

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

Final Environmental Assessment for the proposed Stray Dog 2024 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 Stray Dog 2024 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 Stray Dog 2024 Forest Management Project. The activities under the agency proposed action to harvest approximately 19 million board feet of timber on approximately 2,090 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
Colville Agency Superintendent
Bureau of Indian Affairs
U.S. Department of the Interior

Date

Finding of No Significant Impact

Stray Dog Forest Management Project Colville Reservation, Ferry County, Washington

Based on the attached final Environmental Assessment's (EA) for the Stray Dog 2024 Forest Management Project for a proposal to harvest 19 million board feet of timber on approximately 2,090 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 Stray Dog 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 Stray Dog 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-, 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 Stray Dog 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 4.8, CTCR IRMP FEIS 2018).
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 796.1 acres (38.06%) of potential prime farmland exist within project area. 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 744.50 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 Stray Dog 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 Stray Dog 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). (EA Section 4.10)
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.

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

Date

FINAL
STRAY DOG 2024 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 19.0 million board feet (MMBF) of timber from 2,090 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

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March 2024

BIA FILE NO: EA-24-14

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1.0 Purpose and Need

1.1 Introduction

The following Environmental Assessment (EA) analyzes the impacts of Stray Dog 2024 Forest Management Project. The Bureau of Indian Affairs (BIA) and the Confederated Tribes of the Colville Indian Reservation (CTCR) propose the harvest of approximately 19.0 MMBF of timber from approximately 2,090 acres of Tribal land in the Inchelium District of the Colville Indian Reservation in Ferry County, Washington State. There are an estimated 1,014 acres of mechanical site preparation (MSP) including mastication and 162 acres of prescribed burning associated with the various treatments. This harvest would require about 4.0 miles of new road construction and approximately 34.5 miles of road reconstruction.

The federal action (40 CFR 1508.18) is the BIA approval of the Stray Dog 2024 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 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 C). The CTCR IRMP has set an annual harvest level of 77.1 million board feet (MMBF) (CTCR 2015). This

project will 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 Stray Dog Project Area contains stands of timber that present a high risk of sustaining losses to several forest insect and disease agents. Past selective harvest practices and fire suppression has led to exacerbated insect and disease issues including Dwarf Mistletoe, Armillaria Root Rot, and Bark Beetles. Generally, thinning the forest to a healthy density, removing the Douglas-fir competition from the understory, and removing infected trees can help trees defend themselves from insects and disease.

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).

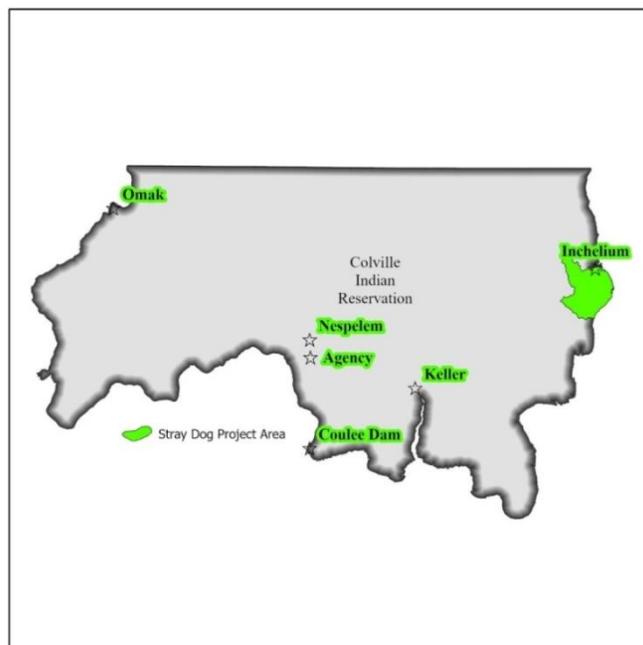


Figure 1. Stray Dog Project Area on the Colville Indian Reservation.

1.3 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/mi².
- 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 Stray Dog Forest Management Project was presented to the Colville Tribes Natural Resources Interdisciplinary Team (3P Team) in March of 2023. The 3P Team and public also had a field tour of the project area in June of 2023.

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:

- Capture the value of fire damaged timber
- 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 Stray Dog 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 Stray Dog 2024 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 District Foresters to meet forest health needs, and provide volume for the Annual Allowable Cut (AAC) of 77.1 MMBF outlined in the IRMP (2015).

Timber Harvest of roughly 19.0 MMBF from 2,090 acres of timber harvest blocks. There are an estimated 1,014 acres of MSP and 162 acres of prescribed burning associated with the various treatments.

Table 1. Prescription Summary for Alternative B.

Prescription	Acres
Commercial Thin (CT)	615
Improvement Cut (IC)	43
Sanitation (SAN)	196
Overstory Removal (OR)	160
Seed Tree (ST)	649
Seed Tree Overstory Removal (STOR)	167
Shelterwood (SW)	168

Regeneration with Reserve Trees (RRT)	91
Total Commercial Harvest Acres	2,090

The harvest system acres are shown in Table 2. The acres are estimated. Operational decisions would be made on the ground to determine how each acre would be harvested. Generally, areas over 35% slope would be cable logged, but there are small, steep inclusions that may be harvested using a ground-based system such as tractor or forwarder. Cable assisted (CA) logging method can be used to aide ground-based machines to harvest and skid on steeper inclines of 35% to 65% slopes that would be normally considered unsafe for equipment or damaging to soils.

Table 2. Alternative B harvest systems.

Logging Method	Acres
Ground Based	1,576
Tether Assist	385
Cable System	129
TOTAL ACRES	2,090

Table 3. Alternative B road construction and reconstruction.

Roads	Miles
New Construction	4.0
Reconstruction	34.5

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

There are many other project design features that are included in this alternative. These are included to help protect other resources such as fish and wildlife, and riparian areas. Some of these design features are outlined below. These design features would help mitigate most of the issues and concerns raised by Fish and Wildlife, Soils and Hydrology. These design features would make the project meet the standards of the IRMP and Forest Practices Code and help to mitigate some of the potential negative impacts of the project.

- Habitat patches would be left in the large units to break up the “continuity” on the landscape and provide refuge for wildlife.
- Scattered over-story trees would be left on all units to provide a future source of snags and down woody debris.
- Streams and wetlands would be buffered as required by the current 208 guidelines.
- A combination of cable logging and ground-based systems would be used, depending on steepness of the units and road placement.
- Summer and winter seasonal restrictions would be placed on units to protect the sensitive ash cap soils from erosion. Summer would be dry soil conditions; winter restrictions would require frozen ground and/or 2 feet of snow.
- Archeological sites would be buffered and protected from logging damage.
- Corridors would be in place on the landscape to allow wildlife to travel across the project area while being secure.
- Continued monitoring for specific wildlife species would occur and operational adjustments can be made if needed.
- Skid trails would be spaced at least 100 feet to reduce soil compaction and displacement.

When timber harvest takes place, Best Management Practices (BMP’s) outlined in the Colville Confederated Tribes Forest Practices Handbook, dated 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. Slash treatments, on the ground and at the landings, would be either lop & scattered, slash, excavator piled & burned, prescribed burned or left on site. The continual management of the stands including monitoring from initial stand development to the maturity of the stand would be completed by various forestry staff such as Silviculturists, TSOs, and forest development staff. The monitoring would ensure the individual stands are going down the anticipated pathway to the desired future conditions.

Culverts would be replaced at certain locations depending on the necessity which would be determined by the TSO’s, District Officer, the Road Engineer, or ETD Non-point Source (NPS) Management Coordinator. Also, new culverts would be installed to allow the continual flow of water to remain in the same established channel and accommodate the estimated discharge of a 100-year flood event. Water sources would be identified on the FPA/HPA application as

potential sites to obtain water for road watering, dependent on approval from the Water Administrator. Calcium chloride may be used on sections of road as an alternative to road watering.

Riparian Management Zones (RMZ) would be identified in the planning process using stream classification maps and determined by Presales Department personnel during block boundary layout. RMZ buffers would follow requirements of the Forest Practices Code (CTC 4-7), dated 2023. During implementation of road construction activities and logging operations, some trees may need to be harvested, if they present a safety hazard.

3.0 Affected Environment

3.1 Forestry

Affected Environment

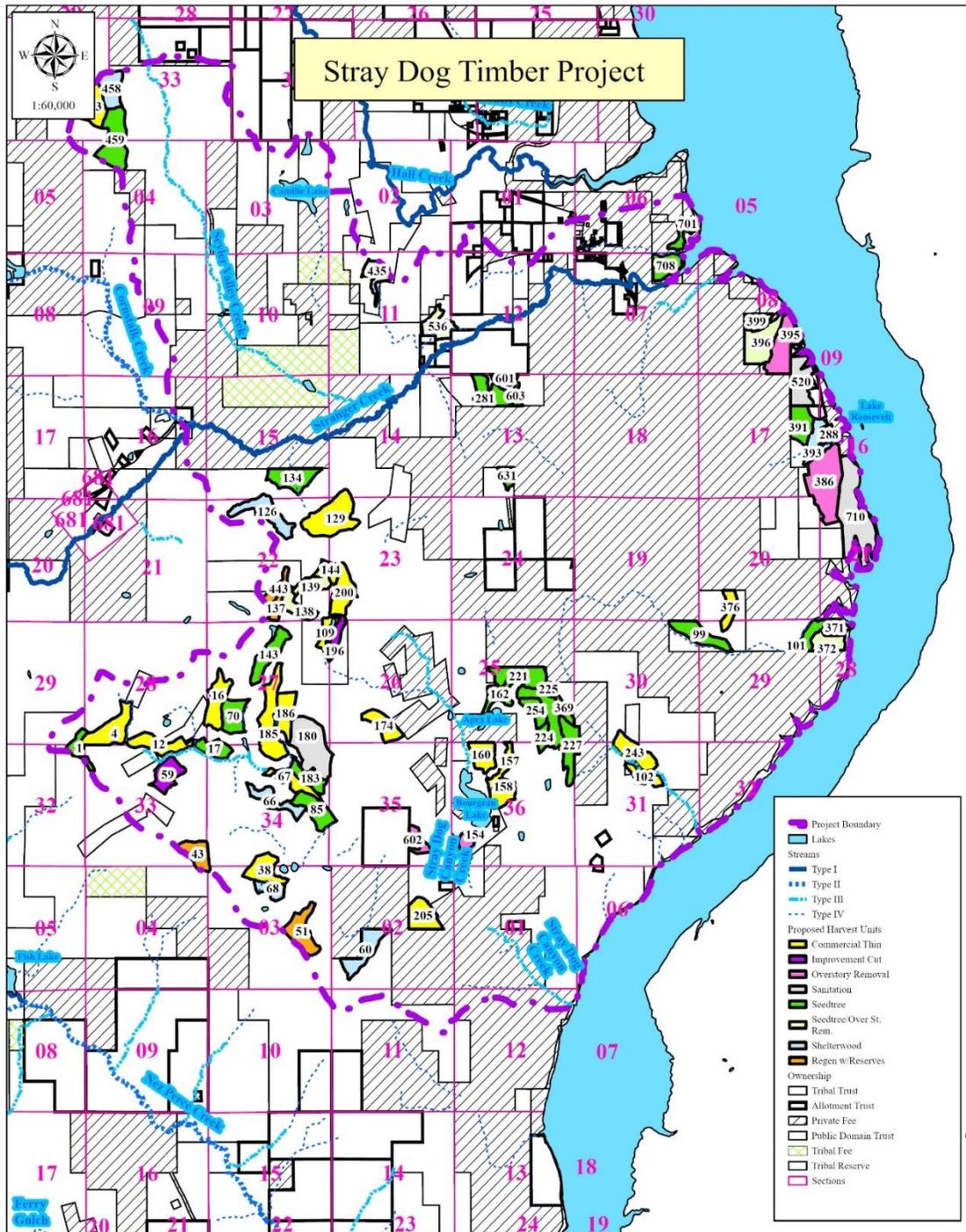
General Discussion

The Stray Dog Forestry Project area encompasses Stranger Creek on the north, Straydog Creek to the south, and the east boundary is Lake Roosevelt. The project area also contains Bourgeau and Apex Lakes, Butler Flats, AA Encampment Grounds, Stray Dog Canyon, and the community of Inchelium. There are many roads within the project area that range from improved county and B.I.A. roads systems. Bridge Creek highway and Silver Creek are the major road systems while existing roads are scattered throughout. The entire area encompassed by the project boundary is 20,357 acres. There are approximately 820 acres of Indian Owned Allotments, 8,663 acres of simple FEE land, and 383 acres of Tribal FEE lands, and 10,491 acres of Tribal Trust lands within the Stray Dog project area. There are also 10,000 acres that are in the commercial timber base.

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.

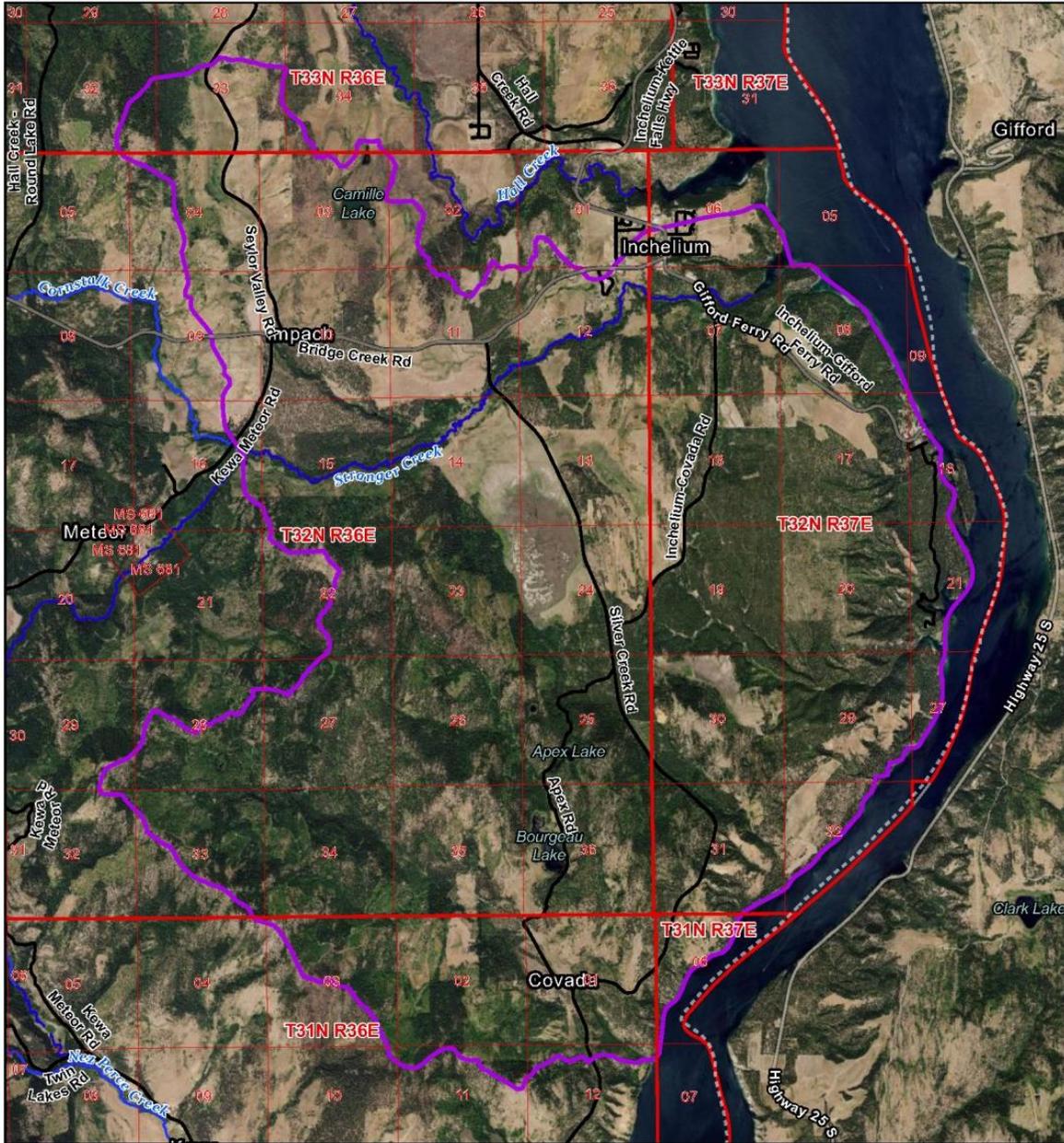


Inchelium District Forestry/Planning Department/June 2024/10/10/2024

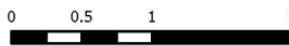
Figure 2. Stray Dog 2024 Project Area Harvest Blocks.



STRAYDOG FOREST PROJECT AREA



- Primary Road
- Stream Type I
- Stream Type II
- Township / Range
- Sections
- Forest Project Area
- Reservation Boundary



Miles
1:64,000
apb
December 2023

Map Center DMS (Long/ Lat)
118°13'7"W 48°15'43"N

Source: Esri, USDA FSA, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community; WA State Parks GIS; Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA

Figure 3. Ariel View of Proposed Stray Dog 2024 Project Area.

3.2 Soils

The landscape throughout the project area is dominated by lake terraces and mountain slopes. Soils are formed predominantly from glacial till, loess, volcanic ash, residuum, colluvium, and alluvium. Soil parent materials largely derived from glaciofluvial deposits and glacial till mixed with a component of volcanic ash and loess. Table 4 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	Cedonia, Lakesol, Barnellcreek, Nevine	Lake Terraces	54.20%
Loam	Republic, Scoap, Raisio, Borgeau, Donovan	Mountain Slopes	13.90%
Sandy Loam	Hellgate, Phoebe, Springdale, Spens	Mountain Slopes	6.20%

Table 4. 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. This project area is 20,357 acres, and contains the Straydog Canyon, Columbia River 4, and Lower Stranger Creek WMUs. The Lower Stranger Creek WMU is downstream of the Cornstalk Creek and Upper Stranger Creek WMUs, and is fed directly by these sources, as well as all other WMUs in the Twin Lakes Resource Management Unit (RMU): North Twin Lake, South Twin Lake, Granite Creek, and Beaver Dam Creek. The Lower Stranger Creek WMU contains the confluence of Stranger Creek with the Columbia River.

Both the Columbia River 04 and Straydog Canyon WMUs are independent of the surrounding landscape hydrology, and are not influenced surficially by any upstream water sources. Neither WMU has a major water source, though both include a number of Type 3 and 4 streams that feed the Columbia River, and both are located within the same Twin Lakes RMU.

To the north of the project area, the Lower Hall Creek WMU contains the mainstem of Hall Creek, and the confluence of Hall Creek with the Columbia. While Hall Creek itself does not

influence Stranger Creek, a mapped wetland complex in the southwest corner of the Hall Creek WMU feeds Seylor Valley Creek, which is a tributary to Stranger Creek. To the south of the project area, Nez Perce Creek and the Columbia River 05 WMUs flow into the Columbia.

In addition to direct impacts in the Lower Stranger Creek WMU, landscape-scale impacts from activity in the project area could be detected 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), one other green timber sale has occurred in the Twin Lakes RMU: Stranger Creek (2023), which is located immediately upstream of the Stray Dog project area. Additionally, 3,925.67 acres in the Twin Lakes RMU have burned in the last 5 years, most of which (2,208 acres) occurred during the 2021 Summit Trail fire. The Inchelium Highway Fire (2020) burned 1,126 acres in the Stray Dog project area as well.

Water resources in the project area include 42.24 miles of streams and 744.50 acres of wetlands, as well as an unknown number of seeps and springs. Stranger Creek is the major watercourse through the project area, flowing west to east before flowing into the Columbia River. However, much of the project area is not associated with Stranger Creek, and instead is characterized by surficially isolated streams and wetlands. The majority of the streams in the project area are type 4 streams, which are generally intermittent, high-gradient headwater streams, though some type 3 streams exist, which may provide fish habitat.

Water quality is monitored in two locations on the main stem of Stranger Creek. STG020 is located at the outlet of South Twin Lake, where Stranger Creek begins to flow to the Columbia. Inside the project area, STG017 is located northeast of Stranger Mountain, capturing influences from the project area north of the creek, a portion of Stranger Mountain, and activity in the valley bottom. 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) at the STG017 monitoring location. Under the pH standard for Class II waters, Stranger Creek should maintain a pH between 6.5 and 8.5. The pH standard was exceeded on 8/28/19, 5/29/20, and 5/25/21, with values of 8.75, 8.91, and 8.96 respectively. During the analysis period, Stranger Creek also recorded exceedances of the 6.45 NTU turbidity standard in 8 out of 39

observations (21%), with a high value of 126.6 on 7/7/16. Notably, turbidity was also in exceedance during three consecutive samples in the spring of 2020 (4/29, 5/27, 6/24), during which the pH was also exceeded. Lab metrics were also analyzed at this location, and though the fecal coliform and e.coli standards were not technically exceeded, multiple high values were recorded during the study period, specifically during the summer months of 2020 and 2021. There were no recorded exceedances of the dissolved oxygen or temperature standards, or of other lab metrics (ammonia, nitrate/nitrite, TKN and orthophosphates).

Table 5. Hydrologic features within the Stray Dog Project Area footprint.

Hydrologic Feature	Potentially Affected Size
Mapped Streams	42.24 mi
Mapped Wetlands	744.50 ac

3.4 Fish and 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 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
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	Threatened
Monarch Butterfly	<i>Danaus plexippus</i>	Candidate

Bull Trout	<i>Salvelinus confluentus</i>	Threatened
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Table 6. US-DOI-Fish and Wildlife Service: Official Species List.

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.

Wildlife

The Stray Dog 2024 Project Area supports habitat for a variety of birds including Northern 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.

The Northern goshawk (*Accipiter gentilis*) 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 Northern goshawks. Great gray owls (*Strix nebulosi*) share similar habitat requirements as the Northern goshawk with the additional requirement of open meadows for hunting. Pileated woodpeckers (*Hylatomus pileatus*) and white-headed woodpeckers (*Picooides 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 Stray Dog 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 and moose within the perimeter of the project area. Mule deer can occasionally be found throughout the area from steep forested ridges to lowland shrub-steppe habitat at all elevations. White-tailed deer are primarily found using riparian associated habitat adjacent to streams, rivers, meadows or agriculture at elevations below 3,500 feet. Elk are known to use portions of the area throughout the year, including calving grounds and winter range.

The Colville Reservation is currently home to eight known wolf packs. Gray wolves (*Canis lupus*) as an apex predator 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 Stray Dog 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.

It is unlikely that Canada lynx (*Lynx canadensis*) are present in the Stray Dog Project Area due to its elevation and habitat type, however, due to the recent reintroduction of lynx on the Colville Reservation, lynx have the potential to use the area for travel. Additionally, pine marten (*Martes martes*), wolverine (*Gulo gulo luscus*), and fishers (*Pekania pennant*) 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]).

"Cultural resources" include archaeological sites, standing structures, and locations or landforms that are important to the identity of the indigenous people of the area (i.e., traditional cultural properties [TCPs]). For more details on the affected cultural environment, please consult the CCT Cultural Resource Management Plan (CCT 2007), the cultural resources overview for the Colville Reservation (Gough 1990), and the FEIS for the IRMP (CAR 2018).

The Stray Dog Forestry Project is within the ancestral lands of the Sanpoil and Colville Tribes, 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 Sanpoil and Colville is nsləxcín.

This project includes various forest and fire management treatments for approximately 10,400 acres of land within the Inchelium Forestry District. The project area encompasses approximately 20,357 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, 4.0 miles of new road construction and 34.5 miles of road reconstruction as well as all existing roads utilized for logging operations shall be considered the Area of Potential Effect (APE).

Approximately 578 acres were previously surveyed within and immediately adjacent to the Stray Dog Forestry Project area (Fish 2003 a & b; Meyer 2004; Meyer 2006 a & b; Marchand 2010; Marchand 2013 a & b). These inquiries have resulted in documentation twenty-three archaeological sites within or immediately adjacent to the Stray Dog Forestry project area and a review of the Colville Confederated Tribe History/Archaeology Program documented fifteen Traditional Cultural Properties (TCPs) within the project area for a total of thirty-eight cultural resources.

A search of Bureau of Land Management/General Land Office (BLM/GLO) records indicates that there are one hundred six historic Indian allotments, ten houses, the Covada (Enterprise) Mining district, eight mining patents, three land patents and multiple roads crisscrossing the project area.

For the current project, a predictive model was used to select areas within the Stray Dog Project area for a cultural resource survey which resulted in the documentation of three new sites.

Six of the forty-one cultural resources identified within/adjacent to the entire project area are located within the APE for the current project. Previously recorded as archaeological sites FE043, FE615, and CCT-WA-FE-617 which is a Traditional Cultural Property (TCP). FE043 is located within harvest blocks 450-701 & 708, and FE616 is immediately adjacent to harvest block 459-12. The TCP CCT-WA-FE-617 is within harvest block 458-129. The newly documented sites are 040622-ASH-1 in block 450-435, 072023-1-ASH in block 443-227, and 071723-1-ASH in block 443-243. 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 Stray Dog Canyon, Twin Lakes, Moon Mountain, Stranger Creek, Round Lake and Cornstalk 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 will 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. It is also likely that eagle feather collection areas are utilized by current Tribal members, given the proximity to the Columbia River.

The project area is located within the Twin Lakes Watershed, which contains all or portions of North Twin Lake, South Twin Lake, Round Lake, Stranger Creek, Carson Creek, Cornstalk Creek, Beaver Dam Creek, Granite Creek, Camille Lake, Apex Lake and Borgeau Lake. 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 Twin Lakes 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 Twin Lakes, Hall Creek, Camille Lake, Cornstalk Creek, Butler Flat, Apex Lake and Borgeau Lake. The project area falls within a portion of the watershed which is documented as a principle gathering location for at least thirty-one native plant species for consumption, construction, weaving, and religious purposes (Table 7).

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

Black Cottonwood, <i>Populus trichocarpa</i>	Ponderosa Pine, <i>Pinus ponderosa</i>	Serviceberry, <i>Amelanchier alnifolia</i>
Narrow-leaved cattail, <i>Typha angustifolia</i>	Lichen, <i>Bryoria femontii</i>	Chokecherries, <i>Prunus spp</i>
Tall Oregongrape, <i>Berberis aquifolium</i>	Elderberry (Blue or Red), <i>Sambucus spp</i>	Huckleberry, <i>Vaccinium spp</i>
Wild raspberry, <i>Rubus spp</i>	Foamberry, <i>Shepherdia canadensis</i>	Wild blackberry, <i>Rubus spp</i>
Sages, <i>Artemisia spp</i>	Indian potato, <i>Claytonia lanceolata</i>	Wild thimbleberry, <i>Rubus spp</i>
Red Willow (Dogwood), <i>Conrus stolonifera</i>	Fir, <i>Multiple Species</i>	Wild strawberry, <i>Fragaria vesca</i>
Green Willow,	Gray Willow,	Cedar, <i>Thuja plicata</i>
Lodgepole Pine,	Western Larch,	Buckbrush,

<i>Pinus contorta</i>	<i>Larix occidentalis</i>	<i>Ceanothus</i>
Buckbrush, <i>Ceanothus</i>	Bunchgrass,	Birch (including river birch), <i>Betulaceae</i>
Ocean spray (aka Ironwood), <i>Holodiscus discolor</i>	Yew, <i>Taxus brevifolia</i>	Reed Canary Grass, <i>Phalaris arundinacea</i>
Tule (aka bulrush), <i>Schoenoplectus acutus</i>		

3.6 Range Management

Of the 72 blocks listed in the project attribute table 45 are within the range programs stewardship area Range Unit 73. The infrastructure GIS layer indicates possible impact to range fence with Block 134 on the northern boundary of the grazing unit. No other potential infrastructure impacts are identified within the unit using the GIS layers. 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 will 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 will 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 will comply with FARR regulations.

B. Permits to be Obtained: No permits are required to implement this Prescribed Fire Plan. Dispatch will 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 will not be impacted.

D. Potential Impacted Areas: Smoke as a result of ignition, will 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 will 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 will post public notification posters that display areas where burning is planned and will include Fire Management contact information if public has questions or concerns.
2. If there is an expectation that nearby local residents will be impacted by smoke, the Burn Boss will arrange for fire management staff to contact them. If personal contact cannot be made a flyer will be left that will include Fire
3. Management contact information. The Burn Boss will 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 will be offered if a resident is identified.

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

3.8 Fuels/Fire Management

The environment affected by Forestry and Fire Management activities that manipulate vegetation to conserve or alter the characteristics of available (burnable) fuels. The three primary indicators are: effects of alternatives on hazard fuel reduction and future resistance to control of wildfire, the general effects of alternatives to historic and desired future fire regimes, and the use of fire

for stand structure/species manipulation and site preparation. 80 years of active fire suppression has negatively altered plant community composition, structure, density and fuel loading within the project area. Prior to the more recent period of active fire suppression, fire was an important ecosystem component that helped maintain resilient ecosystem function. Fire on the landscape helped the fire-adapted vegetation species occupying these sites maintain healthy resilient plant communities. Most stands in the project area are over stocked with shade tolerant species, with a closed canopy, multi storied structure, carrying surface fuel loading that are higher than would have naturally occurred. The risk of catastrophic wildfire is greater in these stands

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	2,090 Acres
	Support of Tribal Wood Processing	Timber Volume for Processing	\$0	19.0 MMBF
	Tribal Income	Projected Stumpage	\$0	\$2,500,000
Hydrology Fish & Wildlife	Sediment Delivery/Erosion Habitat	Road Construction	0 Miles	4.0 Miles of New Construction 34.5 Miles Reconstruction

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 IRMP.
- 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. There would continue to be an increased likelihood of catastrophic fire.

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.

Impacts to Forestry Resources Alternative B: Proposed Action

- \$2,500,000 of profit for the Colville Tribe with a harvest of 19.0 MMBF.
- 2,090 acres would be added to the regulated forest.
- Species composition on 700 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 Douglas-fir/Grand fir encroachment would be piled and/or burned, reducing the likelihood of catastrophic fire.
- Density would be reduced in overstocked stands, creating a healthier forest.
- Desired Future Condition's outlined in the IRMP would be met over time.
- 4.0 miles of new road construction to facilitate logging. 34.5 miles of existing road would be improved.

- **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.**

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 will be impacted by ground-based logging, cable assisted logging, excavator piling, commercial thinning, and broadcast burning. Approximately 1,576 acres would undergo ground-based logging. Blocks that are cable logged and/cable assisted logged, comprising approximately 514 acres, typically have fewer significant soil impacts. If tethered logging is used instead of cable, soil impacts will vary depending upon localized conditions, but tend to improve overall safety. Approximately 129 acres will be broadcast burned, at least 754 acres will be excavator piled, 615 acres will undergo commercial thinning, and 754 acres will undergo lop and scatter. Approximately 796.1 acres (38.06%) of potential prime farmland exist within project area. 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 will be greater. According to data obtained from the Colville Tribes RIA/GIS program, 18 percent of the total 1,517 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% will be 274.18 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 ac	Moderate Potential ac	Low Potential ac
Displacement	92.0	1,259.9	165.6
Rutting	1,240.2	246.9	10.4
Compaction	1,269.1	219.8	28.6
Erosion	227.1	753.0	517.4

The Natural Resources Conservation Service rates most soils with slopes exceeding 20% as poorly suited or unsuited for surface mechanical site preparation. Approximately 88.04 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.

Approximately 129 acres are proposed for prescribed broadcast burning. Of the entire project area 45.7 percent of the total area is considered by NRCS to be highly susceptible to fire damage and 50.5 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 4.0 miles of new road construction and 34.5 miles of road reconstruction will occur. With a total of 38.5 miles of new road construction and road reconstruction, approximately 154 acres of soil disturbance will 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 densities in the Lower Stranger Creek (5.1 mi/mi²), Columbia River 04 (6.2 mi/mi²), and Stray Dog Canyon (6.7 mi/mi²) Watershed Management Units (WMUs) are higher than the desired condition outlined in the IRMP (4.0 mi/mi²), 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 Stray Dog project area are maintained to various levels of stability. 259 existing segments, with a total length of 51.82 miles, were identified for review within the project area; 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

- 4 miles of new road construction and 34.5 miles of road reconstruction
- 0.24 miles of new construction and 11.41 miles of reconstruction within 200 ft of hydrologic features
- Harvest activities within 200 ft of surface water – 165.93 ac
- Harvest activities within 200 ft of wetlands – 56.08 ac

The proposed project would involve approximately 2,090 acres of treatment. Within the project area, there are 42.24 miles of streams and 744.50 acres of wetland. Within treatment blocks, there are 1.59 miles of streams and 2.75 acres of wetland. The proposed project plan includes

222.01 acres of planned harvest activities within 200 ft. of hydrologic features. Harvest activities will occur on 165.93 acres within 200 ft. of streams, and 56.08 acres within 200 ft. of wetlands.

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 will 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 will 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 will 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. 1,961 acres, across 68 blocks, are proposed for ground based (tractor and cable assist) harvest. Blocks range from approximately 1,000 to 3,000 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 1,000 skid trails will be created in blocks prescribed for ground based harvest. Using aerial imagery from late summer 2022, skid trail spacing in previous sales, including the 2020 Gold Mountain timber sale in the adjacent Wilmont Creek RMU, 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, 161.29 acres of proposed ground based harvest will occur within 200 feet of streams. 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 385.3 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. 30.3 of these acres are located within 200 feet of surface water (streams and wetlands), increasing the potential for sediment delivery due to the combination of ground based operation and steep slopes.

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 road reconstruction and new construction in the Stray Dog project area will occur on 38.5 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. 11.7 miles of reconstruction and new construction will occur within 200 feet of hydrologic features. 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 will 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 any 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 3.0 of this EA.

Surface Water:

The proposed alternative will 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 27 culverts will likely be installed during this project. Road miles and road density in the project area will increase due to the 4 miles of new road construction.

Wetlands:

The proposed forestry activities will impact wetland ecosystems through soil disturbance, hydrological alteration, and disruption of vegetative community. Forestry associated road work especially is predicted to contribute to excess sedimentation and runoff inputs to the detriment of the ecological function of the wetlands.

Floodplains:

NOAA mapping indicates limited areas of 100-year floodplain associated with Stranger Creek. Due to the relative lack of perennial watercourses in the project area, floodplain extent is limited beyond this, although there is additionally 100-year floodplain associated with Bourgeau Lake. Blocks and roads proposed for this project do not encroach on the 100-year floodplain of Stranger Creek or Bourgeau Lake.

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 Stranger Creek; this is likely to continue, and detrimentally affect aquatic organisms. Additionally, turbidity is often associated with dissolved oxygen and temperature, neither of which has been a metric of concern in this drainage in the past. 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 will likely be short term impacts of timber sale activities. Water quantity in the main stem of Stranger Creek likely to increase in the short term, due to removal of vegetation and reduction of transpirative losses. However, much of this water will 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 will likely decrease for these reasons as well. These impacts will be sustained over the duration of the project, approximately five years.

Wetlands:

Extensive tree removal in the Seed Tree (ST) Rx Block 459 143 as well as moderate tree removal adjacent to wetlands in the Commercial Thin (CT) Rx in Block 454 109, Block 459 12, and Block 443 243 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:

No proposed actions from this project are likely to have short-term direct impacts on floodplains.

Direct Impacts – Long-Term

Surface Water:

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

Wetlands:

There are 2.22 miles identified for reconstructed road in wetland RMZ buffers, with 0.28 miles in wetlands. Over the long-term the construction and use of forestry-related roads exacerbates sedimentation in wetlands, aiding in nutrient and pollutant delivery as well as degrading wetland function, water quality, and habitat.

Floodplains:

No proposed actions from this project are likely to have long-term direct impacts on floodplains.

Indirect Impacts

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

Cumulative Impacts

Surface Water:

As discussed above, one other timber sale has occurred in the Twin Lakes RMU in the past 5 years. The 2023 Stranger Creek timber sale is uniquely situated directly upstream of the Stray Dog project area in a way that will result in compounded impacts to water quality metrics in the main stem of Stranger Creek. The Stranger Creek timber sale, which began in early 2023, proposed 1,240 acres of treatment and harvest. Due to the topography of the project area, any sediment generation and nutrient transport will terminate in Stranger Creek before being conveyed downstream to the Stray Dog project area. The Stray Dog timber sale will add an additional 2,090 acres of timber harvest in the Twin Lakes RMU, and 183.6 acres specifically within the Stranger Creek drainage.

Cumulatively, this is 3,330 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 use are expected to have cumulative systemic impacts to the wetlands adjacent to harvest blocks as well as the downslope and/or downstream wetlands. The Stray Dog 2024 Forestry Harvest Project will occur simultaneously with BIA Land Operations grazing permits in Range Unit 73. There are no grazing controls identified for range practices in the Stray Dog Project Area or the associated wetlands. Cattle impacts including wetland soil disruption and biological impacts will be exacerbated by forest practices contributing to excess sedimentation and nutrient inputs.

Floodplains:

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

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 10. Water Resources Impact Summary from the Proposed Action.

The project will 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) will be minimal as vegetation reestablishes and stabilizes slopes. However, the cumulative impact of the project, in conjunction with previous timber sale impacts, will impact water quality and quantity throughout the Twin Lakes RMU. The Proposed Action will result in significant short term and cumulative impacts to water resources including surface water and wetlands.

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 Stray Dog timber sale project proposes the construction of 4 miles of new road, and 34.5 miles of reconstruction of existing forest road. The use of these roads for timber sale operations will 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 will 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 will decrease the amount of maintenance that can be allocated to existing segments, and cause road quality to deteriorate over time.

Indirect Impacts

No indirect impacts from this project are likely to impact the transportation network.

Cumulative Impacts

In addition to the Stray Dog timber sale, one other timber sale has occurred in the Twin Lakes 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.

The proposed Stray Dog Timber Sale project would have considerable impacts. Implementing the proposed action would result in new and cumulative impacts to water quality and wetlands. Mitigation measures to attenuate these impacts are outlined in the next section.

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/reconstructed 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 will 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. 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; after field assessment, the following mitigations were developed:

Table 11 . Roads identified in preliminary transportation plan and required mitigation.

FID	WRKNG_ID	CMMTS_ETD	PPF_CMMTS
1	1193	Wetland adjacent	Relocate
2	1192	Wetland adjacent	Relocate
3	1191	Wetland adjacent	Relocate
4	1190	Wetland adjacent	Relocate
0	1196	In the wetland, water on road, do not use	Do not use
7	573	Wetland adjacent — do not use	Do not use
5	707	No concern	No concern
6	692	No concern	No concern
8	10029	No concern	No concern
9	708	No concern	No concern
10	498	Bad road location, relocate	Relocate
11	1426	Wetland adjacent, relocate further away	Relocate

During fieldwork ETD staff identified several locations where a culvert would be necessary which were not in the project proposal. The Transportation Planner is responsible for identifying all crossing locations, proposing crossing sizes and locations, and provided these proposed crossings for review prior to installation, in order to ensure proper sizing for 100-year flows and fish passage.

As of 11/14/23, when the most updated shapefiles were provided, 38.5 miles of road were proposed for reconstruction and new construction. Without existing crossing data, there is no way to confidently say that every crossing in the sale will be capable of passing fish or 100-year flows, or in compliance with Tribal Code. A complete analysis of potential impacts cannot occur without all of the data regarding existing crossing structures, and the determinations made by the Transportation Planner regarding sufficiency of existing culverts, in regards to size and proper installation, cannot be verified.

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. 385.5 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 12. Harvest blocks requiring seasonal restrictions to mitigate for soil compaction and erosions.

Comp	Block	RX	Skid System	Seasonal Mitigation	Notes
443	221	ST	T/CA	Winter/Summer	
443	254	ST	T/CA	Winter/Summer	
443	225	ST	T/CA	Winter/Summer	
443	224	ST	T/CA	Winter/Summer	
443	227	CT	T/CA	Winter/Summer	
450	458	SW	CA	Winter/Summer	
450	453	CT	T/CA	Winter/Summer	
454	160	CT	T/CA	Winter	Tractor is fine on frozen ground
458	134	ST	CA	Winter	Tractor is fine on frozen ground

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 13. Harvest blocks requiring season restrictions and harvest system mitigation.

Comp	Block	RX	Skid System	Seasonal Mitigation	Harvest System Mitigation
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444	101	ST	T/CA	Winter	Cable only
450	459	ST	CA	Winter	Cable only
454	51	RRT	T/CA	Winter	Cable only
454	66	SW	C/CA	Winter/Summer	Cable only
454	85	ST	CA	Winter	Cable only
459	143	ST	C/CA	Winter	Cable only
454	183	ST	C/CA	Winter	Cable only
459	70	ST	CA	Winter	Cable only
458	126	SW	T/CA	Winter/Summer	Cable/tether (too steep for tractor)

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.

Planners and Operators should develop practices that will 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 will 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

Per Colville Confederated Tribes Law and Order Code [CCT 4-7-67(e)] Riparian Management Zone buffers are required for wetlands.

Table 14. Wetland RMZ Requirements.

Comp	Block	Wetland	Location	CCT Water Type	RMZ (applied to each side of wetland)
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454	109	E.TL_031	east edge of block	III	100 feet
459	143	E.TL_032	west edge of block	III	100 feet
459	12	E.TL_066	southeast edge of block	III	100 feet
443	243	E.TL_090	through southern portion of block	III	100 feet

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 through harvest and burning, excess nutrient and pollutant uptake and filtration will 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 Stray Dog Project boundary there is 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 2006). 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 or Northern goshawk territories. One goshawk was observed within the Stray Dog project area, but no nest was found. 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 goshawk or great gray owls are observed the Inchelium wildlife biologists should be contacted.

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 2,090 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.

Protection Measures

Wildlife buffers create travel corridors for wildlife, along with maintaining blocks of habitat designed as thermal cover. There are a total of five wildlife buffers, 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 Stray Dog Project Area there is approximately 804 acres of blocks that are adjacent to streams; that is of the 74 blocks in the Stray Dog Project Area, 27 (36%) contain or are adjacent to streams. These bodies of water include but are not limited to Stranger Creek, Stray Dog Canyon Creek, Cornstalk Creek and a number of unnamed type 3 and type 4 tributaries, and all contributing streams in each watershed. Harvesting 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 Stray Dog Project falls within three of the Reservation WMUs which is the Stray Dog Canyon, Lower Stranger Creek, and the Columbia River 04 WMU. The CTCR IRMP states that total road density will be reduced to less than 4 mi/mi², with open road density to be reduced to less than 1.5 mi/ mi² wherever feasible across the Reservation. Road densities on the reservation are calculated using the WMU boundaries; Table 8 depicts the road density for the affected WMU’s.

Currently the Stray Dog WMU exceeds the IRMP target of 3.5 mi/mi² total road density with an average of 2.5 mi/mi² over the set goal. Alternative B proposes roughly 4.0 miles of new construction and 34.5 miles of reconstruction which will increase both open road and total road densities further exceeding the Tribes goal of 1.5 mi/mi² of open roads. (Table 15).

WMU	Roads (mi)	Proposed New Rd (mi)	Proposed Recon Rd (mi)	Total Rd (mi)	WMU (ac)	WMU (mi ²)	Current Density (mi/mi ²)	New Density After Harvest (mi/mi ²)
Stray Dog Canyon	64.2	0.0	8.2	64.2	6144	9.6	6.7	6.7
Lower Stranger Creek	62.1	0.28	3	62.38	7744	12.1	5.1	5.2
Columbia River 04	63.8	0.72	2.6	64.5	6592	10.3	6.2	6.3

Table 15. Road density by WMU following road closures.

It is the suggestion of the Fish and Wildlife Department that unnecessary segments and select reconstructed roads should be closed. The CTCR IRMP has a target of 3.5 mi/mi² tribal forest road density during harvest and 1.5 mi/ mi² post-harvest. Road densities on the Reservation are calculated using the WMU boundaries; Table 16 depicts the road density for the affected WMU’s after project implementation.

The department is proposing 8 road closures by double tank trapping to eliminate vehicle use (Appendix E). This will close approximately 14 miles of roads. 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. While the Upper Stranger Creek WMU is not within the project boundary, some of the haul routes are, densities from this WMU were calculated from the Stranger Creek 2023 Timber Sale.

Table 16. Road Density by WMU following project implementation.

WMU	# of Tank Traps	Miles to be Closed	Density After Harvest (mi/mi ²)	New Density After Road Closures (mi/mi ²)
Straydog Canyon	5	8.1	6.7	5.8
Lower Stranger Creek	1	5.4	5.1	4.7
Upper Stranger Creek	2	0.7	6.5	6.5*

* Other roads will be closed to lower this density as a part of the Stray Dog 2024 Timber Sale.

Fish

Within the Stray Dog Project Area, Stranger Creek, Straydog Canyon Creek and their tributaries Seyler Valley Creek, Cornstalk Creek and a number of unnamed creeks as well as several unnamed creeks tributary to the Columbia River/Lake Roosevelt are a part of the Lower Stranger Creek Watershed Management Unit (WMU), Cornstalk WMU, Straydog Canyon WMU, Northeast Covada WMU, Southeast WMU, and Columbia River 04 WMU. Stranger Creek, Straydog Canyon Creek and several unnamed type 3 and type 4 creeks are 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 Stray Dog Project Area and surrounding areas are extremely rare and believed to be extirpated. Historically, populations likely occurred in several tributaries to the Columbia River above Grand Coulee Dam (Lake Roosevelt). However, currently no spawning populations exist within the Northeast Washington Research Needs Area. Since 2011, fewer than 25 bull trout have been documented in the mouths of tributaries to Lake Roosevelt or in Lake Roosevelt/Columbia River itself. The majority of observations occur in the north end of Lake Roosevelt near the Canadian border with infrequent observations in the mouths of tributaries. In 2012, a single adult bull trout was documented in the lower Sanpoil River Arm of Lake Roosevelt. Bull trout observation data within the Northeast Washington Research Needs Area is not well tracked, is sporadic, and often anecdotal, although they are rarely encountered during large-scale standardized fishery surveys. Bull trout present in the Northeast Washington Research Needs Area likely derive from local populations in the Coeur d’Alene/Spokane River or Pend Oreille River basins, or from tributaries to the Columbia River in Canada and have been entrained over dams. While bull trout are rarely encountered in Lake Roosevelt, bull trout are very unlikely to be impacted by activities within the project area.

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 Measures

Several significant impacts have been identified for the proposed action, and thus mitigation is

required or a degradation in wildlife habitat is anticipated to effect a variety of species and therefore the following mitigation measures apply:

- 8 road closures via double tank trap throughout the project area, closing 14.11 mi of roads (Appendix E).
- 5 wildlife buffers in harvest blocks, totaling 28 acres.
- Request winter harvest only in block 454-109 and 454-200
- Block 445-710 has high potential for active Eagle nests, although none were observed during field season. Please notify the Incheilium Wildlife Biologist if a nest is found.

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 forty-one known cultural resource sites recorded in the Stray Dog Forestry project area. An official determination of National or Colville Register eligibility for these sites has not been made, but most of these sites appear to be eligible. Six sites are located within the APE of Alternative B; they have been documented as FE043, FE615, CCT-WA-FE-617, 040622-ASH-1, 072023-1-ASH, and 071723-1-ASH. Although FE615 is not immediately within a treatment block, no staging areas or landings should be within 500 feet of this resource. 040622-ASH-1, 072023-1-ASH, and 071723-1-ASH, are all historic mines, and as such, great care should be taken as un-mapped shafts and test pits may be present and prove hazardous to crews. As long as the mitigation described is adhered to, the ‘Proposed Action’ will 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

Thirty-eight cultural resource sites have been documented within the Stray Dog Forestry project area. These sites have been documented as FE043, FE615, and CCT-WA-FE-617. None of these sites are expected to be adversely affected by project implementation as long as there are no staging areas or landings within 500 feet of this historic cabin.

The Resource Archaeologist will brief the TSO and others working in the Stray Dog 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 forest project area ranges from 14” in the eastern portion near the river to a high of 19” moving west with elevational changes. This range of average annual precipitation indicates natural understory recovery may be variable in logging activity locations when a high degree of soil disturbance occurs.

According to the NRCS soils layer there are 14 Forest Habitat Types, including the quaking aspen series, represented in the Stray Dog Forest Project Area. There are also 3 Range Ecological Sites identified in this highly diverse area. The Douglas-fir habitat types are the most often represented in the Stray Dog Project Area at near 53%. Ponderosa pine habitat types are indicated at near 30%. There are 3 other dominant tree habitat types listed with much smaller acreages denoted. They are grand fir, western redcedar, and quaking aspen.

Of the 14 forest habitat types represented in the Stray Dog project area 13 are represented in the blocks slated for activity. The most dominant habitat type is Douglas-fir/common snowberry (PSME/SYAL). Pinegrass, bluebunch wheatgrass, and Idaho fescue are the main grass species in this habitat type. These grass species also occur in the other habitat types with an apparent co-dominance of pinegrass and bluebunch wheatgrass. Pinegrass does not usually need to be planted in sites where disturbance has occurred. If highly disturbed areas need rehabilitation a mix of bluebunch wheatgrass/Idaho fescue at a 2/1 mix should be considered. Due to slow germination characteristics of native bunchgrasses a short-lived companion cover crop should be considered for planting along with the native seed mix. This would assist with erosion concerns and provide competition against weed establishment while the native plants take hold.

Landings, skid trails, roads, and pile burns will likely have the most potential for soil disturbing activities during the forest harvest activities. 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 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 Fuels/Fire Management

Impacts to Fuel/Fire Resources Alternative A: No Action

The effect of No action on historic and desired future regimes would be to allow site conditions to continue to depart from historic conditions and further increase the probability of a wildfire scenario that would likely cause stand replacement on a considerable portion of the project area. No Action Alternative leaves the project area at risk of moderate to high severity wildfire moving easily across the landscape, and poses the greatest risk to people, property and resources. Fire suppression activities would continue as in the past. Although much of this area historically burned at less than 50 year intervals, current policy dictates that this would not occur. This exclusion of fire has resulted in an overabundance of vegetation. More fire prone species such as the true firs and Douglas fir have dominated the understory and created an abundance of ladder fuel. These areas would continue to develop the stand composition and structure that makes them more prone to stand replacement events.

Impacts to Fuel/Fire Resources Alternative B: Proposed Action

Risk of high severity wildfire moving across the landscape would be greatly reduced under the Modification action. However, risk of high severity wildfire would not be reduced across every acre of the Stray Dog Project. The plan calls for a broadcast burning, and excavator pile burnig treatments on 883 acres that will also reduce the risk of catastrophic wildfire by eliminating the amount of dead and down fuel on the ground by 8,830 tons of logging debris.

4.9 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.

4.10 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 Okanogan 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 IRMP FEIS (CAR 2018).

5.0 List of Preparers

Name	Contributions
Lawrence Lelone	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
Stacy King	Wetlands
Guy Moura	History/Archaeology
Amanda Hoke	History/Archaeology
Chasity Swan	Editor

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7.0 Appendices

7.1 Appendix A: Activity Table

This section provides activity tables outlining the management that will occur on each block. Acres, silvicultural prescription (Rx), site preparation method, and harvest method can be seen for each individual unit.

<i>Stray Dog Unit Activity Table</i>								
Comp	Allotment	Block	Acres	RX	Skid Sys.	Whole Tree Skid	Slash Disposal	Fireline Ft.
459		1	16	ST	T	Y	EP	0
459		4	44	CT	T	N	L/S	0
459		12	31	CT	T	N	L/S	0
459		16	36	CT	T	N	L/S	0
459		17	20	ST	T	Y	EP	0
454		38	32	CT	T	N	L/S	0
454		43	25	RRT	T	Y	EP	0
454		51	37	RRT	TA	Y	EP	0
459		59	28	IC	T	N	L/S	0
454		60	36	SW	T	Y	EP	0
454		66	26	SW	TA	Y	EP	0
454		67	22	CT	T	N	L/S	0
454		68	16	SW	T	Y	EP	0
459		70	30	ST	TA	Y	EP	0
454		85	33	ST	C	Y	PB	2845
444		99	33	ST	T	Y	PB	1618
444		101	19	ST	TA	Y	EP	0
443		102	15	CT	T	N	L/S	0
454		109	11	CT	T	N	L/S	0
458		126	39	SW	TA	Y	EP	0
458		129	65	CT	T	N	L/S	0
458		134	37	ST	TA	Y	EP	0
459		137	12	RRT	T	Y	EP	0
459		138	20	ST/OR	T	Y	EP	0
459		139	18	ST/OR	T	Y	EP	0
459		143	34	ST	C	Y	PB	1482
459		144	14	CT	T	N	L/S	0
454		154	15	OR	T	N	NA	0
454		157	16	CT	T	N	L/S	0
454		158	24	CT	T	N	L/S	0
454		160	27	CT	T	N	L/S	0

Comp	Allotment	Block	Acres	RX	Skid Sys.	Whole Tree Skid	Slash Disposal	Fireline Ft.
443		162	22	ST	T	Y	EP	0
454		174	26	CT	T	N	L/S	0
454		180	74	SAN	T	N	L/S	0
454		183	22	ST	C	Y	PB	1406
454		185	58	CT	T	N	L/S	0
454		186	30	CT	T	N	L/S	0
454		196	15	IC	T	N	L/S	0
454		200	35	CT	T	N	L/S	0
454		205	33	CT	T	N	L/S	0
443		221	39	ST	TA	Y	EP	0
443		224	13	ST	T	Y	EP	0
443		225	40	ST	C	Y	PB	4608
443		227	34	ST	TA	Y	EP	0
443		243	33	CT	T	N	L/S	0
443		254	19	ST	T	Y	EP	0
443		281	34	ST	T	Y	EP	0
445		288	9	CT	T	N	L/S	0
443		369	11	ST	T	Y	EP	0
444		371	15	ST/OR	T	Y	EP	0
444		372	23	ST/OR	T	Y	EP	0
444		376	17	CT	T	N	L/S	0
445		386	82	OR	T	N	NA	0
445		391	31	ST	T	Y	EP	0
445		393	22	SW	T	Y	EP	0
445		395	49	OR	T	N	NA	0
445		396	48	ST/OR	T	Y	EP	0
445		399	16	ST/OR	T	Y	EP	0
450		435	22	SAN	T	N	L/S	0
459		443	16	RRT	T	Y	EP	0
450		453	39	CT	TA	N	L/S	0
450		458	30	SW	TA	Y	EP	0
450		459	55	ST	TA	Y	EP	0
445	1516	520	43	ST	T	Y	EP	0
450		536	27	ST/OR	T	Y	EP	0
443		601	9	ST	T	Y	EP	0
454		602	14	OR	T	N	NA	0
443		603	6	ST	T	Y	EP	0
443		631	10	ST	T	Y	EP	0
450		701	14	ST	T	Y	EP	0
450		708	26	ST	T	Y	EP	0
445		710	101	SAN	T	N	MA	0
			2090					11959

7.2 Appendix B: Consultation

Request for Determination of Effect

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

Project Name: 23pp43 Stray Dog Forest Management Project.
Proponent(s): Inchelium Forestry District, Colville Confederated Tribes
Legal Description: T 33N, R 36E, Sec(s) 32 and 33;
T 32N, R 33E, Sec(s) 8, 16-17, 20-21, and 28-31;
T 31N, R 36E, Sec(s). 1, 2, and 3

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
- 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 Title: IRMP Coordinator Date: 10/31/2023
(responsible agency official)

**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. 23pp43 Forest Management Project

Comments/Conditions of Approval:

Implementation of the project is not expected to result in any effects to cultural resources. Mitigation efforts will be implemented in the event of an inadvertent discovery of cultural resources.

Signed: [Signature] Date: 10-30-23
(Tribal Historic Preservation Officer)



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



3-12-24

To: Chasity Swan
IRMP Coordinator

From: Elizabeth Odell
Assistant District Wildlife Biologist

Subject: Straydog 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".

- 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.
- 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.

Elizabeth Odell 3-12-24



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: 2024-0022993
Project Name: Straydog Project

December 05, 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 of the 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 enclosed list.

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: 2024-0022993
Project Name: Straydog Project
Project Type: Timber Harvest
Project Description: Timber harvest
Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@48.26582655,-118.19572180834814,14z>



Counties: Ferry County, Washington

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 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 Fisheries¹, 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.

BIRDS

NAME	STATUS
Yellow-billed Cuckoo <i>Coccyzus americanus</i> 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 <i>Salvelinus confluentus</i> 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 <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

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

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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: Straydog Timber Sale 2024 Preliminary Transportation Memo

Lance, Levi, Dusty, and Rob

I have attached a map showing roads in the Straydog 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 Straydog Timber Sale PPF.

Important features to note in regards to the Straydog 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 Stranger Creek and associated type 2 and 3 tributaries, including Seyler Valley Creek, will require fish passage in areas where gradient barriers are not a factor. Stranger Creek also includes significant areas of riparian/stream-adjacent wetlands. Impacts to these wetlands will need to be considered when crossing Stranger 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 numerous projects throughout the Inchelium district. No specific segments are located within the Straydog timber sale area, but several segments north of the project area were decommissioned as part of the 2017 Lower Hall/Lynx Creek Watershed Restoration project. These roads have been decommissioned or permanently abandoned, and are not available for use as haul routes.
- 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—1 shapefile

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) Straydog2023Review

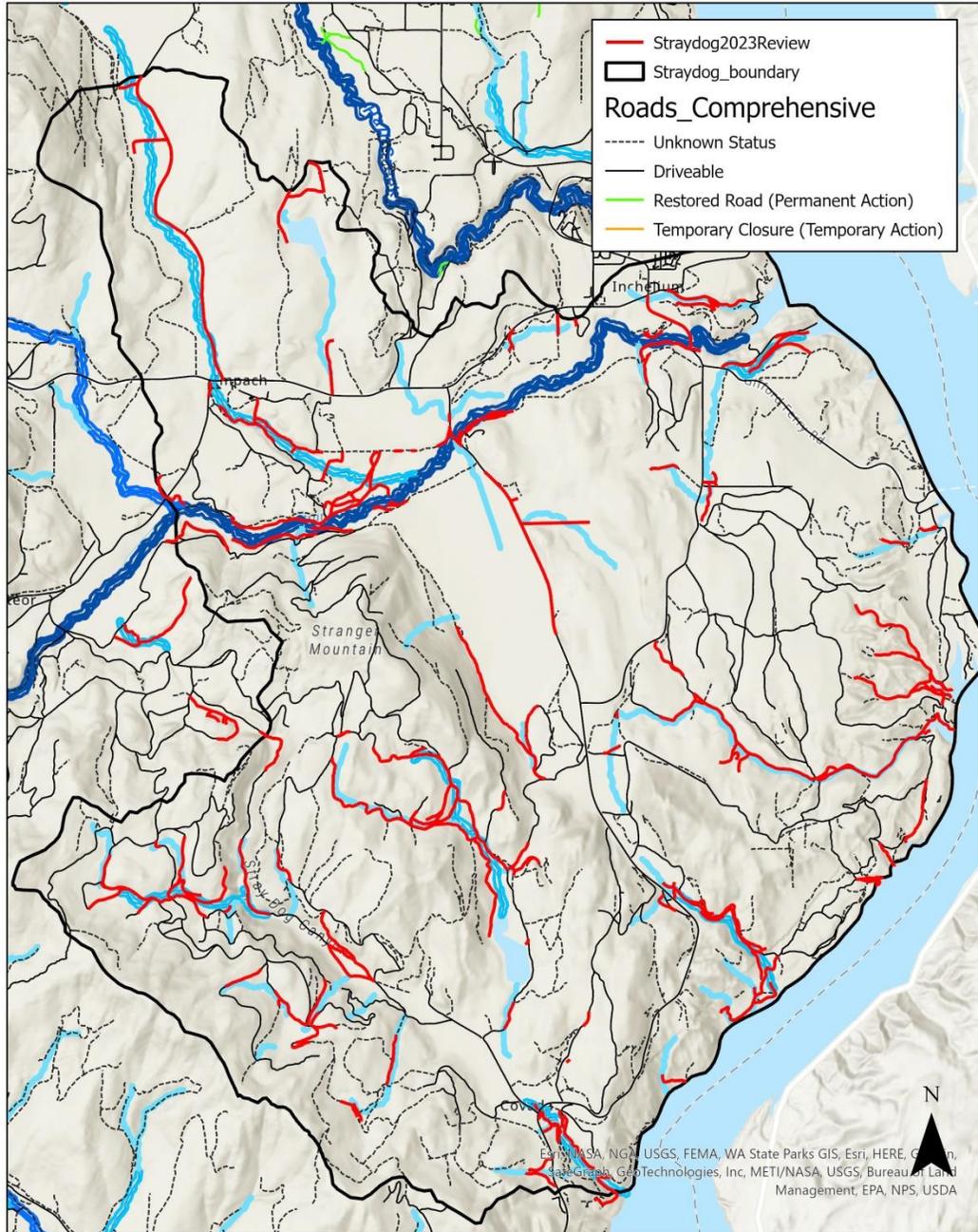
These roads have the potential to impact water quality if reopen or reconstructed. Forestry will need to field verify to ensure that Forest Practice Codes are met.

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-armorings, gravel surfacing, magnesium chloride, realignment, post-sale closure, etc.

Straydog 2024 Preliminary Transportation Memo



0 2 4 8 Miles

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

Environmental Assessment Report
Abbrev. Tribe Name
Abbrev. Proposed Federal Action
Month Year



7.6 Appendix G: 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.