 acres (18.48%) of potential prime farmland exist within the project boundary. Prime farmland within the project area is located within forested land that is part of the CTCR designated commercial timber base. It is unlikely that timber harvesting would have any detrimental effect on the functional integrity of the land classification and CTCR does not have future plans to develop the prime farmland within this project area.

Generally, areas with slopes exceeding 35% are less well suited to use of ground-based machinery and soil impacts would be greater. According to data obtained from the Colville Tribes RIA/GIS program, 60 percent of the total 876 ground-based logging acres of the proposed blocks in this project have slopes exceeding 35%, meaning the total ground-based treatment area with slopes exceeding 35% would be 529 acres. Anticipated soil impacts include displacement of topsoil, rutting, compaction, and erosion or soil loss. Ratings of potential for soil degradation are provided by the Natural Resources Conservation Service. Table 9 shows the number of acres of ground-based harvest classified by soil displacement, rutting, compaction, and erosion hazard ratings:

Table 9. Ground-based harvest acres with soil degradation ratings.

Soil Degradation Type	High Potential Acres	Moderate Potential Acres	Low Potential Acres
Displacement	185.2	671.2	2.6
Rutting	762.3	73.1	21.9
Compaction	784.0	73.4	1.6
Erosion	258.0	557.2	42.3

The Natural Resources Conservation Service rates most soils with slopes exceeding 20% as poorly suited or unsuited for surface mechanical site preparation. Approximately 98.55 percent of the total harvest acres blocks in this project have slopes exceeding 20%. The primary factor

limiting suitability is hill slope. Anticipated soil impacts include displacement of topsoil and erosion.

Skid trails and pile burning generally cause severe impact to the upper soil layer (Cooley 2004). Skid trail impacts include compaction, rutting, and erosion or soil loss. Pile burning consumes most soil organic matter, nutrients, while changing the texture of soil surface layers.

758 acres are proposed for prescribed broadcast burning. Of the entire project area 82.9 percent of the total area is considered by NRCS to be highly susceptible to fire damage and 15.6 percent moderately susceptible, primarily due to subsequent water and wind erosion. Higher impact is associated with higher burn severity, with low severity burns posing less risk of soil damage.

Any new road construction likely involves clearing and grubbing, excavation, and compaction of multiple acres of soil depending on the mileage of new road. According to the project shapefile, approximately 13.85 miles of new road construction and 84.09 miles of road reconstruction would occur. With a total of 97.95 miles of new road construction and road reconstruction, approximately 391.78 acres of soil disturbance would occur.

Standard Operating Procedures and Mitigation Measures

All applicable Best Management Practices (BMP) specified in Tribal Code CTC 4-7 Forest Practices are required to limit soil damage (CTCR 2023).

Overall, activities should be performed when soil conditions are not likely to result in excessive erosion or soil movement, considering soil types, slopes, and climatic conditions.

Avoid developing prime farmland where possible to preserve those portions of the reservation which contain prime agricultural soils for agricultural purposes.

Increased soil impact is associated with higher burn severity; therefore, implementation of broadcast burning should maintain low severity burns in order to reduce soil damage.

4.3 Hydrology

Impacts to Hydrology Resources Alternative A: No Action

The no action alternative would allow for the natural ecological process to continue. Stream channel hydraulics and associated riparian vegetation would not be impacted by harvest related

activities. Effective ground cover and hydraulic roughness would remain, continuing to provide overland flow attenuation and prevent nonpoint source pollutant delivery to downslope watercourses. Retention of mature vegetation would continue to provide canopy interception and reduced rain splash erosion. Infiltration would remain high, and rill and scour erosion would remain minimal. Additionally, soil structure would be maintained in the current state. All methods of timber harvest, ground- or cable-based, result in some amount of soil disturbance. Soil compaction generally occurs in locations where machinery tracks have traveled (particularly in wet conditions), while destruction of soil structure and subsequent sediment mobilization generally occurs as a result of ground-based operation on steep slopes and a lack of traction. Transport of trees by logging equipment also results in soil disturbance and transportation. These effects would be avoided through the No Action Alternative, maintaining soil structure, density, and productivity.

Road density would be maintained at the current level under the No Action Alternative. Existing road density in the Lower Lynx Creek Watershed Management Unit (WMU) is higher than the desired condition outlined in the IRMP (Current: 5.14 mi/mi^2; desired: 4.0 mi/mi^2) , but lower than the density that would be achieved as a result of the preferred alternative. The No Action Alternative would also not involve reconstruction of any existing roads, allowing existing vegetative cover and stability to be maintained. Maintaining the lowest road density (i.e. the existing condition) would provide the closest approximation of natural hydrologic conditions, between the two scenarios. High road densities are detrimental to watershed hydrology primarily due to the interception and diversion of water from natural flow paths. When water flowing down a hillslope is intercepted by a road prism, ditch, blocked or undersized culvert, or other infrastructure, that water is generally diverted or lost to evaporation, rather than continuing as overland, shallow subsurface, or groundwater flow. As climate change advances, it becomes increasingly important to retain water on the landscape. High road density contributes to the loss of water on the landscape through decreased infiltration and increased evaporation, and each additional road increases these effects.

Existing roads in the Lynx Mountain project area are maintained to various levels of stability. 74 existing segments, with a total length of 19.7 miles, were identified for review; segments were selected for review if they were within or adjacent to swales, draws, wetlands, streams, or other

aquatic resources. Additionally, some segments had previously received restoration treatment, and were identified to prevent unauthorized use. Under the No Action Alternative, none of these segments would be reconstructed, and use would not increase. However, segments that have not been maintained may continue to be at risk of failure, and crossings obstructing flow and fish passage would continue to do so.

Impacts to Hydrology Resources Alternative B: Proposed Action

- 5.55 miles of new road construction and 40.33 miles of road reconstruction
- 0.1 miles of new construction and 4.85 miles of reconstruction within 200 ft of hydrologic features
- Harvest activities within 200 ft of streams – 165.56 ac
- Harvest activities within 200 ft of wetlands – 6.16 ac

Water Resources

The proposed project would involve approximately 1,726.5 acres of treatment. Within the project area, there are 33.24 miles of streams and 124.05 acres of wetland. Within treatment blocks, there are 1.63 miles of streams. The proposed project plan includes 171.72 acres of planned harvest activities within 200 ft. of hydrologic features. Harvest activities would occur on 165.56 acres within 200 ft. of streams, and 6.16 acres within 200 ft. of wetlands.

Table 10. Hydrologic features within the Lynx Mountain Project Area footprint.

Hydrologic Feature	Potentially Affected Size
Mapped Streams	33.24 mi
Mapped Wetlands	124.05 ac

Harvest operations, including the use of heavy machinery to fell and skid timber, cause soil compaction and erosion; additionally, as a result of decreased vegetation, interception, infiltration and water use are decreased, and a greater volume of water occurs as overland flow. This can result in great sediment transportation to downslope streams and wetlands, resulting in decreased water quality. Additionally, harvest operations create linear features such as skid trails. If oriented parallel to the slope, or located in swales and topographic low points, these linear features channelize water, and lead to rill and gully erosion, sediment transportation, and road failure. These effects can be minimized by locating skid trails perpendicular to slope direction, and through the use of cable logging rather than ground based harvest systems, particularly on steeper slopes.

All road construction and use associated with proposed timber harvest activities would lead to soil disturbance and loss as well as alteration of watershed hydrology (Hunner 2014). Specifically, road miles within 200 ft. of surface water are statistically likely to deliver sediment/erosion to surface water (Dubé et al 2004). Road reconstruction and new construction effects on water quality, hydrologic processes, and aquatic habitat would be the longest-on-going, longest-lasting, and highest-degree negative impacts resulting from the proposed action. The use of heavy machinery to create and redo roads would result in immediate sediment delivery to adjacent waterbodies. Additionally, reconstruction results in soil compaction and disturbance, both of which are significant causes of decreased soil health, eventual runoff channelization and continued erosive losses. Repeated improper reconstruction procedures that fail to reincorporate disturbed material into the road prism create linear features that channel water away from natural water features. When these features are created adjacent to streams, heavy flow events can cause the relocation of the active channel into the road prism, creating a safety hazard, and drastically altering the natural hydrology of the area.

The impacts from the proposed project to the affected environment are multi-faceted. Harvest impacts include: alterations in flow paths due to skid trail creation and machinery operation; reduced infiltration and increased erosion due to soil compaction from machinery operation; increased sediment and nutrient delivery to surface waters; loss of wetland and riparian vegetation; and potential delivery of herbicide to surface waters, among others.

Prior to initiation of harvest, calculation of exact miles of skid trails is not feasible. However, impacts can be estimated through looking at the number of blocks and acreage of harvest impacts. 1,540 acres, across 41 blocks, are proposed for ground based (tractor and cable assist) harvest. Blocks range from approximately 1,000 to 4,500 feet in width oriented perpendicularly to the hillslope. Assuming an average block width of approximately 1,500 feet (a conservative estimation), with average skid trail spacing of 100 feet (as required by Colville Tribal Code 4-7 Forest Practices), over 600 skid trails would be created in blocks prescribed for ground based harvest. Using aerial imagery from late summer 2022, skid trail spacing in previous sales, including Summit Trail salvage blocks in the Upper Lynx Creek WMU, was determined to be closer to an average of roughly 50 foot spacing. With this knowledge, we can assume that skid trail creation could be as much as double what is estimated above in ground-based harvest

blocks. Additionally, 136.68 acres of proposed ground based harvest would occur within 200 feet of hydrologic features. The potential for sediment and nutrient delivery to surface water via skid trail creation is elevated in these acres.

Tethered logging, a relatively new harvest system on the Reservation, which involves the use of a winch for assistance in machinery operation of slopes, is proposed for 682 acres of blocks. Existing Tribal Code does not allow for operation of ground based harvest systems on slopes over 35% due to potential soil impacts, recognizing the increased magnitude of machinery impacts as slope increases. However, tethered logging has been adopted for use on slopes up to 70%, to increase efficiency and decrease costs of harvest. Where any ground based harvest system is used on vulnerable soils, the potential for compaction and erosion is increased. When these factors are combined with steep slopes and proximity to aquatic resources, the potential for sediment delivery and resource damage is significant. 11.51 of these acres are located within 200 feet of hydrologic features (streams and wetlands), increasing the potential for sediment delivery due to the combination of ground based operation and steep slopes.

Herbicide application is also proposed for 766 acres of the Lynx Mountain timber sale. The use of herbicide in this sale is intended to control two specific species of brush, oceanspray (*Holodiscus discolor*) and mallow ninebark (*Physocarpus malvaceus*). Herbicide impacts can include: mortality of non-target species, particularly when a generalist formulation is used instead of a targeted herbicide; decreased effective cohesion of soils due to loss of living roots; and secondary effects on fish and wildlife due to loss of forage. 51.23 acres of herbicide application would occur within 200 feet of hydrologic features.

Road development and use impacts include: alterations in flow paths due to the creation of linear landscape features (roads) perpendicular to natural slopes; reduced infiltration and increased erosion due to the creation of impervious or resistant surfaces; and increased transport of vehicle associated contaminants (including 6PPD-q, hydrocarbons and carbon monoxide from exhaust, etc.), among others.

Proposed reconstruction and new construction in the Lynx Mountain project area would occur on 45.88 miles of road. The proposed haul route for logging vehicles to transport logs to the mills includes an additional 18 miles of paved road between the town of Inchelium and the northern

boundary of the Reservation, primarily on Inchelium-Kettle Falls Road. 4.94 miles of reconstruction and new construction would occur within 200 feet of surface water. High road densities detrimentally affect water retention on the landscape, creating interception points that redirect flow from reaching creeks, streams, and wetlands. Abandonment and revegetation of roads can mitigate some of the effects of high road density, improving infiltration and decreasing overland flow, but retention of road prisms, nonnative road bed material, and artificial crossing structures such as culverts would continue to alter hillslope hydrology regardless of vegetation establishment. Additionally, studies have shown that the chemical 6PPD-quinone, used in the manufacture of rubber tires, can cause acute mortality in salmonids, including rainbow trout (*Oncorhynchus mykiss*), found in streams across the Colville Reservation. Roads in proximity to salmonid bearing waters may result in 6PPD-q related effects.

Therefore, the action in this area would have direct physical changes on the environment. The Proposed Action Alternative approval would have cumulative effects resulting from road construction, timber harvest, and herbicide application. The associated effects are discussed in Section 5.6 of this EA. Surface Water:

The proposed alternative would generate sediment through the creation of skid trails, increase overland flow through the removal of vegetation, and create interception points through the construction and reconstruction of roads. A minimum of 17 culverts would likely be installed during this project, as well as two separate bridges on Lynx Creek. Road miles and road density in the project area would increase due to the 5.55 miles of new road construction.

Wetlands:

The proposed forestry activities would impact wetland ecosystems through soil disturbance, hydrological alteration, and disruption of vegetative community. 6.61 acres of harvest activities occur within 200 feet of wetlands and forestry associated road work includes 0.61 miles of road reconstruction within 200 feet of wetlands.

Floodplains:

NOAA mapping indicates an extensive 100-year floodplain associated with Lynx Creek. Due to the steep slopes in the Lynx Creek WMU, tributaries to Lynx Creek are generally confined, and

do not have associated floodplains. Blocks and roads proposed for this project do not encroach on the 100-year floodplain of Lynx Creek, with the exception of the road approaches for the two bridges.

Direct Impacts – Short-Term

Surface Water:

Timber harvest activities are likely to result in short term impacts to surface water quality through the generation of sediment. Turbidity has previously been an issue in Lynx Creek; this is likely to continue, and detrimentally affect aquatic organisms. Additionally, turbidity is often associated with dissolved oxygen, which has not been a metric of concern in this drainage in the past, and temperature. Increased heating of surface water, particularly in headwaters and tributaries, is likely, due to removal of vegetative cover. Degradation of temperature, dissolved oxygen, and turbidity metrics would likely be short term impacts of timber sale activities. Water quantity is the main stem of Lynx Creek likely to increase in the short term, due to removal of vegetation and reduction of transpirative losses. However, much of this water would travel as overland flow, becoming vulnerable to evaporation and interception from road prisms, skid trails, and other anthropogenic alterations. Water distribution across the landscape is likely to change for this reason. Road construction and reconstruction is responsible for interruption of natural landscape hydrology, creating diversion points perpendicular to hillslopes. These diversions result in altered flow paths, increased evaporation, and increased sedimentation. Short term water quality would likely decrease for these reasons as well. These impacts would be sustained over the duration of the project, approximately five years.

Wetlands:

Moderate tree removal adjacent to the Lynx Creek associated Freshwater Forested/Shrub Water Type 1 wetland, E.HAL_294, in the Commercial Thin Rx Blocks 439 305 and 440 332, and especially extensive tree removal in Seed Tree Rx Block 436 011 as well as extensive tree removal in Seed Tree Rx Block 435 048 adjacent to the Lynx Creek associated Freshwater Forested/Shrub Water Type 1 wetland, E.HAL_296, are predicted to contribute to short-term rise in local water tables which influence the timing and seasonal persistence of surface water,

interrupt pollutant processing capacity of the wetlands, and disrupt growth habits of wetland vegetation.

Floodplains:

Short term impacts to floodplains would be contained to the road approaches for the two bridges located along Lynx Creek. Minor road construction in the floodplain would result in small areas of soil compaction and erosion. Sediment delivery to Lynx Creek is possible, but, with the utilization of Best Management Practices, the area of impact should be minimized.

Direct Impacts – Long-Term

Surface Water:

Long term impacts to surface water would continue until vegetation is established and disturbed areas are stabilized. As skid trails and roads are seeded with herbaceous vegetation, soils would become more stable, and water quality would gradually return to pre-harvest conditions. As larger vegetation and trees establish, surface water quantity would decrease with increased evapotranspiration. Depending on the duration and severity of impacts to natural hillslope hydrology, flow paths may be permanently altered by the creation of skid trails and roads. Additionally, roads would not be deconstructed at the conclusion of the sale. Therefore, road density impacts on interception and diversion would persist, and road use would continue into the foreseeable future. Crossing structures would also not be removed, and impacts from improperly installed or sized structures would continue to impact water quality in the long term. Additionally, any road use over streams would continue to deliver sediment and contaminants to the surface water at the crossing.

Wetlands:

There are 0.61 miles identified for reconstructed road within 200 feet of wetlands with 0.46 miles within the wetland RMZ buffer for CCT Water Type I Freshwater Forested/Shrub Wetland E.HAL_294, adjacent to Block 439 305 which is scheduled for Commercial Thin Rx. Over the long-term the construction and use of forestry-related roads contributes to sedimentation in wetlands, aiding in nutrient and pollutant delivery as well as degrading wetland function, water quality, and habitat.

Floodplains:

The bridge crossings on Lynx Creek are proposed as temporary actions; prior to the conclusion of the sale, the bridges would be removed and utilized in other locations. Road construction in the floodplain would be minimal, and use would not continue after the sale has concluded.

Indirect Impacts

No indirect impacts from this project are likely to impact surface water, wetlands, or floodplains.

Cumulative Impacts

Surface Water:

As discussed above, three other timber sales have occurred in the Hall Creek RMU in the past 5 years. These timber sales have occurred outside of the Lynx Creek WMU, but all three contribute to impacts on the water quality in Hall Creek. Between these three sales (Elbow Lake, Sleepy Hollow, Hall Creek), 5,809.9 acres were harvested. The Lynx Mountain Project would add an additional 1,726.5 acres of timber harvest in the drainage. Additionally, 11,749.8 acres of the Upper Lynx Creek WMU burned during the Summit Trail Fire, followed by 2,228 acres of salvage harvest. Cumulatively, this is 9,764.4 acres of harvest in the past 5 years. Each acre of timber harvest results in sediment generation, nutrient transport, and hydrologic alteration.

Wetlands:

Increased runoff and sedimentation associated with ground based harvest systems and road construction, reconstruction, and forestry related road use are expected to have cumulative systemic impacts to the wetlands adjacent to harvest blocks as well as the downstream wetlands associated with Lynx Creek. The Lynx Mountain 2024 Forestry Harvest Project would occur simultaneously with BIA Land Operations grazing permits in Range Unit 11. There are no grazing controls identified for range practices along Lynx Creek and the associated wetlands. Cattle impacts including wetland soil disruption and biological impacts would be exacerbated by forest practices contributing to excess sedimentation and nutrient inputs.

Floodplains:

No additional impacts to the Lynx Creek floodplain have been documented prior to this project. Therefore, there are no likely cumulative impacts from the proposed action.

Water Resources – No Action Alternative

Under the No Action Alternative, there would be no changes to surface water, wetlands, or floodplains, and no significant direct, indirect, short-term, long-term, or cumulative impacts to water resources anticipated.

Water Resources Impacts – Conclusions

Water Resource Type	Short-Term Direct Impacts	Long-Term Direct Impacts	Indirect Impacts	Cumulative Impacts
Surface Water	Yes	Yes	None	Yes
Wetlands	Yes	Yes	None	Yes
Floodplains	None	None	None	None

Table 11. Water Resources Impact Summary from the Proposed Action.

The project would result in short term impacts to soil and surface water, particularly within the top 12-24 inches. Long term impacts (after the conclusion of the project) would be minimal as vegetation reestablishes and stabilizes slopes. However, the cumulative impact of the project, in conjunction with previous timber sale impacts, would impact water quality and quantity throughout the Hall Creek RMU. The Proposed Action would result in significant short term and cumulative impacts to water resources including surface water and wetlands.

Mitigation and Monitoring Requirements

Operators must ensure that all Best Management Practices (BMP) and standards for timber harvest identified in Colville Tribal Code (CTC) Chapter 4-7: Forest Practices are followed in order to minimize hydrologic disturbance resulting from actions taken under this alternative. During road construction and reconstruction Planners and Operators must ensure that new/re-constructed roads meet the BMPs and standards for roads identified in CTC Chapter 4-7: Forest Practices, and CTC Chapter 4-9 Hydraulic Projects if doing any culvert/bridge work. By meeting these BMPs Planners and Operators would minimize the water quality, hydrologic process, and aquatic habitat degradation associated with roads as a result of the actions taken under this alternative. The transportation plan developed by the Inchelium Forest Roads Engineer incorporated input from the Environmental Trust Department regarding stream adjacent roads,

new road locations, and culvert sizing and placement. The Forest Roads Engineer should continue to work with the Watershed Restoration Program to remove any unnecessary road construction, and determine where roads can be closed or decommissioned to reduce road density.

Riparian management zones are defined in CTC 2023 Chapter 4-7 Forest Practices and include the following buffer widths:

Water Type	Minimum RMZ Width
1	150’
2	125’
3	100’
4	50’

Road segment FID 5632, from the “inch_roads83” layer provided on 10/3/22, is located in the buffer of a stream and mapped wetland. This location was visited in the field, and erosion and water quality impacts were documented. The road to access blocks 123 and 169 would be located upslope of this segment, and segment 5632 would not be used.

Road segment FID 282 is stream and wetland adjacent, resulting in water related issues during the spring and fall. This road segment should only be used under frozen conditions to prevent additional issues.

Road segment FID 283 was visited in person, and determined to be detrimental to the point of removal from the transportation plan.

Road segments FID 188, 5687, and 5688 are located in a swale, and continue to have drainage issues. Drainage should be added, if use is necessary.

Road segment FID 5776 is stream adjacent. After field discussion, this segment was thrown out to prevent further water quality issues.

A number of crossings were field identified for replacement or improvement as well. The shapefile provided on 12/7/22 titled "ETD_Crossing_Replacements" identifies crossings that were discussed and agreed upon between ETD and Forestry during the field season. This shapefile may not encompass all crossings in the sale area. Any crossings added after the final Forestry shapefiles have been distributed would require review prior to implementation.

The following restrictions should be adhered to for harvest systems, to reduce damage to soils from compaction, as well as risks to aquatic resources from sediment mobilization and transportation to surface water.

Table 12 . Potential blocks that would require seasonal restriction if tethered harvest system is used.

Comp	Block	Proposed Harvest System	ETD Mitigations
457	32	C/CA	Cable harvest only
457	716	C/CA	Cable harvest preferred
457	717	C/CA	Cable harvest preferred
457	718	C/CA	Cable harvest preferred
457	719	C/CA	Cable harvest preferred
457	720	C/CA	Cable harvest preferred
457	720	C/CA	Cable harvest preferred

Planners and Operators should develop practices that would effectively mitigate for the increased road surface erosion. Such practices should include a plan for permanent road decommissioning to meet the IRMP objectives and comply with CTC Forest Practices Code.

Upon completion of harvest or haul operations the following maintenance & monitoring actions shall be performed:

- Clear all drainage improvements of obstructions
- Stabilize or remove unstable material and forest debris with potential to block drainage improvements
- Repair or replace all damaged drainage improvements to fully restore their function
- Leave road surface in a condition that would prevent subsequent erosion, and keep runoff within natural drainages, by outsloping, removing berms from the outside of roads, providing drain dips, waterbars, rolling grade or other methods

Vegetation (terrestrial, aquatic, riparian, threatened/endangered)

Botrychium, a genus of ferns often referred to under the common name "moonworts", contains numerous species native to Washington State, including within ecosystems found in the project

area. In particular, *Botrychium montanum* and *B. minganense* are commonly found in shaded, mesic cedar groves with deep duff accumulations associated with seeps, springs, and streams. *B. crenulatum* is similarly found in this habitat, and is listed as a vulnerable species by the State of Washington.

Confirmed populations of *B. montanum* and *B. minganense* were documented in the following blocks. The presence of *B. crenulatum* cannot be dismissed, as species level identification was not possible for each individual *Botrychium* observance, and precautions should be taken to avoid impacts, including machinery exclusion from areas with documented populations. Additional blocks are listed that are likely to support populations, but were not able to be verified during the field season.

Table 13 . Potential blocks that have confirmed or likely populations of *Botrychium*.

Comp	Block	Harvest System	*Botrychium spp.* Presence	Observed by
439	202	GB	Likely	-
439	204	GB	Confirmed	Charlotte Axthelm
439	205	GB	Confirmed	Charlotte Axthelm
439	208	GB	Likely	-
439	209	GB	Confirmed	Charlotte Axthelm
439	210	GB	Confirmed	Charlotte Axthelm
439	215	CA	Likely	-
439	216	CA	Likely	-

439	221	CA	Confirmed	Charlotte Axthelm

Because of the proposed use of ground-based harvest systems (tractor and cable-assist), the likelihood of impacts to these *Botrychium* populations is significant. All seeps and springs should be flagged prior to initiation of harvest, and machinery exclusion from these zones should be observed. Stream and wetland buffers should be strictly maintained.

Resource Use Patterns

Transportation Networks

The existing transportation network on the Reservation consists of nearly 10,000 miles of road managed under multiple jurisdictions, maintained to varying degrees of stability. Within the Inchelium district, major travel corridors include Bridge Creek Road (Ferry County Public Works), and Inchelium-Kettle Falls Highway (Ferry County Public Works), among others (Tribal DOT, BIA DOT.). Additionally, the district contains multiple thousands of miles of forest roads, which do not fall under any of the above jurisdictions, and therefore do not receive any maintenance. These roads are primarily used for timber harvesting, fire suppression, and member access for hunting, fishing, and gathering. In addition to this multi-jurisdictional network, there are over 3,300 stream crossings.

Direct Impacts – Short-Term

The Lynx Mountain timber sale project proposes the construction of 5.95 miles of new road, and 37.61 miles of reconstruction of existing forest road. The use of these roads for timber sale operations would result in short-term impacts to the existing transportation network through physical degradation of roads. Large vehicles carrying heavy machinery and loads of logs cause road quality to deteriorate. This would occur throughout the life of the project.

Direct Impacts – Long-Term

The existing roads network is not well maintained; creation of new roads and reconstruction of existing roads would decrease the amount of maintenance that can be allocated to existing segments, and cause road quality to deteriorate over time.

Cumulative Impacts

In addition to the Lynx Mountain timber sale, three other timber sales have occurred in the Hall Creek RMU in the past five years. This results in cumulative stress on the existing and proposed transportation network through the use of heavy machinery and large vehicles.

Short- and long-term direct, and cumulative impacts to water resources have been identified with the proposed Lynx Mountain Timber Sale Project. Implementing the proposed action would result in new and cumulative impacts to water quality and wetlands.

Mitigation

Operators must ensure that all Best Management Practices (BMP) and standards for timber harvest identified in Colville Tribal Code (CTC) Chapter 4-7: Forest Practices are followed in order to minimize hydrologic disturbance resulting from actions taken under this alternative. During road construction and reconstruction Planners and Operators must ensure that new/re-constructed roads meet the BMPs and standards for roads identified in CTC Chapter 4-7: Forest Practices, and CTC Chapter 4-9 Hydraulic Projects if doing any culvert/bridge work. By meeting these BMPs Planners and Operators would minimize the water quality, hydrologic process, and aquatic habitat degradation associated with roads as a result of the actions taken under this alternative. The transportation plan developed by the Inchelium Forest Roads Engineer incorporated input from the Environmental Trust Department regarding stream adjacent roads, new road locations, and culvert sizing and placement. The Forest Roads Engineer should continue to work with the Watershed Restoration Program to remove any unnecessary road construction, and determine where roads can be closed or decommissioned to reduce road density.

A preliminary transportation memo was distributed on 1/31/23 identifying roads that should not be used due to stream or wetland adjacency (Appendix C). These segments were then field verified, and adjustments were made accordingly. Several segments identified for review overlapped with roads proposed for use in the sale; however, after field assessment, most of these segments were deemed to not pose a risk to aquatic resources.

A layer was also provided of all restored roads within the project area, including decommissioning, closure, and permanent abandonment. In the original preliminary transportation memo, the following was stated: “The Restoration Program has completed several projects in and around this timber sale area, including the 2017 Lower Hall/Lynx Creek Watershed Restoration project. Four road segments included in the 2017 project are within or directly adjacent to the Lynx Mountain sale area; these roads have been decommissioned or permanently abandoned, and are not available for use.” Road segment FID2850 overlaps partially with a road that was decommissioned by the Environmental Trust Department in 2017, which was identified on this original layer. After discussion with the Transportation Planner, new road segment FID 4524 would be relocated downslope, to avoid removing the toe of a dormant landslide; this would allow cable timber harvesters to access the entire block, which would render use of the decommissioned road unnecessary.

During field work, multiple failed culverts were identified. Additionally, unmapped tributaries to Lynx Creek were identified during the field season, on both the north and south sides of the creek. Each of these streams would require properly sized and installed crossings on any reconstructed or newly constructed roads. This layer, titled “LynxMtn Potential Culverts” has been provided to the Transportation Planner. The following table identifies those crossings and the necessary treatments, as well as likely locations for new culverts on previously unmapped streams:

Table 14 . List of crossings requiring culvert uprade/installation.

ETD ID	Proposed Size	Comments
LM1	36	Undersized, failed pipes
LM2	0	Needs a properly installed ford
LM3		Likely to need a culvert
LM4		Likely to need a culvert
LM5		Likely to need a culvert
LM6		Likely to need a culvert
LM7		Likely to need a culvert

Several blocks were also identified for tethered logging as a harvest system. The blocks identified for tethered logging system use were assessed using Web Soil Survey layers identifying soils vulnerable to compaction, erosion, and rutting. Additionally, soils with low saturated hydraulic conductivity were identified. 682 acres slated for tethered logging system use were identified as having severe risk of compaction, erosion, rutting, or some combination of the three.

In order to mitigate for impacts to soils from compaction, as well as risks to aquatic resources from sediment mobilization and transportation to surface water from ground based harvest methods (including tethered logging), the following mitigations were developed:

Table 15. Harvest blocks requiring seasonal restrictions to mitigate for soil compaction and erosions.

COMP	BLOCK	Acres	RX	Skid Sys	Seasonal Mitigation	Harvest System Mitigation
436	7	41	SW	CA	Summer/winter	-
436	35	20.66	ST	CA	Summer/winter	-
435	61	35.7	SW	CA	Summer/winter	-
435	64	37.03	SW	CA	Summer/winter	-
435	81	35.5	RRT	CA	Summer/winter	-
435	86	29.8	ST	CA	Summer/winter	-
439	215	50	SW	CA	Summer/winter	-
439	221	75.9	SW	CA	Winter	
440	310	104	SW	CA	Winter	-
440	312	93	CT	CA	Summer/winter	-
440	342	52.3	SW	CA	Winter	-
440	352	30.27	CT	CA	Summer/winter	-
439	236	37	SW	CA	Winter	-
439	216	28	SW	CA	Summer/winter	-

Where compaction is the more likely pathway for soil degradation, summer or winter harvest is permissible, as dry or frozen soils are less susceptible. When rutting and erosion are more likely, winter harvest is required, as frozen ground is less likely to result in soil mobilization.

Some blocks identified for cable assist/tethered harvest were of particular concern for soil and aquatic resource impacts, due to a combination of soil composition and proximity to surface waters. These blocks were given seasonal restrictions for the above reasons, as well as converted to a cable harvesting system.

Table 16. Harvest blocks requiring seasonal restrictions and cable harvest system to mitigate for soil compaction and erosions.

COMP	BLOCK	Acres	RX	Skid Sys	Seasonal Mitigation	Harvest System Mitigation
435	58	38.5	ST	CA	Winter	Cable only
435	74	35.74	SW	CA	Winter	Cable only
435	75	27.8	ST	CA	Winter	Cable only
435	76	20.96	ST	CA	Summer/winter	Cable only
435	722	40.3	SW	CA	Winter	Cable only
439	238	17	SW	T	Summer/winter	Cable assist

One additional block was proposed for tractor (ground based harvest), despite steep slopes throughout. This block was converted to a cable assist/tethered harvest system, and given seasonal restrictions.

Additionally, mass failures and potential unstable slopes throughout the project area were field assessed. Two mass failures (0.61 acres and 0.1 acres), and several indicators of others, were located in block 425-722. In order to prevent additional slope failure and sediment delivery to Lynx Creek, these failures received a buffer from equipment entry and timber harvest.

Planners and Operators should develop practices that would effectively mitigate for increased road surface erosion. Such practices should include a plan for permanent road decommissioning to meet the IRMP objectives and comply with CTC Forest Practices Code.

Upon completion of harvest or haul operations the following maintenance & monitoring actions shall be performed:

- Clear all drainage improvements of obstructions
- Stabilize or remove unstable material and forest debris with potential to block drainage improvements
- Repair or replace all damaged drainage improvements to fully restore their function

- Leave road surface in a condition that would prevent subsequent erosion, and keep runoff within natural drainages, by outsloping, removing berms from the outside of roads, providing drain dips, waterbars, rolling grade or other methods

Within the project area, 58.42 acres are identified for prescribed fire. The CTCR Wetlands program supports prescribed burning as a means of ecological regeneration and reduction of excess fuels in wetlands and Riparian Management Zones. Precautions should be adhered to in managing prescribed burns in streams, wetlands and riparian management zones (RMZs) for both: Hand dig line and no equipment entry or staging in wetlands, wetland or stream buffers, or stream crossings. Burn wetland areas only in atmospheric conditions conducive to Low Soil Burn Severity; avoid burning of slash piles and other bulk materials in wetlands. With harvest related tree removal the risk of sedimentation to the wetlands increases. Also, with the combined loss of vegetation though harvest and burning, excess nutrient and pollutant uptake and filtration would be limited; therefore, it is critical that no pesticide or additive fertilizer be used in burned areas up-slope of wetlands or streams until vegetative structure is re-established.

Additionally, no restored roads should be used for fire suppression, unless all other practicable options have been exhausted. Contingency line locations should be identified prior to initiation of burning, and should not include roads that have been decommissioned, permanently abandoned, or otherwise restored.

4.4 Fish and Wildlife

Impacts to Fish and Wildlife Resources Alternative A: No Action

The “no action” alternative would not have adverse effects on fish and wildlife habitat in the project area. Leaving the timber intact would allow the area to follow natural succession patterns and would benefit wildlife species both terrestrial and aquatic. Fires and/or insect/disease die offs could affect the project area but the timing and severity of these disturbances is not known. Natural disturbances may even benefit fish and wildlife species by increasing habitat values. Overstocked and diseased stands may show a decline in value for some species of wildlife.

Impacts to Fish and Wildlife Resources Alternative B: Proposed Action

Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), of 1940, as amended, and Migratory Bird Treaty Act (16 U.S.C. 703-712), of 1918, as amended, prohibits anyone, without a permit, from "Taking" eagles or any bird, including their parts, nests, or eggs. Within this Act, eagles/nests/eggs/young are not to be "Disturbed" including agitated or bothered. Aerial surveys have been conducted in the past by the Colville Tribe to identify eagle and raptor nests.

Within the Lynx Mountain Project boundary there are no known bald eagle (*Haliaeetus leucocephalus)* or golden eagle (*Aquila chrysaetos)* territories Per code 4-7-68 a minimum of two reserve trees per acre, well distributed, shall be left standing (CTCR 2023). Due to this being suitable habitat for eagle species it is requested that these reserve trees consist of the largest diameter and tallest living trees. If during harvest activities a bald or golden eagle nest is thought to have been found, please contact the 3P wildlife biologist immediately.

Within the project area there is no known active great gray owl territory. There is one known American Goshawk territory. The Forestry Department has been notified of this active territory and a 660ft buffer has been placed around the active nesting area with a request to seasonally harvest between September 1st and February 28th. If a great gray or goshawk nest is located, a no harvest activity buffer of 660 feet would be put into place, with a 0.5 mile seasonal (March 1-August 31) buffer to protect fledging activities. With the timbered habitat bordering open habitat there is the available structure to support both great gray owls and goshawks. If at any time during harvest activities, any additional goshawk or great gray owls observed should be reported to the Inchelium wildlife biologists.

Fish and Wildlife Habitat Impacts

The Proposed Action would have impacts on fish and wildlife species and habitat within the project area. Removal of timber from 1,726.5 acres could have negative impacts on wildlife populations that use the habitat in the project area to meet their life requirements. Impacts to the habitat within the project area would include but are not limited to: an increase in soil compaction and ground disturbance, an increase and introduction of noxious weeds, the creation of large openings, a decrease in water quality, degradation of instream and riparian habitats, a reduction and loss of large diameter snags, future snags and large diameter downed wood, a deterioration or loss of mature and old growth coniferous forest, a loss of large diameter trees, a

decline or loss of wildlife travel corridors, a decrease in hiding, escape and thermal cover, and a reduction in canopy cover. However, when timber management occurs it opens the forest floors increasing sunlight and precipitation to grass, forb and shrub species amplifying forage opportunities for several wildlife species.

These changes to the habitat structures and functions within the project area would have effects on a variety of wildlife species. The implementation of this project would decrease effective wintering, calving and summer/fall range for resident and migrant big game species, reduce the amount of suitable habitat for pileated and white headed woodpeckers, reduce the quality and quantity of instream and riparian habitat and impact the ecological function of aspen stands wetlands, seeps, and springs.

Infrastructure (culverts) should allow for passage of fish, flow, sediment, and debris. Undersized culverts may lead to channel avulsion, head cutting, and/or failure of the structure completely. Constricting flow through undersized culverts may contribute to velocity barriers limiting instream movement of resident fish at early or all life stages. The failure of inadequately sized structures typically occurs long after work has been completed.

Herbicide

While brush species may limit the growth of shade-intolerant tree species, shrubs are important for providing cover and forage for big game. Specifically, red-stem ceanothus (*Ceanothus sanguineus*), a nutrient dense shrub, is highly valuable winter forage. While only oceanspray and ninebark are the targeted species, there is a possibility of mortality in non-target species, especially since it is unknown at this time which herbicide would be used. It is important to create a mosaic on the landscape, and at a finer scale, to ensure high nutritional value in the winter months, as well as cover for mule deer. To help create this mosaic, 147 acres of buffers within the 766 acres of herbicide blocks have been proposed. These areas were chosen based on topography, adjacency to streams, and canopy cover based on 2022 imagery.

Mitigation Measures

Wildlife buffers create travel corridors for wildlife, along with maintaining blocks of habitat designed as thermal cover. There are a total of seven wildlife buffers in harvest blocks, all of

which act as travel corridors and help provide cover for larger open areas. The area of wildlife buffers roughly totals 28 acres (Appendix E).

In the Lynx Mountain Project Area there is approximately 969 acres of blocks that are adjacent to streams; that is of the 65 blocks in the Lynx Mountain Project Area, 26 (40%) contain or are adjacent to streams. These bodies of water include many unnamed type 3 and type 4 tributaries, as well as Lynx Creek, a type 1 stream that flows into Hall Creek, a tributary to Lake Roosevelt. Harvesting or spraying close to or near these bodies of water would allow for increased sedimentation, temperature, decreased supply of woody debris for invertebrates, an increase in turbidity, all of which would lead to a reduction in fish habitat as well as water quality. These streams and their associated riparian habitat have some of the highest fish and wildlife richness and diversity and are very susceptible to any change in the environment.

The proposed action of the Lynx Mountain Project falls within two of the Reservation WMUs which are Lower Lynx Creek and Upper Lynx Creek. The CTCR IRMP states that total road density would be reduced to less than 4 mi/mi^2, with open road density to be reduced to less than 1.5 mi/ mi^2 wherever feasible across the Reservation. Road densities on the reservation are calculated using the WMU boundaries;

Table 17 depicts the road density for the affected WMU's.

WMU	Roads (mi)	Proposed New Rd (mi)	Proposed Recon Rd (mi)	Total Rd (mi)	WMU (ac)	WMU (mi2)	Current Density (mi/mi2)	New Density After Harvest (mi/mi2)
Lower Lynx Creek	60.0	2.27	21.25	62.27	6707	10.48	**5.73**	**5.94**
Upper Lynx Creek	125.16	2.3	14.45	127.46	16563	25.88	**4.84**	**4.93**

Currently both of the WMUs in this project exceed the IRMP objective of 4.0 mi/mi2 total road density. The Upper Lynx Creek WMU is 0.84 mi/mi2 over the set goal, and the Lower Lynx WMU is 1.73 mi/mi^2 over the goal. Alternative B proposes roughly 5.95 miles of new

construction and 37.6 miles of reconstruction which would increase both open road and total road densities further exceeding the Tribes' goal of 1.5 mi/mi^2 of open roads. (Table 18).

It is the suggestion of the Fish and Wildlife Department that unnecessary segments and select reconstructed roads should be closed to adhere to the IRMP goal of 4.0 mi/mi^2 total road for Lower Lynx Mountain WMU along with 1.5 mi/mi^2 of open road densities (Table 18). The department is proposing 10 road closures by double tank trapping to eliminate vehicle use (Appendix E). The Fish and Wildlife Department would close the proposed roads with the Department's backhoe once the timber sale is complete and planting is finished. This proposal would close approximately 24 miles of roads (Table 18). Forest road systems fragment wildlife habitat, reduce available habitat and create barriers for population movement. New construction and reconstruction of roads also have the potential to affect the surrounding fish habitat and water quality/quantity.

Table 18. Road Density by WMU after Road Closures.

WMU	# of Tank Traps	Miles to be Closed	Density After Harvest (mi/mi^2)	New Density After Road Closures (mi/mi^2)
Lower Lynx Creek	4	14.4	5.94	4.6
Upper Lynx Creek	6	9.7	4.93	4.5

Fish

Within the Lynx Mountain Project Area Lynx Creek and its tributaries are a part of the Hall Creek Watershed. Hall Creek is a tributary to Lake Roosevelt. These streams are an important and vital system for our resident fish species. Fish species present in these streams are Eastern Brook Trout (*Salvelinus fontinalis*), Redband Rainbow Trout (*Oncorhynchus mykiss gairdneri*), Dace species (Rhinichthys spp.), native minnows (Cyprinidae), and Sculpins (Cottidae).

Additionally, the Lake Roosevelt drainage area is included in the Northeast Washington Research Needs Area of the Mid-Columbia Recovery Unit for bull trout *(S. confluentus*; USFWS

2002). Bull trout Threatened and Endangered Species federal status is currently listed as "threatened" while Washington State considers bull trout a candidate for listing. Bull trout in the Lynx Mountain Project Area and surrounding areas are extremely rare and believed to be extirpated.

Federally Threatened and Endangered Species

The BIA and CTCR Wildlife Biologist determined that the proposed actions and associated activities would have 'No Effect' to threatened or endangered species, or candidate or proposed species, or suitable or critical habitat within the action area. Documentation is found in Appendix B.

Resource Use Patterns

Hunting, Fishing, Gathering

"The Tribes regulate the harvest of wildlife resources within the aboriginal territory of the Colville Tribes. In regulating wildlife and recreation resources of the Reservation, tribal members are afforded the greatest possible freedom to use and enjoy these resources, consistent with the preservation and improvement of these resources for future generations. Wildlife found on the Reservation may be taken only at such times, in such places, and in such a manner as provided by tribal law" (CTCR 2015).

Mitigation for Fish and Wildlife, Alternative B: "Proposed Action"

Several significant impacts have been identified for the proposed action, and thus mitigation is required or degradation in wildlife habitat is anticipated to affect a variety of species and therefore the following mitigation measures apply:

- 10 road closures via double tank trap throughout the project area, closing 24 mi of roads (see Appendix E).
- 7 wildlife buffers in harvest blocks, totaling 28 acres.
- 39 wildlife buffers in site prep blocks, totaling 137 acres.
- One American Goshawk buffer with a 660ft buffer around the nests, area to only be harvested from September 1st – February 28th. Blocks 439-209 and 439-221 are within the buffer.
- Winter harvest only in blocks 439-205, 209, 208, 221, 215, 204, 210, 216, and 202

due to previously unmapped streams, seeps, swales, potential wetlands, goshawk nests, and rare plants (*Botrychium spp.*).

- Forestry dropped site-prep blocks 435-056 and 055 to help accommodate Fish & Wildlife's goals of preserving mule deer winter range.

4.5 Cultural Resources

Impacts to Cultural Resources Alternative A: No Action

Although there may be a number of direct and indirect effects to the Reservation's resources from the implementation of Alternative A, it is important to recognize that cultural resources are, for the most part, non-renewable resources. The 'No Action' alternative would have a number of various effects to the known cultural resources identified within the project area.

The historic exclusion of fire on the Reservation has resulted with an overabundance of vegetation. Although Alternative A would leave the timber intact and allow for natural succession patterns; overstocked and diseased stands have increased ladder fuels which must be addressed by current management practices.

Potential impacts of Alternative A include vegetation encroachment to sites which exhibit surface features. This encroachment may reduce visibility of the site, potentially affecting its integrity and increasing the likelihood of adverse effects to it from wildland or prescribed fire. Invasive non-native plant species within this area would likely perpetuate and increase, competing with native plant species of traditional and cultural significance. The 'No Action' alternative may also cause physical damage to sites from snags or trees falling upon them, dismantling, destroying or otherwise impacting surface features. Fallen trees may also expose buried subsurface cultural materials, which otherwise would have remained intact.

Impacts to Cultural Resources Alternative B: Proposed Action

There are currently ten known cultural resource sites recorded in the Lynx Mountain Forestry project area. An official determination of National or Colville Register eligibility for these sites has not been made, but these sites appear to be eligible. five TCPs are located within the APE of Alternative B; they have been documented as TCP-WA-FE-34, TCP-WA-FE-39, TCP-WA-FE-145, TCP-WA-FE-149 and TCP-WA-FE-235. These TCPs are all documented as resource gathering areas. TCP-WA-FE-39 and TCP-WA-FE-235 encompass treatment blocks for

herbicide treatment, which may have an Adverse Effect on these resources. As long as the proposed mitigation described below is adhered to, the 'Proposed Action' would result in No Adverse Effects to these sites. These sites may be considered eligible for the National Register of Historic Places, as described in 36 CFR Part 60.4.

Mitigation for Cultural Resources

Ten cultural resources have been documented within the Lynx Mountain Forestry project area. None of these resources are expected to be adversely affected by project implementation as long as the proposed herbicide treatments are administered in a mosaic pattern within the treatment blocks, and application is scheduled in stages through multiple years to limit long term damage to resource gathering areas.

The Resource Archaeologist would brief the TSO and others working in the Lynx Mountain Forestry Project area regarding the steps to be taken to identify and report cultural resources. If resources are found, the TSO shall insure that all work stops in the vicinity of the find, that steps are taken to protect the find, and that the Tribal Archaeologist is called immediately. No work shall resume until the Tribal Historic Preservation Officer (THPO) has approved a management plan.

4.6 Range Management

Impacts to Range Resources Alternative A: No Action

This alternative would have no impact on the current ecological condition as no mechanical disturbance activity would happen. Although, no action would also not correct the identified forest health issues the project would address.

Impacts to Range Resources for Alternative B: Proposed Action

Forest understory recovery after logging activities is a resource concern. The annual precipitation for the area identified for treatment in this forest project area ranges from 19" in the eastern portion of the project area to a high of 30" in the Northwestern portion of the project area. This range of average annual precipitation would likely assist natural understory recovery.

According to the NRCS soils layer there are 10 Forest Habitat Types represented in the Lynx Mountain project area. Of those 10 the Douglas fir/mallow ninebark, myrtle pachistima phase (PSME/PHMA5, PAMY) and the grand fir/northern twinflower (ABGR/LIBO3) sites represent around 70% of the project area. There are 9 habitat types found in the proposed treatment blocks. Again, PSME/PHMA5, PAMY and ABGR/LIBO3 are the dominant forest plant communities represented. The main component grass specie listed in these two forest plant communities is Columbia brome with pinegrass also a strong component of the PSME/PHMA5, PAMY sites. The other 7 forest plant communities represent significantly less acreage than the top 2. Understory species for the most part are the same as the dominant forest sites.

Forest understory recovery is important to think about for soil erosion control and prevention of weed establishment. Most brush species would recover well and, in some cases, too well. The natural recovery of grass species can be variable after harvest disturbance and is dependent on the grass species present before harvest, availability of source seed in the ground (seed bank), and precipitation. When pinegrass is a component of a plant community there is usually little concern of reestablishment except in high disturbance areas. Highly disturbed areas in these forest plant communities should be monitored and if needed seeded with Columbia brome or some kind of temporary grass cover crop to hold soil and prevent potential weed establishment. It is important that whatever is used as a cover crop not be an introduced nonnative perennial species that would persist to the point of out competing native flora.

Landings, skid trails, roads, and pile burns would likely have the most potential for soil disturbing activities during the forest project cycle. If monitoring determines a need, inputs in the form of herbicide treatment and suitable native plant seeding should be considered to assist understory recovery. Intermediate wheatgrass and Siberian wheatgrass should not be used as they are nonnative, persistent, and are highly competitive. If something is needed to quickly provide ground cover, there are alternatives to consider. If the project manager determines a need for seeding or spraying activities the Land Operations department can offer suggestions for herbicide treatment and seed type if assistance is needed.

4.7 Air Quality

This project is located within the Lake Roosevelt Airshed. Air and water typically flow through the Lake Roosevelt River corridor. The area has two small point sources of emissions both being gas stations. Nonpoint sources include residential wood stoves, prescribed fires and wildfires. Generally air quality of the area is very good, air quality from 2012-2014 the community of Inchelium never reach very unhealthy or hazardous, or unhealthy for sensitive groups, although it did have moderate air quality 25 days over the three year period, primarily due to wildfire. The majority of days across the reservation were in the least polluted category. (CAR 2018)

Impacts to Air Resources for Alternative B: Proposed Action

Timber harvesting, a critical component of forest management, significantly influences air quality, particularly through the emission of particulate matter (PM). PM, a blend of solid particles and liquid droplets, permeates the air, originating from both natural and human-made sources. This document delves into the nature of PM, its various forms such as PM10 and PM2.5, and their sources, including timber harvesting activities. Understanding the size, composition, and origin of these particles is crucial in assessing their impact on air quality and developing strategies to mitigate their effects, especially in forestry operations.

4.8 Cumulative Impacts

Cumulative impacts are addressed in the FEIS for the Colville Indian Reservation Integrated Resource Management Plan (CAR 2018). Activities in this area that can result in cumulative impacts include domestic cattle grazing, fire management activities, road construction and forest management activities. These activities combined could result in soil disturbance often associated with soil degradation and increased sediment delivery to surface waters. The vegetation removal can also decrease soil stability and lead to increased water temperatures. All of these impacts can impact resident fish and aquatic life. These activities could also result in establishment of noxious weeds in the area, which can push out native species and decrease wildlife habitat quality.

4.9 Social and Economic Impacts

The median household income on the Reservation according to the 2010 US Census was $35, 534. The CTCR’s natural resource management plays an important role in the local regional

economy on and off the Reservation. The Forestry, logging and milling industry accounts for 20% of the working population in the Region of Okanagan and Ferry Counties (CAR 2018). The CTCR itself is the single largest employer in both Ferry County and Okanogan County (CAR 2019). The communities benefit from the CTCR Natural Resource Management not only directly through employment but also the social programs funded directly from Tribal expenditure of funds generated through Timber Harvest. More detailed discussion of the population dynamics and social and economic impacts of CTCR's natural resource management can be found in the CTCR IRMP FEIS (CAR 2018).

5.0 List of Preparers

Name	Contributions
Levi Simmons	Forestry
Tyrone Rock	Soils
Clinton Desautel	Fuels/Fire Management
Elizabeth Odell	Fish and Wildlife
Dennis Moore	Fish and Wildlife
Kerry Wilson	Range/Noxious Weeds
Charlotte Axthelm	Hydrology
Joseph Ezell	Hydrology
Stacy King	Wetlands
Guy Moura	History/Archaeology
Amanda Hoke	History/Archaeology
Chasity Swan	Editor

6.0 Literature Cited

Axthelm, Charlotte. 2022. Water Quality Assessment Report for the Confederated Tribes of the Colville Reservation 2016-2021. Technical. Nespelem, WA. CTCR.

Brady, Nyle C., and R. R. Weil. 1996. The Nature and Properties of Soils. 11th ed. Upper Saddle River, New Jersey 07458: Prentice-Hall, Inc.

Bureau of Land Management (BLM). 2018. *General Land Office Patent Records*. Available online at http://www.glorecords.blm.gov/Center for Applied Research, Inc. (2014) *Resource Assessment*, Confederated Tribes of the Colville Reservation, 2015 Integrated Resource Management Plan.

Center for Applied Research, Inc (CAR). 2018. *Final Programmatic Environmental Impact Statement*. Confederated Tribes of the Colville Reservation, 2015 Integrated Resource Management Plan.

Center for Applied Research, Inc (CAR). 2015. *Results of the 2014 Colville Reservation Community Survey*.

Colville Confederated Tribes. 2023. Forest Practices Handbook. Colville Tribal Code Chapter 4-7 Forest Practices. Nespelem, WA. 89 pp.

CTCR. 2015. *Integrated Resource Management Plan 2015*. Prepared by The Center for Applied Research, Inc.

CTCR. 2023. Forest Management Plan for the Colville Indian Reservation. Prepared by Jeremy Hunt. Approved June 23, 2023.

CTCR. 2017. Integrated Weed Management Plan for the Colville Indian Reservation.

Colville Confederated Tribes (CCT). 2007. *Cultural Resource Management Plan of the Confederated Tribes of the Colville Reservation*. Prepared by the CCT History/Archaeology Program. Nespelem, WA.

Dubé, K., Megahan, W., McCalmon, M. 2004. Washington road surface erosion model prepared for the Washington Department of Natural Resources. Olympia, WA.

U.S. Fish and Wildlife Service. 2002. Chapter 23, Northeast Washington Recovery Unit, Washington. 73 p. In: U.S. Fish and Wildlife Service. Bull Trout (*Salvelinus confluentus*) Draft Recovery Plan. Portland, Oregon.

Colville Confederated Tribes (CCT). 2007. Cultural Resource Management Plan of the Confederated Tribes of the Colville Reservation. Prepared by the CCT History/Archaeology Program. Nespelem, WA.

Cooley, Skye. 2004. Monitoring Harvest Impacts on Forest Soils of the Colville Indian Reservation.

Dubé, K., Megahan, W., McCalmon, M. (2004) Washington road surface erosion model prepared for the Washington Department of Natural Resources. Olympia, WA.

George, Matilda (ed.). 2011. Traditional Cultural Property Overview Report and Native American Place Name Document for Traditional Territories of the Confederated Tribes of the Colville Reservation, Grand Coulee Dam Project Area, North Central Washington. CCT History/Archaeology Program. Nespelem, WA.

Gough, Stan. 1990. A Cultural Resources Overview, Sampling Survey, and Management Plan, Colville Indian Reservation, Okanogan and Ferry Counties, Washington. Eastern Washington University Reports in Archaeology and History 100-74. Archaeological and Historical Services. Cheney, WA.

Hess, Sean. 2001. *Predictive Model for Use on the Colville Indian Reservation*. On file at the CCT History/Archaeology Program. Nespelem, WA.

Hunner, Walt. 2014. Hydrology Report. Technical. Nespelem, WA: CTCR.

Hunt, Clair. 1916. Diminished Colville Indian Reservation (map). General Land Office, Department of the Interior.

Klock, Glen O. 2000. Colville Indian Reservation: Integrated Resource Management Plan 2000-2014: Final Environmental Impact Statement. Western Resources Analysis, Inc. Wenatchee, WA.

Klock, Glen O. 2001. Colville Indian Reservation: Record of Decision and Plan for Integrated Resources Management. Western Resources Analysis, Inc. Wenatchee, WA.

Marchand, Amelia. 2008. *2008 Sitdown Natural Resource Project.* On file at the CCT History/Archaeology Program. Nespelem, WA.

Marker, D., R. Thomon, T. Bosworth, T. Li and C. Tornow. 2012 *Upper Columbia River Site Remedial Investigation and Feasibility Study Tribal Consumption and Resource Use Survey.* Final Draft Report. Prepared for the US Environmental Protection Agency, Region 10. Westat. Rockville, MD.

Meyer, Jon. 2006. *Cultural Resources Survey Form – Hall Creek Forest Management Project*. On file at the Colville Tribes History/Archaeology Program. Nespelem, WA.

NRCS. 2002. Soil Survey of Colville Indian Reservation, Washington - Parts of Ferry and Okanogan Counties. Technical. Colville Indian Reservation: Natural Resources Conservation Service.

Parker, Patricia L. & T.F. King. 1998. Guidelines for Evaluating and Documenting Traditional Cultural Properties. National Register Bulletin #38, United States Department of the Interior, National Park Service.

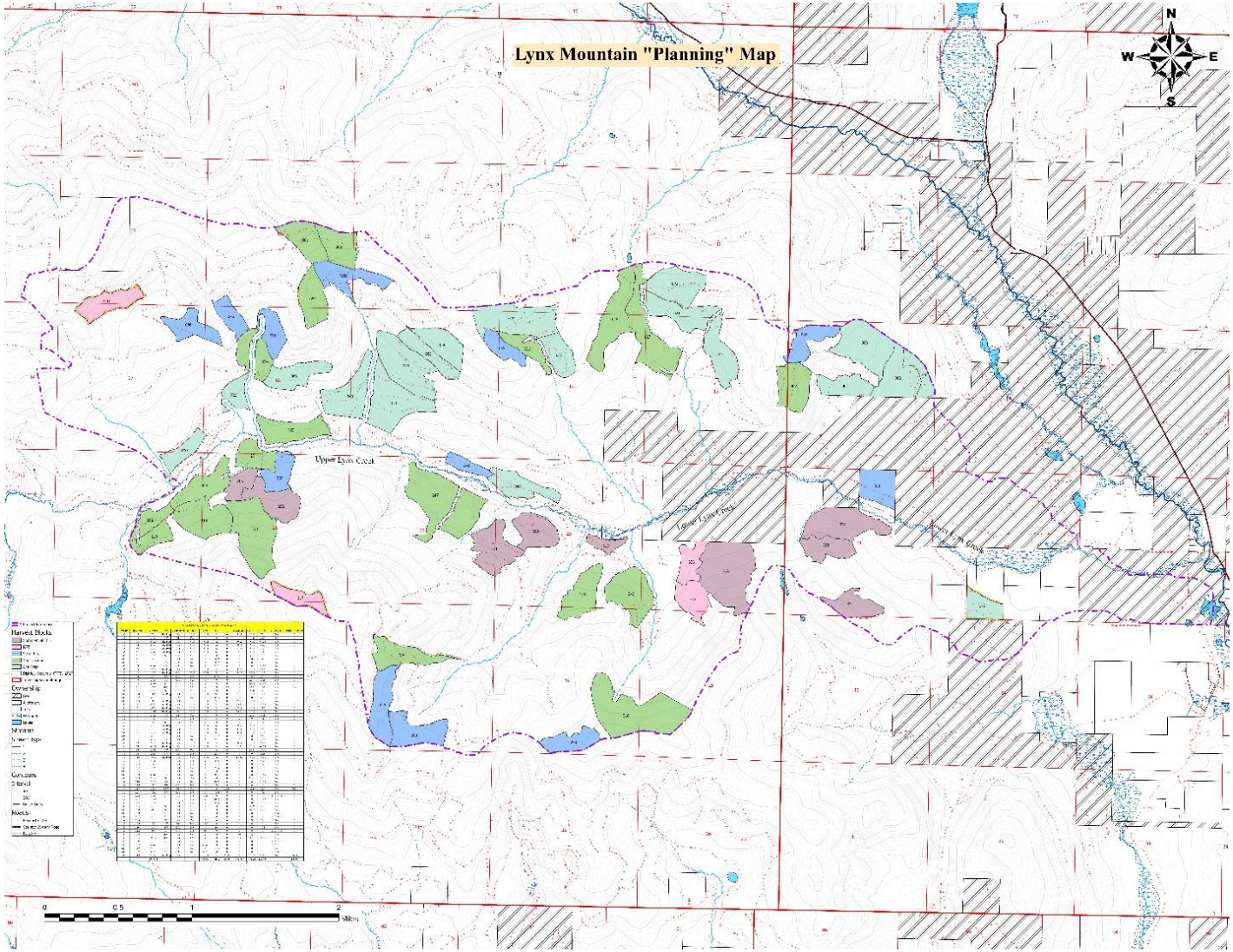
Simmons, Levi. February 28, 2023. Project Proposal Form: Lynx Mountain Timber Sale 2024 PPF. Nespelem, WA. BIA

Shannon, D. & G. Moura. 2007. Chief Joseph Dam and Rufus Woods Lake Traditional Cultural Property Research 2006 Technical Report. Prepared for the United States Army Corps of Engineers, Seattle District. Prepared by CCT History/Archaeology Program. Nespelem, WA.

7.0 Appendices

7.1 Appendix A: Activity Table

Lynx Mountain ACTIVITY TABLE														
COMP	**BLOCK**	**ACRES**	**RX**	**SKID SYS**	**W. TREE**	**ACC.**	**L/S**	**B/B**	**Herbicide**	**Mastication**	**EX PILE**	**PLANT**	**RESTRICT**	**FIRELINE FT.**
435	47	35.4	Site Prep	Null	Null	Null	Null	35.4	35.4	0	Null	35.4	No	0
435	48	14.9	ST	GB	Yes	0	0	0	0	0	14.9	14.9	No	0
435	53	60.25	Site Prep	Null	Null	Null	Null	60.25	60.25	0	Null	60.25	No	0
435	54	68.2	Site Prep	Null	Null	Null	Null	68.2	68.2	0	Null	68.2	No	0
435	55	27.2	Site Prep	Null	Null	Null	Null	27.2	0	0	Null	27.2	No	0
435	56	32.83	Site Prep	Null	Null	Null	Null	32.83	0	0	Null	32.83	No	0
435	58	38.5	ST	C	Yes	0	0	0	0	0	38.5	38.5	Summer/Winter	0
435	60	34.9	SW	GB	No	0	34.9	0	0	0	0	34.9	No	0
435	61	35.7	SW	CA	No	0	35.7	0	0	0	0	35.7	No	0
435	64	37.03	SW	CA	No	0	37.03	0	0	0	0	37.03	No	0
435	68	35.2	Site Prep	Null	Null	Null	Null	35.2	35.2	0	Null	35.2	No	0
435	69	50.7	Site Prep	Null	Null	Null	Null	50.7	50.7	0	Null	50.7	No	0
435	74	35.74	SW	C	No	0	35.74	0	0	0	0	35.74	Winter	0
435	75	27.8	ST	C	Yes	0	0	0	0	0	27.8	27.8	Winter	0
435	76	20.96	ST	C	Yes	0	0	0	0	0	20.96	20.96	Summer/Winter	0
435	81	35.5	RRT	CA	Yes	0	0	35.5	0	0	35.5	35.5	No	6374
435	86	29.8	ST	CA	Yes	0	0	0	0	0	29.8	29.8	No	0
435	100	21.6	Site Prep	Null	Null	Null	Null	21.6	21.6	0	Null	21.6	No	0
435	722	40.3	SW	C	No	0	40.3	0	0	0	0	40.3	Winter	0
435	723	21.5	Site Prep	Null	Null	Null	Null	21.5	21.5	0	Null	21.5	No	0
436	2	45.24	Site Prep	Null	Null	Null	Null	45.24	45.24	0	Null	45.24	No	0
436	3	63.3	Site Prep	Null	Null	Null	Null	63.3	63.3	0	Null	63.3	No	0
436	4	29.62	Site Prep	Null	Null	Null	Null	29.62	29.62	0	Null	29.62	No	0
436	6	29.3	ST	GB	Yes	0	0	0	0	0	29.3	29.3	No	0
436	7	41	SW	CA	No	0	41	0	0	0	0	41	No	0
436	11	36.1	ST	GB	Yes	0	0	0	0	36.1	36.1	36.1	No	0
436	15	39.42	Site Prep	Null	Null	Null	Null	39.42	39.42	0	Null	39.42	No	0
436	21	43.3	Site Prep	Null	Null	Null	Null	43.3	43.3	0	Null	43.3	No	0
436	22	48.4	Site Prep	Null	Null	Null	Null	48.4	48.4	0	Null	48.4	No	0
436	27	63.2	SW	GB	No	0	63.2	0	0	0	0	63.2	No	0
436	28	59.53	SW	GB	No	0	59.53	0	0	0	0	59.53	No	0
436	32	29.3	Site Prep	Null	Null	Null	Null	29.3	29.3	0	Null	29.3	No	0
436	34	68.21	Site Prep	Null	Null	Null	Null	68.21	68.21	0	Null	68.21	No	0
436	35	20.66	ST	CA	Yes	0	0	0	0	0	20.66	20.66	No	0
436	36	25.8	SW	GB	No	0	25.8	0	0	0	0	25.8	No	0
436	716	18.52	Site Prep	Null	Null	Null	Null	18.52	18.52	0	Null	18.52	No	0
439	104	40.6	SW	GB	No	0	40.6	0	0	0	0	40.6	No	0
439	202	19.2	SW	GB	No	0	19.2	0	0	0	0	19.2	No	0
439	204	28.6	SW	GB	No	0	28.6	0	0	0	0	28.6	No	0
439	205	18.7	CT	GB	No	18.7	0	0	0	0	0	0	8/15-4/15	0
439	208	38.07	SW	GB	No	0	38.07	0	0	38.07	0	38.07	No	0
439	209	27.59	ST	GB	Yes	0	0	0	0	0	27.59	27.59	No	0
439	210	20.22	SW	GB	No	0	20.22	0	0	20.22	0	20.22	No	0
439	215	50	SW	CA	No	0	50	0	0	0	0	50	No	0
439	216	28	SW	CA	No	0	28	0	0	0	0	28	Summer/Winter	0
439	217	22.9	RRT	GB	Yes	0	0	22.9	0	0	22.9	22.9	No	5623
439	221	75.9	SW	CA	No	0	75.9	0	0	0	0	75.9	No	0
439	236	37	SW	CA	No	0	37	0	0	0	0	37	Winter	0
439	238	17	SW	CA	No	0	17	0	0	0	0	17	Summer/Winter	0
439	254	40.6	SW	GB	No	0	40.6	0	0	0	0	40.6	No	0
439	255	42.9	ST	GB	Yes	0	0	0	0	0	42.9	42.9	No	0
439	260	41.2	ST	GB	Yes	0	0	0	0	0	41.2	41.2	No	0
439	269	36.3	CT	GB	No	36.3	0	0	0	0	0	0	8/15-4/15	0
439	271	48.1	CT	GB	No	48.1	0	0	0	0	0	0	8/15-4/15	0
439	299	28	ST	GB	Yes	0	0	0	0	0	28	28	No	0
439	305	12.2	CT	GB	No	12.2	0	0	0	0	0	0	No	0
440	310	104	SW	CA	No	0	104	0	0	0	0	104	No	0
440	312	93	CT	CA	No	93	0	0	0	0	0	0	8/15-4/15	0
440	322	30	RRT	GB	Yes	0	0	0	30	30	30	30	No	0
440	323	25.17	RRT	GB	Yes	0	0	0	25.17	25.17	25.17	25.17	No	0
440	329	30.3	CT	GB	No	30.3	0	0	0	0	0	0	8/15-4/15	0
440	332	61.63	CT	GB	No	61.63	0	0	0	0	0	0	8/15-4/15	0
440	342	52.3	SW	CA	No	0	52.3	0	0	0	0	0	No	0
440	352	30.27	CT	CA	No	30.27	0	0	0	0	0	0	8/15-4/15	0
440	519	24.98	Site Prep	Null	Null	Null	Null	24.98	24.98	0	Null	24.98	No	0
		2489.64				**330.5**	**924.69**	**821.57**	**758.31**	**149.56**	**471.28**	**2106.84**		**11997**


Lynx Mountain "Planning" Map
N
W
E
S
Upper Lynx Creek
Lower Lynx Creek
Harvest Blocks
0
0.5
1
2
Miles

7.2 Appendix B: Consultation

REQUEST FOR COMMENTS FROM THE
CONFEDERATED TRIBES OF THE COLVILLE RESERVATION
TRIBAL HISTORIC PRESERVATION OFFICER (THPO)
ON
DETERMINATION OF EFFECT

Project Name: 23pp39 Lynx Mountain Forest Management Project.

Proponent(s): Inchelium Forestry District, Colville Confederated Tribes

Legal Description: T 33N, R 35E, Sec(s) 7-18 &20-27;
T 33N, R 36E, Sec(s) 17-21 & 28-30

The sections of 36 CFR 800 that address effects to historic properties have been applied to the proposed undertaking. This has been done in order to determine if any effects might occur to properties eligible for, or listed on, the National Register of Historic Places or the Colville Register of Historic Places. I have determined that the proposed undertaking will have:

____ **No effect**, the undertaking will not effect historic properties

XX **No adverse effect**, the undertaking will affect one or more historic properties, but the effect will not be harmful

____ **Adverse effect**, the undertaking will harm one or more historic properties

Signed: Chasity Swan (responsible agency official) Title: IRMP Coordinator Date: 1/17/2024

Provide documentation to support the Determination of Effect for Tribal Historic Preservation Officer review and comment.

FOR TRIBAL HISTORIC PRESERVATION OFFICER USE ONLY

I concur with the determination of the Responsible Agency Official. 23pp39 Lynx Mountain Forest Management Project

Comments/Conditions of Approval:

Mitigation efforts will be implemented during the implementation of herbicide treatments, which include the use of a mosaic pattern of treatment and application scheduled in stages to limit long term damage to resource gathering areas.

Signed: _____ (Tribal Historic Preservation Officer) Date: 1-17-24

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington Fish And Wildlife Office
510 Desmond Drive Se, Suite 102
Lacey, WA 98503-1263
Phone: (360) 753-9440 Fax: (360) 753-9405

In Reply Refer To:
Project Code: 2024-0014090
Project Name: Lynx Mountain

November 08, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 ofthe Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosedlist.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

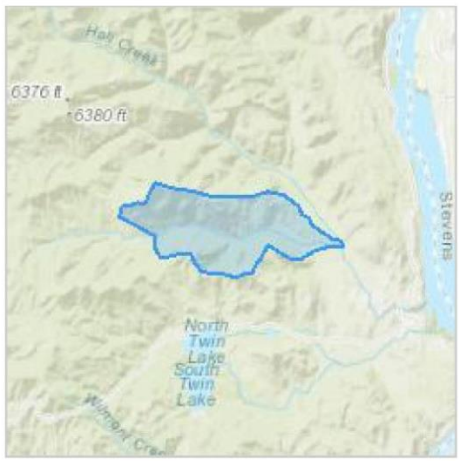
This species list is provided by:

Washington Fish And Wildlife Office
510 Desmond Drive Se, Suite 102
Lacey, WA 98503-1263
(360) 753-9440

PROJECT SUMMARY

Project Code: 2024-0014090
Project Name: Lynx Mountain
Project Type: Timber Sale
Project Description: Lynx Mountain Timber Sale
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@48.35127955,-118.35676992687186,14z



Counties: Ferry County, Washington

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Canada Lynx *Lynx canadensis* Population: Wherever Found in Contiguous U.S. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3652	Threatened

BIRDS

NAME	STATUS
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

FISHES

NAME	STATUS
Bull Trout *Salvelinus confluentus* Population: U.S.A., conterminous, lower 48 states There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8212	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CONIFERS AND CYCADS

NAME	STATUS
Whitebark Pine *Pinus albicaulis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1748	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Confederated Tribes of the Colville Reservation
Name: Elizabeth Odell
Address: PO BOX 150
City: Nespelem
State: WA
Zip: 99155
Email elizabeth.odell.fnw@colvilletribes.com
Phone: 5097227660

Colville Confederated Tribes
Fish and Wildlife Department
M E M O R A N D U M

4-22-24

To: Chasity Swan
IRMP Coordinator

From: Elizabeth Odell
Assistant District Wildlife Biologist

Subject: Lynx Mountain Project Listed Species Memo

This memo is being submitted as a requirement of the U.S. Fish and Wildlife Service (Service) section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

The following list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

- Canada Lynx *Lynx canadensis*, Threatened. Canada lynx typically stay above 4,100 feet in elevation and have specific habitat requirements. Habitat mapping has been conducted for this project and within the 10,511 acres of the project boundary 7,455 (71%) are considered non-habitat as they are below 4,100 feet. 1571 acres (15%) are non-habitat above 4,100 feet and unsuitable. There are only 9 acres of suitable habitat within the project boundary, and none within any of the planned harvest blocks. The remaining ~14% is fee ground which is not a part of the sale and not considered for habitat. Due to a lack of suitable habitat within the project, there will be no effect on this species.

- Yellow-billed Cuckoo *Coccyzus americanus,* Threatened. The yellow-billed cuckoo is a migratory bird that overwinters in South America, and nests in portions of the central United States. Per WDFW, breeding likely ended in the state of Washington by the 1940s. There have been no known sightings on the Colville Reservation; yellow-billed cuckoos are extremely unlikely to occur within the project; this project will have no effect on this species.

- Bull Trout *Salvelinus confluentus*, Threatened. The Bull trout is currently listed as "Threatened" and extremely rare to find in the project boundaries and therefore will not be impacted by forest management activities. In the potential case that bull trout is present during forest practices, erosion and increased road density could increase turbidity in streams, introduce pollutants, disrupt spawning behaviors of fish and cause uncontrolled erosion due to clearing of riparian zones.

- Monarch Butterfly *Danaus plexippus*, Candidate. Monarch butterflies rely on milkweed for their habitat requirements. Milkweeds are patchily found in southern Washington along rivers and the Columbia Basin. Milkweeds are not found within the project area and there have been no sightings. Monarch butterflies are extremely unlikely to occur within the project area, therefore there this project will have no effect on this species.

- Whitebark Pine *Pinus albicaulis*, Threatened. Whitebark Pine occurs in high elevation isolated populations and is non-commercial species. This project does not meet the habitat requirements of this pine and if Whitebark Pine were to be found, it would not be harvested as it is not a commercial or target species. Therefore, this project will have no effect on this species.

Elizabeth Odell

Elizabeth Odell

Wildlife Biologist

Elizabeth.Odell.FNW@colvilletribes.com

509-722-7660

7.3 Appendix C: Preliminary Transportation Analysis

The Confederated Tribes of the Colville Reservation
Office of Environmental Trust
Watershed Restoration Program
P.O. Box 150, Nespelem, WA 99155 (509) 634-1383

Tuesday, January 31, 2023

To: **Lance Lelone, Inchelium Forestry Forester**
Levi Simmons, Inchelium Forestry Forester
Dusty Ensminger, Inchelium Forestry Transportation Planner
Rob Mallery, Inchelium Forestry District Officer

cc: **Darnell Sam, NPS Management Coordinator**
Joseph Ezell, Restoration Program Manager
Stacy King, Wetland Specialist
Dennis Moore, Resident Fish Biologist
Elizabeth Odell, Assistant District Biologist
Chasity Swan, IRMP Coordinator
Anita McKinney, Assistant IRMP Coordinator

From: **Charlotte Axthelm, Watershed Analyst**

Subject: **Lynx Mountain Timber Sale 2024 Preliminary Transportation Memo**

Lance, Levi, Dusty, and Rob
I have attached a map showing roads in the Lynx Mountain Timber Sale project area that have the potential to impact water quality, stream habitat and riparian management zones. This identification should be considered **preliminary** and used to guide the transportation plan included in the Lynx Mountain Timber Sale PPF.

Important features to note in regards to the Lynx Mountain transportation plan include the following:

- Any **current or proposed** stream crossings will need to be reviewed by CCT Fish & Wildlife and CCT Environmental Trust to ensure they are appropriately sized and installed for fish/aquatic organism passage and site specific hydrologic flows.
- Culverts installed on Lynx Creek, and any type 2 or 3 tributaries, will require fish passage in areas where gradient barriers are not a factor. Lynx Creek also includes significant areas of riparian/stream-adjacent wetlands. Impacts to these wetlands will need to be considered when crossing Lynx Creek; crossings should be located at the narrowest point in the channel.
- There are road segments that need to be field assessed for watershed impact. The attached map identifies existing road segments in Riparian Management Zones (RMZs), wetlands, floodplains, or swales, but is not necessarily a comprehensive assessment of every road with the potential to detrimentally affect water or soil resources. Roads within the project area intended for use should still be assessed on a case-by-case basis.

Additionally:

- The Forest Practices Code and Hydraulic Practices Code—along with specific site conditions—will determine final usage of road segments and stream crossings or treatments necessary to mitigate impacts to Tribal resources.
- This preliminary identification includes the entire sale area and does not account for specific blocks that may be used as part of the sale.
- Determine which crossings and road segments overlap with the sale and proposed haul routes and identify what steps will be taken to address potential impacts to Tribal resources from those crossings and segments.
- The Restoration Program has completed several projects in and around this timber sale area, including the 2017 Lower Hall/Lynx Creek Watershed Restoration project. Four road segments included in the 2017 project are within or directly adjacent to the Lynx Mountain sale area; these roads have been decommissioned or permanently abandoned, and are not available for use.
- As the planning process continues, it is possible that blocks and/or treatments will change and these road segments and stream crossings will need to be reviewed to ensure resource protection.

Once a transportation plan has been developed, accounting for the information in the attached shapefiles, the following is necessary for a complete and thorough review:

- A shapefile with the location of all proposed new and reconstruct roads, including haul routes, to pavement.
- A shapefile with the location, size, and proposed treatment for all crossings on road proposed for use in the sale.
- Sufficient time and conditions (i.e. prior to snowfall) to field evaluate proposed roads and crossings.

I, or another representative from the Restoration Program, am available to assist in the planning and field review of proposed roads and crossings, in order to develop a collaborative and sustainable transportation network that will benefit Forestry, the membership, and the environment.

The Watershed Restoration Program supports timber management and a road network that allows access for forest practices, wildfire fighting, ranching and membership hunting, fishing, gathering, firewood cutting, etc. Each timber sale allows us the opportunity to improve and maintain roads that are needed for management and membership while addressing those that are impacting Tribal waters and other resources.

Let me know if you have any questions regarding this preliminary identification.

Thanks,
Charlotte

Shapefiles are for entire timber sale area. Please refer to the WRKNG_ID in the attribute table for each road segment.

Roads—2 shapefiles

These are a combination of the Duck Creek data and Forestry's LiDAR roads data. They have been updated with any info from ETD's projects and/or inventories.

These roads **have the potential** to impact water quality and quantity. Forestry will need to ensure they meet standards for continued use or reconstruction.

Identify which road segments in attached shapefiles overlap with Forestry's planned transportation network.

1) LynxMtn2023PermClosed

Previously restored/will be restored

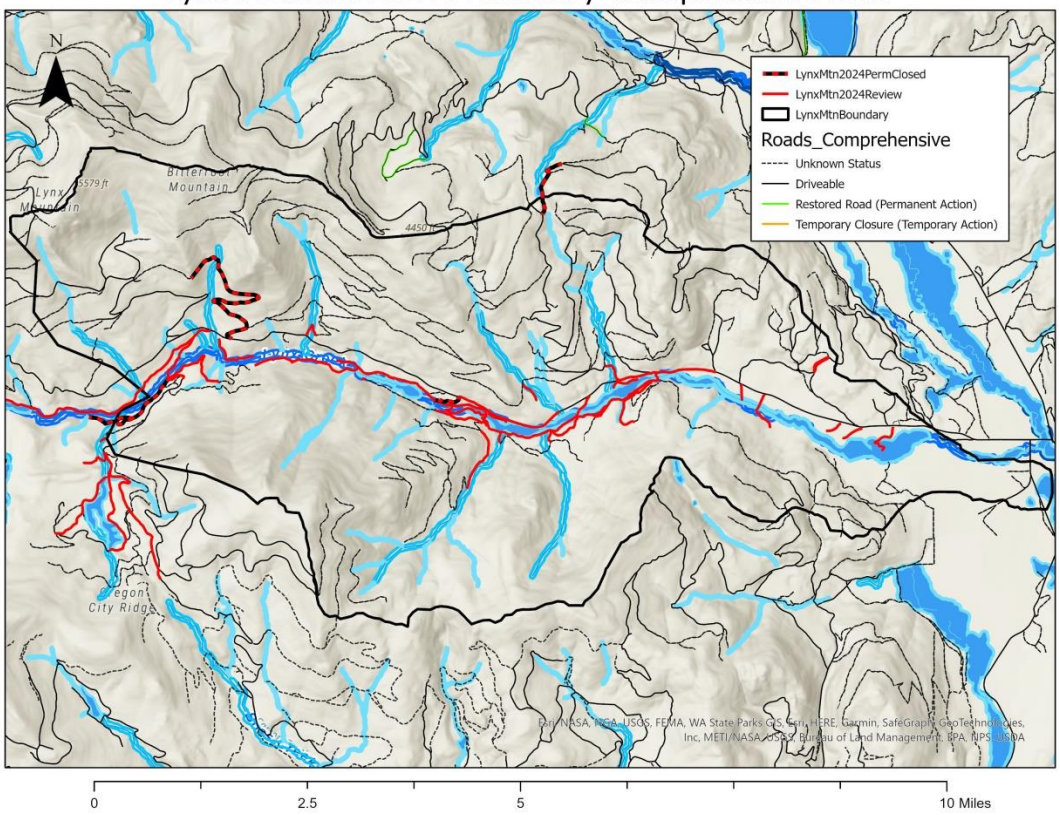
a. These alignments are not available for reconstruction.
b. New construction should not follow these alignments.
c. All of these segments have been through 3P and have received approval from the 3P team for permanent closure.

2) LynxMtn2023Review

These roads have the potential to impact water quality if reopen or reconstructed. Forestry will need to field verify to ensure that Forest Practice Codes are met.

a. Possible mitigation treatments:
    i. Abandon road
    ii. Realign road
    iii. Erosion control
        1. Drivable dips, water bars, out-sloping, berm removal, ditching, cross drains, rock-armoring, gravel surfacing, magnesium chloride, realignment, post-sale closure, etc.

Lynx Mountain 2024 Preliminary Transportation Memo



7.4 Appendix D: Army Corp of Engineers BMPs

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 will be otherwise minimized.

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

(1) 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.

(2) 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.

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

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

(5) 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.

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

(7) 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.

(8) Borrow material shall be taken from upland sources whenever feasible.

(9) 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.

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

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

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

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

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

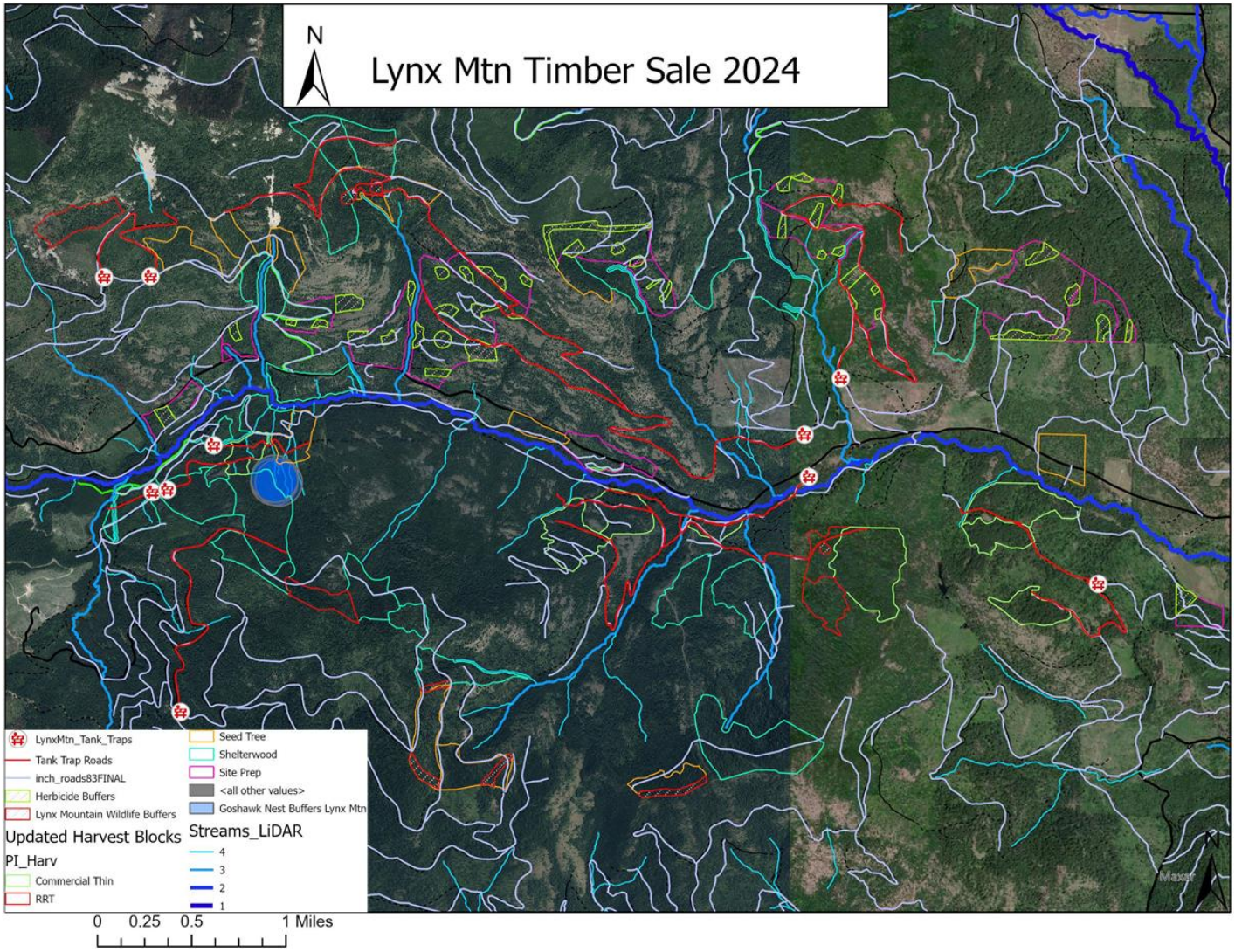
(15) All temporary fills shall be removed in their entirety and the area restored to its original elevation.

A Section 404 permit is required if either of the following occurs:
(1) 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.

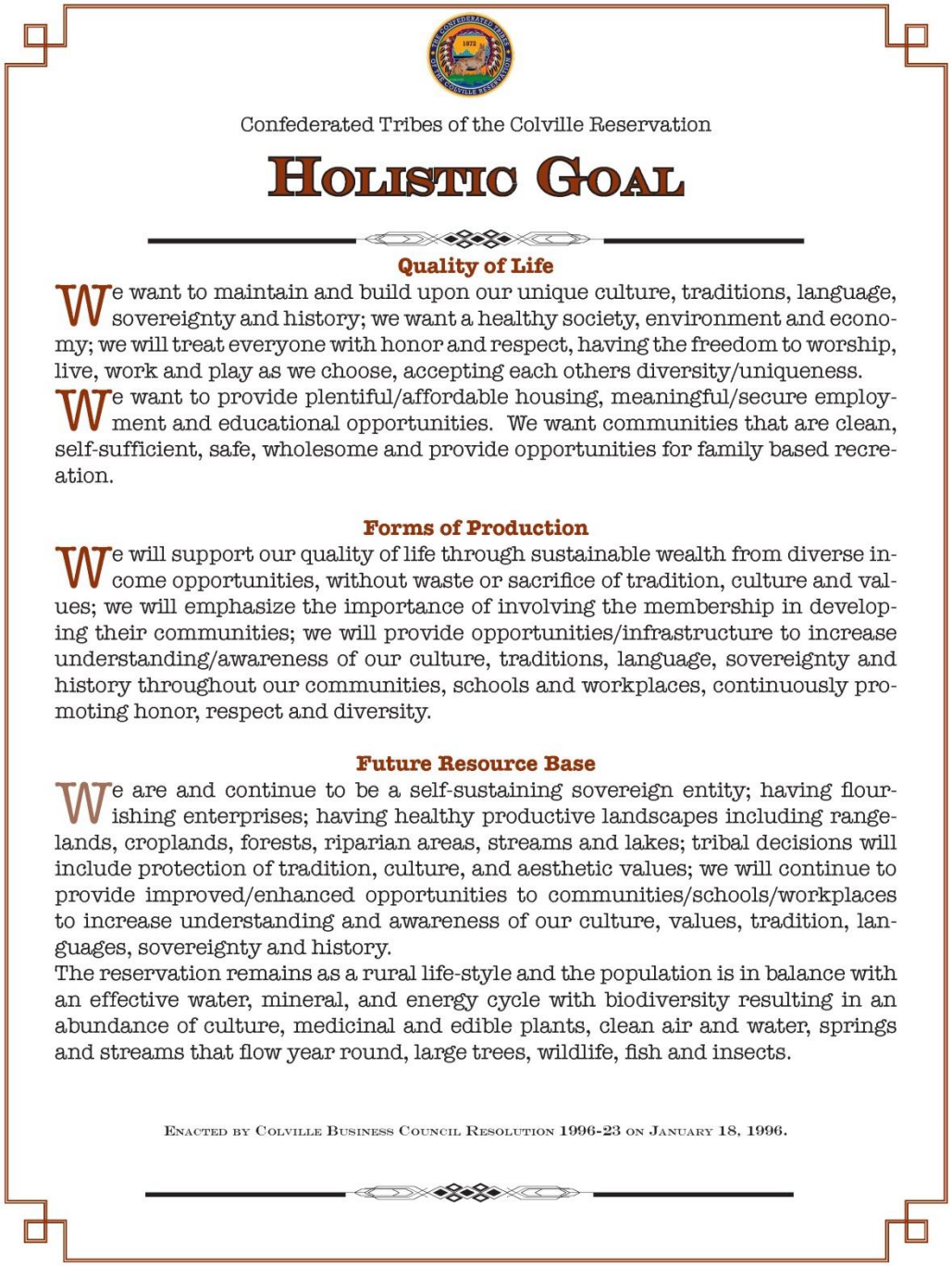
(2) Any discharge of dredged or fill material into waters of the United States incidental to the above activities must have a permit if it is part of an activity whose purpose is to convert an area of the waters of the United States into a use to which it was not previously subject, where the flow or circulation of waters of the United States may be impaired or the reach of such waters reduced. Where the proposed discharge will 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 will 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 effect 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 will 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.

7.5 Appendix E: Fish and Wildlife Proposed Wildlife Buffers and Road Closures



7.6 Appendix F: CTCR Holistic Goal and Desired Future Conditions



Confederated Tribes of the Colville Reservation

Holistic Goal

Quality of Life

We want to maintain and build upon our unique culture, traditions, language, sovereignty and history; we want a healthy society, environment and economy; we will treat everyone with honor and respect, having the freedom to worship, live, work and play as we choose, accepting each others diversity/uniqueness.

We want to provide plentiful/affordable housing, meaningful/secure employment and educational opportunities. We want communities that are clean, self-sufficient, safe, wholesome and provide opportunities for family based recreation.

Forms of Production

We will support our quality of life through sustainable wealth from diverse income opportunities, without waste or sacrifice of tradition, culture and values; we will emphasize the importance of involving the membership in developing their communities; we will provide opportunities/infrastructure to increase understanding/awareness of our culture, traditions, language, sovereignty and history throughout our communities, schools and workplaces, continuously promoting honor, respect and diversity.

Future Resource Base

We are and continue to be a self-sustaining sovereign entity; having flourishing enterprises; having healthy productive landscapes including rangelands, croplands, forests, riparian areas, streams and lakes; tribal decisions will include protection of tradition, culture, and aesthetic values; we will continue to provide improved/enhanced opportunities to communities/schools/workplaces to increase understanding and awareness of our culture, values, tradition, languages, sovereignty and history.

The reservation remains as a rural life-style and the population is in balance with an effective water, mineral, and energy cycle with biodiversity resulting in an abundance of culture, medicinal and edible plants, clean air and water, springs and streams that flow year round, large trees, wildlife, fish and insects.

Enacted by Colville Business Council Resolution 1996-23 on January 18, 1996.

COLVILLE RESERVATION
DESIRED FUTURE CONDITIONS

1. Reservation and boundary surface and ground water are in sufficient quantity and distribution of high quality to meet existing and desired future needs.
2. Landscape hydrologic performance and processes sustain the water, soil and other resources.
3. Wetlands, riparian, and aquatic ecosystems continue to function as natural systems.
4. Culture, traditions and practices remain in the personal, social, economic, spiritual and political aspect of the lives of the Reservation's membership.
5. The long-term productivity and stability of the Reservation's soil resource is maintained.
6. Suitable habitat conditions for desirable native and non-native species (flora and fauna) exist to maintain Reservation biodiversity that includes the diversity of natural genes, species and ecosystems, as well as the evolutionary process that link them.
7. Managed landscapes more closely resemble those created by the activities of historic disturbance agents such as fire (natural and aboriginal ignitions), wind, insects, disease and animals.
8. Viable populations (numbers and distribution of reproductive individuals) of native and desired non-native species of wildlife, and their supporting habitats are maintained, while wildlife is provided in sufficient numbers to meet the cultural, subsistence and recreational needs of Colville Tribal Members.
9. An abundance of anadromous and non-anadromous salmonids and other species the Tribes desire continues in the waters of the Reservation.
10. Tribal Member's values are clearly stated and reflected in the management of their resources.
11. High air quality continues to exist on the Reservation.
12. A mosaic of desirable rangeland plant communities with diverse forbs, grasses and shrubs that optimize ecosystem processes exist across the Reservation.
13. The Reservation is in a clean, green, and healthy condition pleasing to Member's senses where man-made features and structures complement nature and meet the spiritual, cultural, social and economic needs of the Tribal Membership.
14. A Natural Resource Department capable of embracing the resource goals of the Colville Indian Reservation successfully functions by understanding the complexities of interpreting the Tribes Holistic Resources Goal and by formulating operational objectives (strategies) and action steps (tactics).
15. The landscape is producing a viable short-term and long-term economic stability for the Tribal Membership.
16. Non-Reservation sources of revenue continue from other government entities and private enterprises to assist in managing the landscape for producing short-term and long-term economic stability on the Colville Indian Reservation.
17. Diverse year-round recreational opportunities are provided for all age groups and ability levels with an emphasis on Tribal Member utilization as well as resource protection.