

Photo credit: A. Lyons

SENSING DOCUMENT: PROPOSED UPPER WENATCHEE VALLEY SUSTAINABLE TRAILS PROJECT

On behalf of TREAD

Andrea Lyons, Washington Conservation Science Institute
Bill Gaines, Washington Conservation Science Institute
James Begley, Washington Conservation Science Institute
Sherrie Duncan, Sky Environmental

March 2023

Table of Contents

1.0	Introduction	1
2.0	Analysis Overview	3
3.0	Proposed Project Description	4
3.1	Project Focus	5
3.2	Regulatory Framework	5
4.0	Project Details.....	11
5.0	Approach	20
5.1	Aquatic Resources	21
5.2	Wildlife.....	30
5.3	Botany	38
5.4	Cultural Resources /Heritage	44
5.5	Spatial Data - GIS	45
5.6	Survey, Data and Coordination Needs	48
5.7	Other Planning Processes	48
6.0	Summary	49
7.0	References	50
8.0	Appendix A. WDFW PHS Report	52
9.0	Appendix B. Partners, contributions and proposals	53
10.0	Appendix C. Consideration of Extraordinary Circumstances	55

Tables

Table 1.	Approximate miles of trail to be constructed or added to the U.S. Forest Service (USFS) trail system on different land ownerships.	15
Table 2.	Infrastructure proposed actions and property owner/manager within each project area. This includes parking lots, trailheads, toilets, etc. Only a general location has been identified. These actions would require additional design during NEPA/SEPA process.	16
Table 3.	Aquatic Federal Endangered, Threatened, Species of Concern and Region 6 Regional Forester Sensitive Species in the UWVST Project Area (NOAA, 2023a, 2023b; USFS, 2021; USFWS, 2023).	21
Table 4.	Wildlife species/habitat, status and presence within the UWVST analysis area.	31
Table 5.	Federally Listed Plant Species within the UWVST analysis area.....	39
Table 6.	Survey and Manage, R6 Sensitive Plant Species and species of concern that potentially occur within the Analysis Area. This list is a compilation of suspected and documented species on the OWNF (from FINAL Region 6 Regional Forester Special Status Species List, June 21, 2021 and Survey and Manage species) and the Washington Natural Heritage Program (WNHP).....	39

Table 7. Available GIS data for the Upper Wenatchee Valley Sustainable Trails analysis area.	46
Table 8. Priority habitats and species that occur within the Upper Wenatchee Valley Sustainable Trails Analysis Area.	52

Figures

Figure 1. Location of the analysis and project areas within the proposed Upper Wenatchee Valley Sustainable Trails Project. The analysis area covers all proposed projects, while the project areas are subsets of proposed projects, intended to simplify analysis and discussion of projects and potential impacts.	2
Figure 2. Northwest Forest Plan land allocations within the project area.	9
Figure 3. Okanogan-Wenatchee National Forest Land and Resource Management Plan Land Allocations (1990) within the UWVST Analysis Area.	10
Figure 4. Boundary Butte project area within the UWVST Project.	11
Figure 5. Derby Canyon project area within the UWVST Project.	12
Figure 6. Eagle Creek project area within the UWVST Project.	12
Figure 7. Hay Canyon project area within the UWVST Project.	13
Figure 8. Icicle Creek project area within the UWVST Project.	13
Figure 9. Tumwater Mountain project area within the UWVST Project.	14
Figure 10. Map of expected fish presence in Wenatchee River basin and project area. (WDFW SalmonScape, 2023). Fish species as identified on the map may include one or more of the following: Chinook salmon, steelhead trout, bull trout, coho salmon, westslope cutthroat trout, rainbow trout, eastern brook trout, mountain whitefish, pygmy whitefish, inland Columbia basin red band trout, Pacific lamprey, and/or sockeye salmon.	23
Figure 11. Map of Upper Columbia River Spring Chinook salmon presence in Wenatchee River basin and project area (SalmonScape, 2023).	24
Figure 12. Map of Upper Columbia River summer steelhead presence in Wenatchee River basin and project area (SalmonScape, 2023).	25
Figure 13. Map of bull trout presence in Wenatchee River basin and project area (SalmonScape, 2023).	26
Figure 14. Map of fish facilities in Wenatchee River basin and project area (SalmonScape, 2023).	27
Figure 15. UWVST project areas in relation to designated Critical Habitat and Key Watersheds.	28
Figure 16. Map of wetlands in project area (USFWS NWI, 2021).	29
Figure 17. Potential northern spotted owl habitat and designated critical habitat within the UWVST analysis area.	36
Figure 18. Forest structure within the UWVST analysis area that meets the old growth structure index threshold of 80 years.	37
Figure 19. Forest structure within the UWVST analysis area that meets the old growth structure index thresholds of 200 years.	37

Figure 20. Map showing predictive model for Upper Wenatchee Valley Sustainable Trails project area (DAHP WISAARD, 2022).....44

Appendices

Appendix A. WDFW PHS Report
Appendix B. Partners, contributions and proposals
Appendix C. Consideration of Extraordinary Circumstances

Abbreviations

APE	area of potential effects
DAHP	Washington State Department of Archeology and Historic Preservation
EFH	Essential Fish Habitat
ESA	Endangered Species Act
GIS	geographic information system
LIDAR	Light Detection and Ranging
LSOF	late-successional and old forest
LSR	Late-Successional Reserve
LSRA	LSR Assessment
MIS	Management indicator species
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration Fisheries
NRHP	National Register of Historic Places
NSO	Northern Spotted Owl
NWI	National Wetland Inventory
OGSI	old growth structure index
OWNF	Okanogan-Wenatchee National Forest
OWNF LRMP	Okanogan-Wenatchee National Forest Land and Resource Management Plan
PHS	Priority Habitats and Species
S&M	Survey and manage species
SEPA	State Environmental Policy Act
SHPO	State Historic Preservation Officer
SWIFD	Statewide Washington Integrated Fish Distribution
THPO	Tribal Historic Preservation Officers
USDA	U.S. Department of Agriculture Forest Service
USDI	U.S. Department of the Interior
USFS	U.S. Forest Service
USFWS	United States Fish and Wildlife Service
UWVSTP	Upper Wenatchee Valley Sustainable Trails Project
WDFW	Washington Department of Fish and Wildlife
WDNR	Washington State Department of Natural Resources
WISAARD	Washington Information System for Architectural and Archaeological Records Data
WNHP	Washington Natural Heritage Program
WRIA	Water Resource Inventory Area
WSDOT	Washington State Department of Transportation
WSHS	Washington State Historical Society

1.0 Introduction

The Upper Wenatchee Valley Sustainable Trails Project (UWVSTP) is facilitated by TREAD, a non-profit organization advocating for outdoor recreation in the greater Wenatchee Valley area and throughout Central Washington, through education, communication, and collective impact work. TREAD has collected information on recreation needs and proposals for several different land managers and recreational groups to build and maintain a system of non-motorized trails and associated infrastructure and camping in a 120,000 acre analysis area around Leavenworth, Washington. This project encompasses an area in the western portion of the Wenatchee River drainage between Leavenworth and Wenatchee, WA that is hereafter referred to as the Upper Wenatchee Valley. The trail system and associated infrastructure would be comprised of several project areas located on a mix of land ownerships, including: Chelan County PUD, Chelan-Douglas Land Trust, Private, Okanogan-Wenatchee National Forest, Washington Department of Natural Resources and Washington State Department of Transportation (Figure 1). Given the multiple jurisdictions and land ownership in this project, National Environmental Policy Act (NEPA) and State Environmental Protection Act (SEPA) processes would be required.

Leavenworth, Washington is a nationally recognized tourist destination, and the surrounding landscape provides a plethora of outstanding recreation opportunities. Lands adjacent to Leavenworth are primarily managed by the Okanogan-Wenatchee National Forest, which is one of the most heavily visited National forests in the United States, with over 5 million visitor days of use a year. Recreational use has increased substantially over the past 10 years with a noticeable increase over the past few years as a result of impacts from COVID-19. Washington State recreation as an ecosystem service increased substantially from \$19.5 billion in 2015 to \$33 billion in 2022. The outdoor recreation industry is on par with the aerospace industry (at over \$26 billion in 2019). Six percent of the state's jobs are directly related to outdoor recreation, amounting to 264,000 jobs (Mojica and Fletcher 2020). More than 10 million American households went camping for the first time in 2020. This influx of visitors quickly overwhelmed land management agency efforts to accommodate them (Rinella 2022). Hikers and campers left mounds of trash and improperly disposed-of human waste, littering trailheads and campgrounds where garbage service was suspended, and outhouses were locked. Search and rescue teams experienced the greatest volume of activity in their entire history (Rinella 2022). Land managers need to address this increase in outdoor recreation by 1) focusing on public communication in positive ways to promote desirable behaviors, 2) planning and developing new areas for recreation and 3) improving and enhancing existing recreation areas, which would result in reduced conflict among visitors. This project provides a unique opportunity to respond to increased interest in outdoor recreation within the Upper Wenatchee Valley.

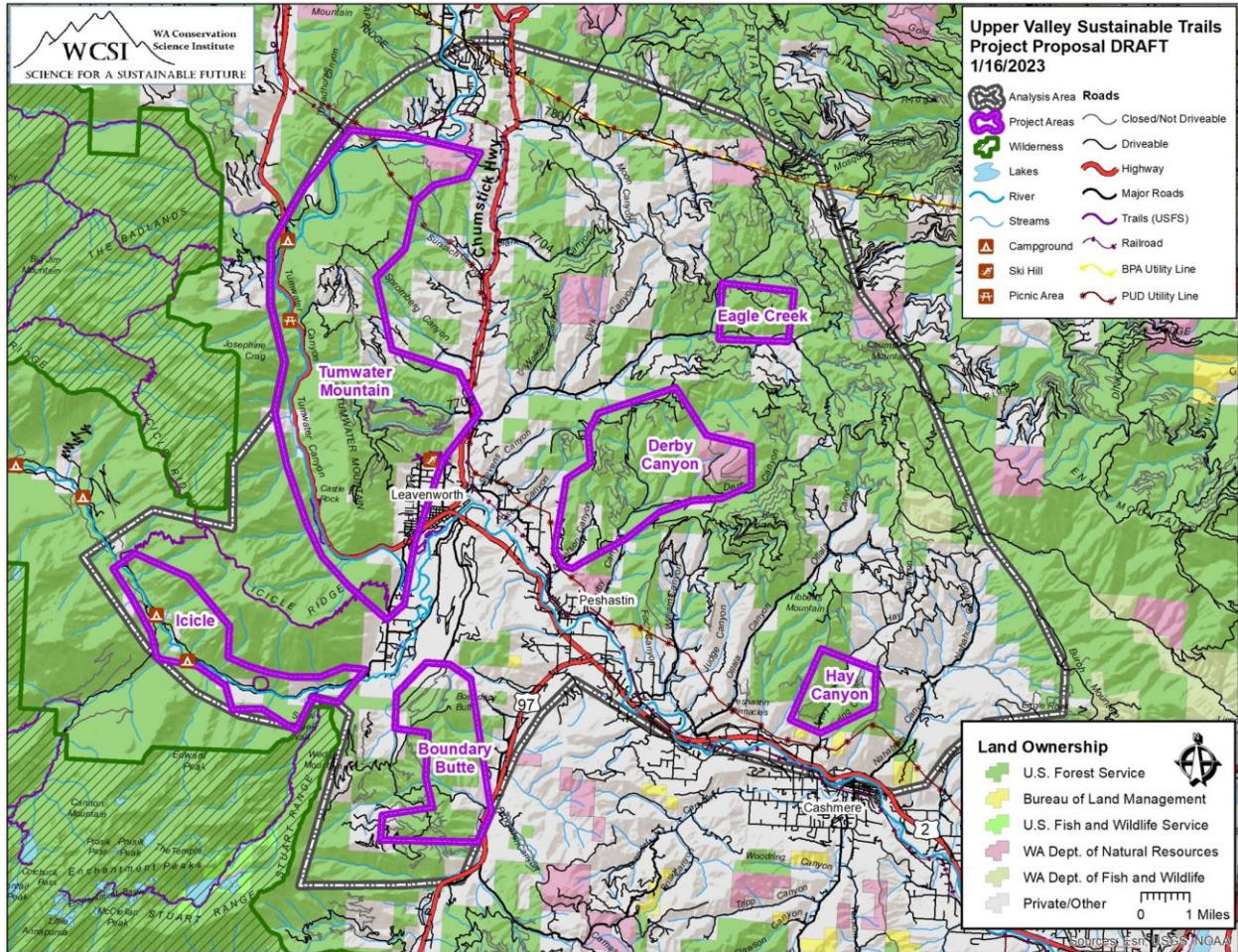


Figure 1. Location of the analysis and project areas within the proposed Upper Wenatchee Valley Sustainable Trails Project. The analysis area covers all proposed projects, while the project areas are subsets of proposed projects, intended to simplify analysis and discussion of projects and potential impacts.

Through the UWST Project TREAD is bringing together over 45 local partners with a shared mindset towards these 6 strategies: 1) improving environmental conservation and stewardship, 2) enhancing and expanding outdoor recreation infrastructure, 3) improving education and advocacy about outdoor recreation and cultural awareness, 4) increasing representation of underrepresented groups in outdoor recreation, 5) strengthening community-powered marketing and travel, and 6) mobilizing and coordinating volunteers. These partners are collaborating to specifically identify and resolve some of the current problems such as: dispersing use to decrease impacts on existing trails and infrastructure, and addressing a lack of infrastructure, overflowing garbage, resource damage, and illegal or unsafe parking. The projects proposed in this document were determined through a collaborative process and are not exclusive. Subsequent NEPA/SEPA and public outreach may identify additional site specific projects or could eliminate some proposed projects.

2.0 Analysis Overview

This sensing document is intended to provide a high-level summary of potential key issues, data, and survey needs identified through a review of existing databases, management plans, and previous or proposed project NEPA or SEPA analyses in the Upper Wenatchee Valley area. The sensing document would provide a foundation for the proposed project to initiate the NEPA/SEPA planning process, including Endangered Species Act (ESA) consultation, NHPA-106 compliance, and Tribal coordination and consultation. Decisions on actions on Federal land would be made through the NEPA process, while decisions on actions on State and private land would be made through the SEPA and Chelan County permitting process, including E.O. 21-02 compliance.

The preparation of this sensing document was conducted using a desktop investigation approach. Available information and key issues of the proposed project were assessed with respect to fish, wildlife, botany, and cultural resources. The availability of geographic information system (GIS) data was also assessed. Available information was reviewed to determine presence of wetlands, streams, and potential fish, wildlife and plant habitat. Cultural resources and historical and archaeological information were also reviewed. The preparation of this sensing document included review of several existing documents, sources of habitat and environmental information, and various agencies' GIS data and maps.

We consulted a combination of publicly available species lists and spatial databases to identify species and habitats of concern that are known to occur or have the potential to occur in the analysis area. A description of the data used is provided for each resource area. We also contacted resource specialists at the Okanogan-Wenatchee National Forest (OWNF) Wenatchee River Ranger District to refine available data to a list of those species and habitats that occur or potentially occur in the vicinity of the proposed project based on their local knowledge. Species that are currently on or under consideration for the ESA or state endangered, threatened, or species of concern lists are identified, as are Region 6 Regional Forester Sensitive Species for OWNF.

The following provides an example of sources that were included in the review:

- Okanogan-Wenatchee National Forest and Wenatchee River Ranger District Planning and Resource Management websites. 2022.
- Okanogan-Wenatchee National Forest Land Management Plan as amended. 1994.
- National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries). 2023a. Species Under the Endangered Species Act (ESA). NMFS Office of Protected Resources. Available at: <http://www.nmfs.noaa.gov/pr/species/esa/listed.htm#fish>.
- National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries). 2023b. Endangered Species Act Critical Habitat. West Coast Region. Available at:

http://www.westcoast.fisheries.noaa.gov/maps_data/endangered_species_act_critical_habitat.html.

- Northwest Indian Fisheries Commission. 2023. Statewide Washington Integrated Fish Distribution (SWIFD) mapper. <https://geo.nwifc.org/swifd/>.
- U.S. Forest Service. 2021. Region 6 Interagency Special Status /Sensitive Species Program (ISSSSP). Species of special status. Available at: <https://www.fs.fed.us/r6/sfpnw/issssp/agency-policy/>. Region 6 Regional Forester Sensitive Species List. June.
- United States Fish and Wildlife Service (USFWS). 2022. National Wetland Inventory (NWI) Wetlands Map. Available at: <http://www.fws.gov/wetlands/Data/Mapper.html>.
- United States Fish and Wildlife Service (USFWS). 2023. Species Information: Threatened and Endangered Animals and Plants. Available: <http://www.fws.gov/oregonfwo/Species/default.asp>.
- Washington Department of Fish and Wildlife (WDFW). 2023. SalmonScape Mapping System. Available at: <http://apps.wdfw.wa.gov/salmonscape/>.
- Washington Department of Fish and Wildlife (WDFW). 2023. Wildlife Priority Habitats and Species (PHS), GIS data set. Available at: <http://wdfw.wa.gov/mapping/phs/> (Appendix A).
- Washington State Department of Natural Resources (WDNR). 2023. Washington Natural Heritage Program GIS data set. Available at: <https://www.dnr.wa.gov/natural-heritage-program>.
- Washington State Department of Archeology and Historic Preservation (DAHP) Washington Information System for Architectural and Archaeological Records Data (WISAARD) map tool. 2023.
- U.S. Department of Agriculture Forest Service (USDA) and U.S. Department of the Interior (USDI). 1994. Record of Decision for amendments to Forest Service and Bureau of Land Management planning documents within the range of the northern spotted owl; Standards and Guidelines for management of habitat of late-successional and old-growth related species within the range of the northern spotted owl (Northwest Forest Plan). USDA Forest Service and USDI Bureau of Land Management. Portland, OR. April 1994. Available online at <http://www.reo.gov/general/aboutnwfp.htm>.
- U.S. Department of Agriculture Forest Service (USDA) and US Dept of Interior. 2001. Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines.

3.0 Proposed Project Description

The following provides a general overview of the proposed project and its relation to fish, wildlife, botany, and cultural resources. Subsequent analyses would be prepared to disclose and analyze the environmental consequences of the proposed development of trails and infrastructure and include

design features that would allow for impacts to identified sensitive resources within the analysis area to be avoided or minimized.

3.1 Project Focus

The primary focus of this proposed project is to create a non-motorized trail system with associated infrastructure for multiple user groups to easily access activities such as walking, hiking, trail running, climbing, paragliding and mountain biking. Agencies are interested in responding to requests from multiple user groups in the Upper Wenatchee Valley area to expand opportunities for additional trails close to local communities, and to disperse recreation from overused areas. Action is necessary to curtail the development of additional unplanned or user-created trails, reduce the proliferation of substandard trails, while providing for safe recreational experiences and the protection of resources. Agencies need to develop sustainable trail systems that minimize impacts to resources, offer safe access on public lands, and cultivate user groups that can assist in meeting stewardship goals.

The proposed project would fill a void in local recreational opportunities to support health and wellbeing and contribute to an improved quality of life for residents and visitors regardless of income. This project would improve accessibility and quality of outdoor recreation opportunities and experiences in the Upper Wenatchee Valley area. The proposed trail system would provide an opportunity to diversify the local economic base and foster relationships between government agencies, the community, public and non-profit organizations and promote active resource protection and management of natural resources and open spaces within the Upper Wenatchee Valley area.

3.2 Regulatory Framework

The following section provides some background information relative to the regulatory framework required for the NEPA process.

- Okanogan-Wenatchee National Forest Land and Resource Management Plan (OWNF LRMP), 1990 as amended by NWFP and associated documents such as:
 - Aquatic Conservation Strategy and Riparian Reserves, 1994
 - Forest-wide Assessment for Late Successional Reserves and Managed Late Successional Areas, Wenatchee National Forest, 1997; Late Successional Reserve and Managed Late Successional Area Assessment, Wenatchee National Forest, 1996
 - Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards

and Guidelines (U.S. Department of Agriculture and U.S. Department of Interior 2001)

In addition to the NEPA and National Forest Management Act, the following laws and planning guidance would be considered during the planning of this proposed project.

- Clean Water Act
- Clean Air Act
- Endangered Species Act
- Magnuson-Stevenson Act / Essential Fish Habitat
- National Historic Preservation Act, Archaeological Resources Protection Act
- Wild and Scenic Rivers Act
- Executive Order 11988 Floodplains and 11990 Wetlands
- Executive Order 13186 Migratory Landbirds and the Migratory Bird Treaty Act
- Executive Order 12898 Environmental Justice
- Executive Order 12962 of June 7, 1995, Recreational Fisheries
- Forest Service National Strategic Framework for Invasive Species Management (August 2013)
- National Forest System Trails Stewardship Act
- 2007 Upper Columbia Spring Chinook and Steelhead Recovery Plan
- FSM 2360 – Heritage Program Management
- FSM 2470 - Silvicultural Practice
- FSM 2670 – Sensitive Species
- FSM 2900 – Invasive Species Management
- 2001 Roadless Conservation Area Rule - 66 FR 3243
- Washington State Shoreline Management Act
- 2012 Memorandum of Understanding between Washington State Department of Fish and Wildlife and USDA Forest Service, Pacific Northwest Region regarding Hydraulic Projects Conducted by the US Forest Service
- 2018 Memorandum of Agreement between the USDA Forest Service, Region 6 and the Washington State Department of Ecology for Meeting Responsibilities under Federal and State Water Quality Laws
- WA EO 21-02, Archaeological and Cultural Resources
- SEPA and other State and local laws and regulations
 - Chelan County Critical Area Ordinances

- Chelan County Comprehensive Plan (2017)

Forest Plan Guidance

The majority of the proposed actions would occur on the Okanogan-Wenatchee National Forest (hereafter referred to as OOWNF or the Forest). The OOWNF LRMP (USFS 1990) identified recreation and trails as an important and needed component of the Forest. According to the LRMP, “trails provide principal opportunities for dispersed recreation (Primitive and semi-primitive) on the Forest. There is potential to expand and upgrade the current trail system, outside wilderness, to meet recreation access needs for a variety of users, which will help reduce user conflicts.”

Furthermore, recreational activities and environmental amenities offered by the Forest are important components of life in small rural recreational and residential communities, such as Leavenworth, that are located in and around the Forest. Leavenworth, and the Upper Wenatchee Valley area are largely dependent on tourism and affected by changes in the pattern of recreational opportunities and environmental quality on the Forest, and benefit from opportunities for easy access to forest resources.

The OOWNF LRMP (USFS 1990) identified the following specific recreation goals:

- Provide a well-balanced array of recreation opportunities across the breadth of the recreation opportunity spectrum in accordance with resource capability, public demands and expectations for outdoor recreation.
- Provide a diverse system of safe, well-maintained trails for the enjoyment of all users.
- Respond to new opportunities to develop partnerships and joint ventures with other agencies and the private sector to magnify our abilities to meet expanding public demand for outdoor recreation.
- Trail project planning and accomplishment will involve partners and cooperators to extend the financial scope of projects and provide greater recreation values.
- Provide an information program to assist the public in understanding management of various resources and to assist them in their search for a variety of challenging and pleasing experiences.

The Forest also acknowledged that over the life of the LRMP trail use would increase and developed recreation sites and facilities would be significantly upgraded and improved, including “construction of new sites where recreation area planning indicates sufficient public demand exists and where high quality opportunities are present.” In summary, the proposed UWVST Project aligns with OOWNF recreation goals.

Land Allocations

Northwest Forest Plan

The UWVST Project primarily falls within matrix, late-successional reserve (LSR), riparian reserve (RR) and administratively withdrawn Northwest Forest Plan (USDA 1994) land management allocations. Some project activities may occur within riparian reserves, primarily at stream crossings. Riparian reserves are lands along streams and waterbodies that provide specific standards and guidelines to conserve aquatic species and habitat on federal lands. Chelan County code has a similar requirement through application of riparian buffers to protect habitat adjacent to waterways. These buffer requirements would apply on non-federal lands. Matrix lands are federal lands outside of reserved allocations where most timber harvest and silvicultural activities were expected to occur, and recreation is generally consistent with the intent. Areas identified as administratively withdrawn include recreation and visual quality areas, back country, and other areas where management emphasis does not include scheduled timber harvest.

There are four LSRs within the Project Area: Boundary Butte, Chiwawa, Deadhorse and Icicle. Late-successional reserves were designated to conserve late-successional habitat and associated species, such as the northern spotted owl. The designation does not prohibit recreational trails as long as the actions are consistent with LSR objectives. The Forest-Wide LSR Assessment (USFS 1997) acknowledged the importance of recreation on the Forest and the likelihood of increased use into the future. The LSR assessment (LSRA) included a Social Module to apply to projects that occur in LSRs and are derived for purposes other than meeting LSR objectives. It is intended that the module be applied early in the project analysis process to determine whether USFS Regional Ecosystem Office (REO) review is needed for that specific project. In addition, roads and trails data may be used to conduct a Zone of Influence analysis (Servheen and Puchlerz 1994, Gaines et al. 2003) to determine the availability of security habitat, defined as areas free from motorized vehicle use and high levels of non-motorized human activities (p. 40). This project would be designed to be consistent with LSR objectives and Standards and Guidelines and trail densities and zones of influence would need to be considered in future analyses. Consistency with the requirements of the Northwest Forest Plan Record of Decision would be reviewed by the Late-Successional Reserve Work Group.

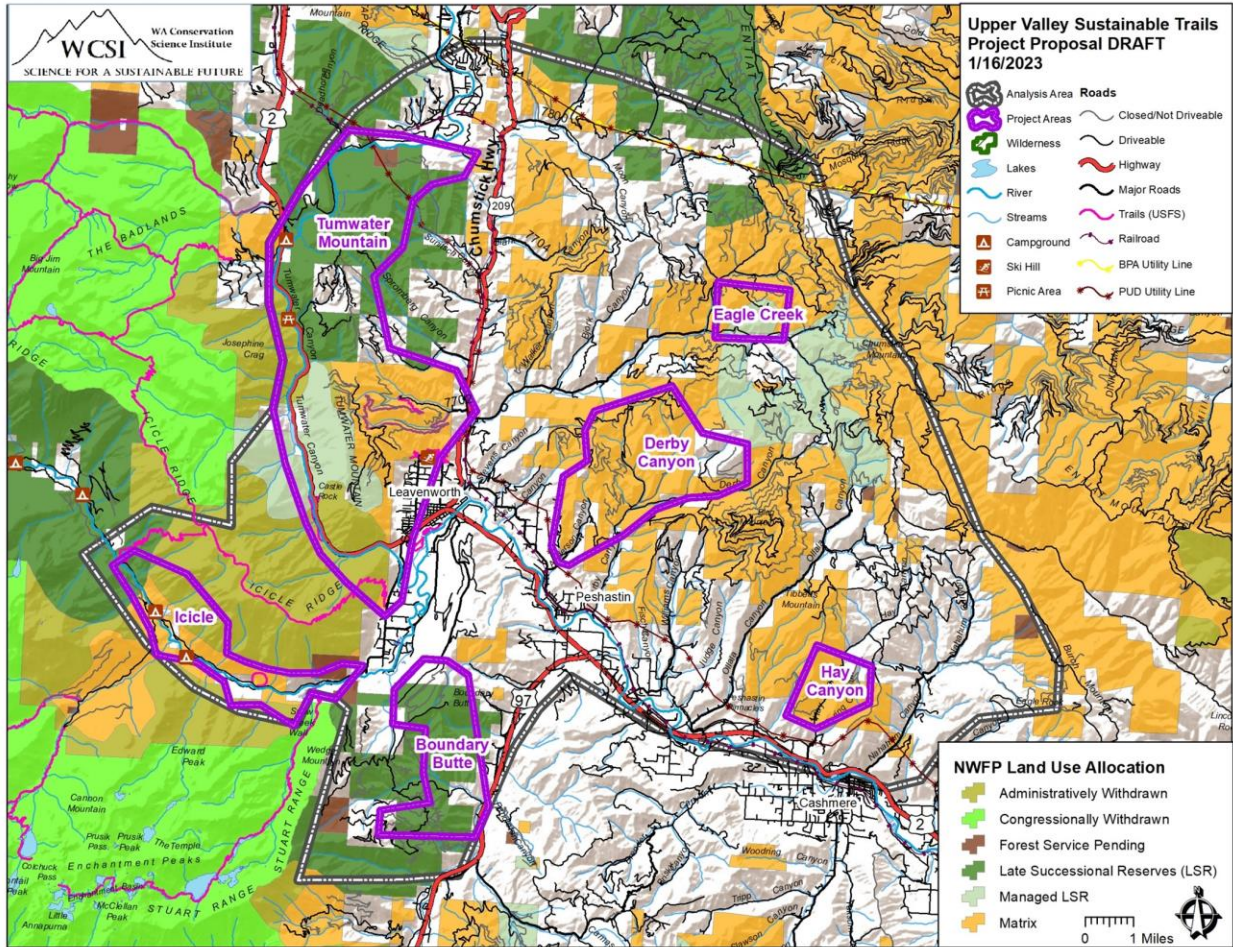


Figure 2. Northwest Forest Plan land allocations within the project area.

The following are the LSR and Riparian Reserve Standard and Guidelines specific to recreation (USDA 1994):

1. Manage recreation to minimize disturbance to species (p. C-6).
2. “New development proposals that address public needs or provide significant public benefits, such as powerlines, pipelines, reservoirs, recreation sites, or other public works projects will be reviewed on a case-by-case basis and may be approved when adverse effects can be minimized and mitigated. These will be planned to have the least possible adverse impacts on Late-Successional Reserves. Developments will be located to avoid degradation of habitat and adverse effects on identified late-successional species.” (p. C-17)
3. In Riparian Reserves:
 - a. RM-1. New recreational facilities within Riparian Reserves, including trails and dispersed sites, should be designed to not prevent meeting Aquatic Conservation

Strategy objectives. Construction of these facilities should not prevent future attainment of these objectives. (p. C-34)

- b. RM-2. Adjust dispersed and developed recreation practices that retard or prevent attainment of Aquatic Conservation Strategy objectives.

OWNF Land and Resource Management Plan (1990) Land Allocations

The project areas are primarily located within the General Forest, Key Wildlife Range, and Special Interest Areas land allocations. General forest is the portion of the Forest where timber management and other consumptive uses are emphasized. Special interest areas provide places as needed to exhibit to the public some of the unique attributes of the Forest. Special interest areas are intended to be managed for recreation use, substantially in their natural conditions to protect the natural beauty and, where appropriate, foster public use and enjoyment of the feature or environment. Key wildlife areas have been identified as ungulate winter range.

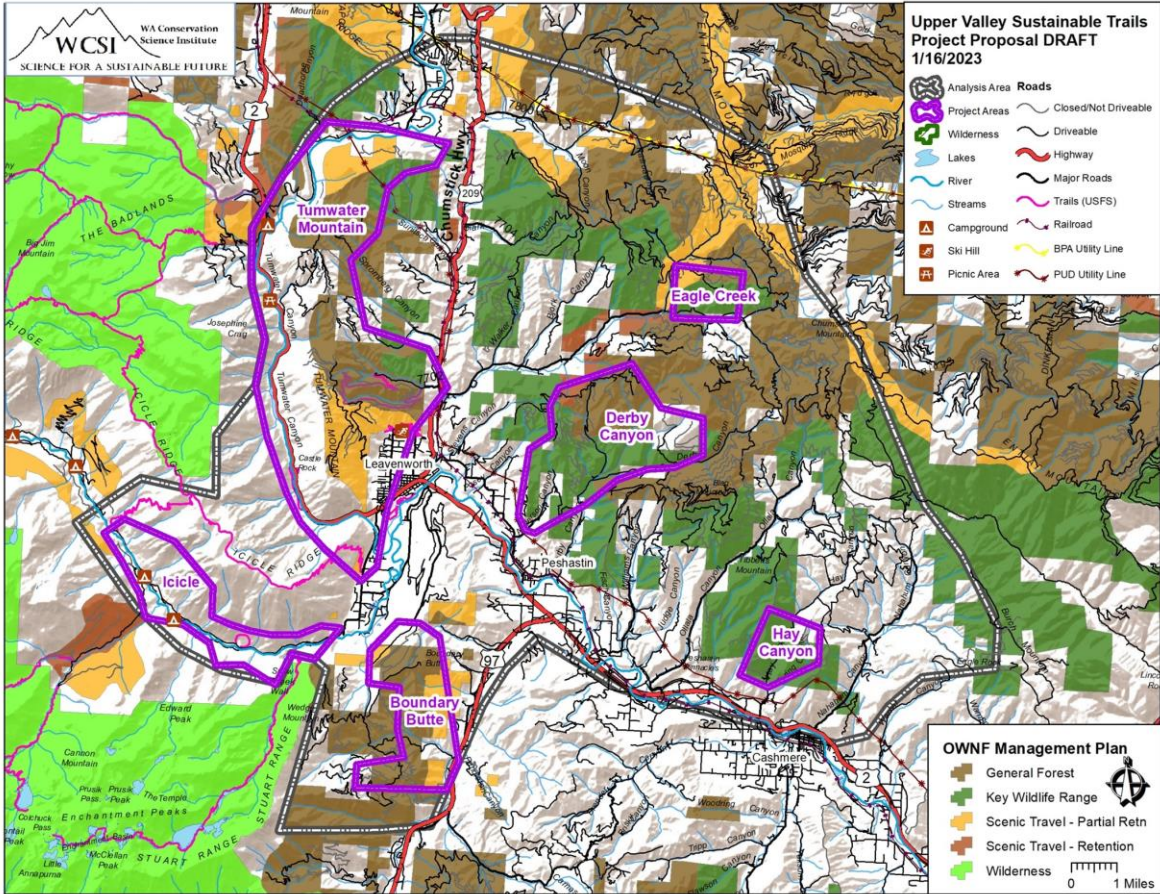


Figure 3. Okanogan-Wenatchee National Forest Land and Resource Management Plan Land Allocations (1990) within the UWVST Analysis Area.

4.0 Project Details

The UWVST Analysis Area has been divided into six project areas to simplify discussion of specific project elements (Figure 1). The project areas are: Boundary Butte, Derby Canyon, Eagle Creek, Hay Canyon, Icicle, and Tumwater (Figure 4 thru Figure 9). Project actions include new trail construction, road to trail conversion and adding existing user-built trails to the Forest Service trail system. User-built trails that would be added to the system may also be modified to improve sustainability. Although trails and other construction sites are represented on maps, they are conceptual in nature. This proposal and subsequent analysis would not indicate an exact centerline alignment for future trails but would establish the conditions under which trail development may occur in the project areas (BLM 2021). This project also proposes to create outfitter and guide service days to help facilitate public access including underserved populations. This could include such things as guided hikes, bike rides, climbing and environmental education as well as shuttle service to recreation sites.

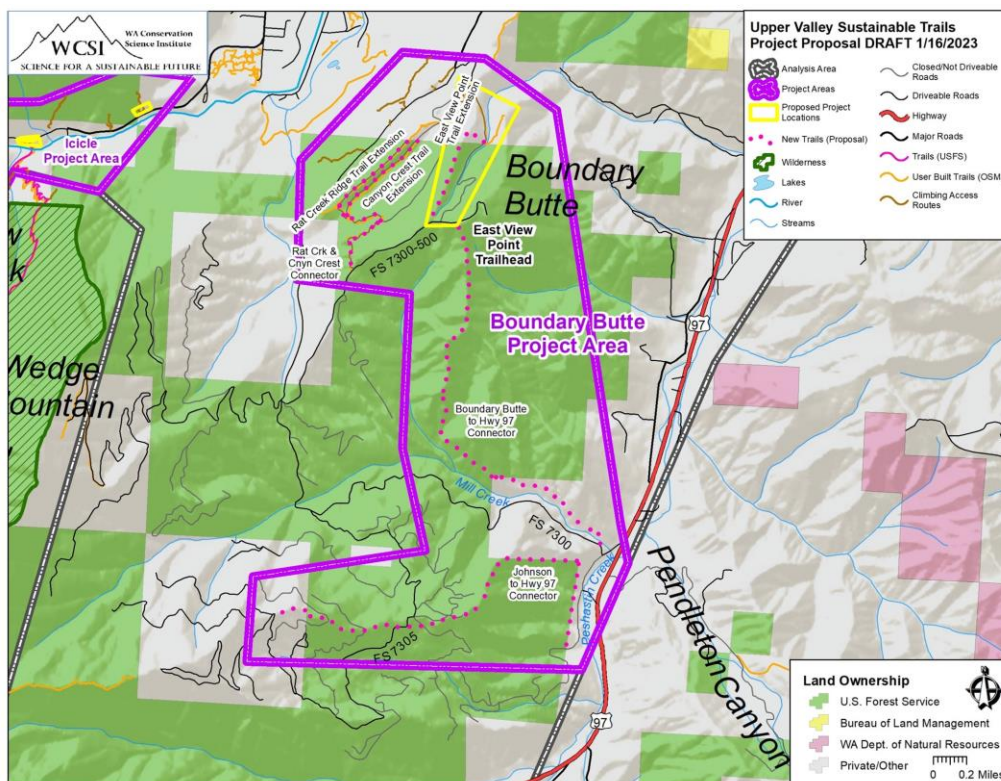


Figure 4. Boundary Butte project area within the UWVST Project.

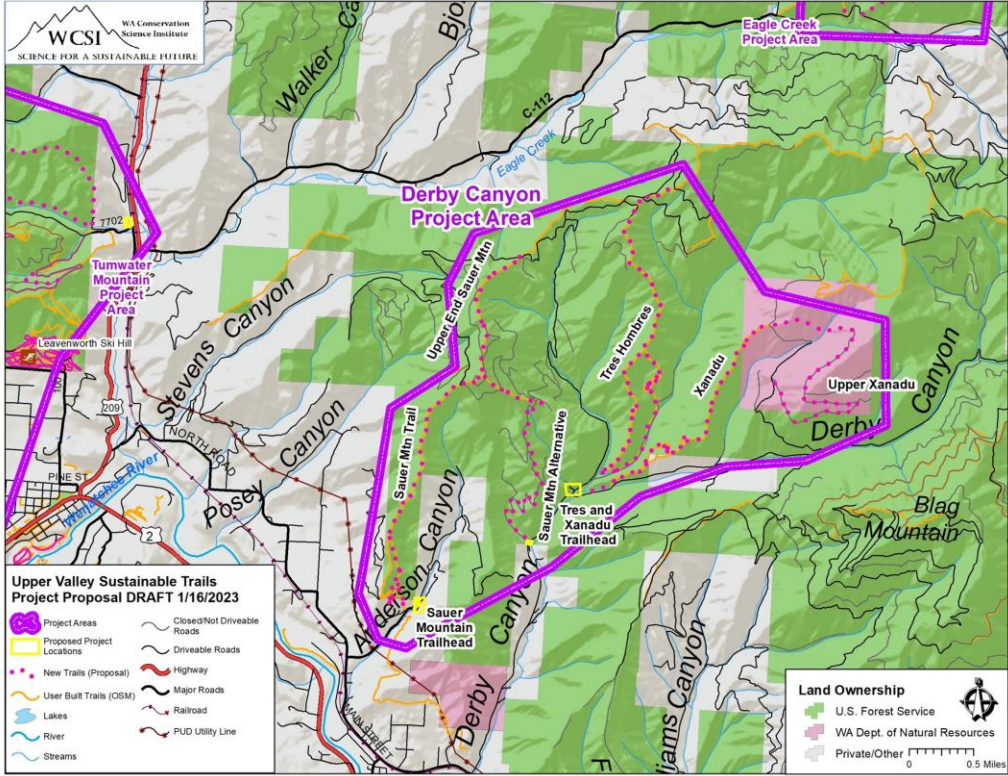


Figure 5. Derby Canyon project area within the UWVST Project.

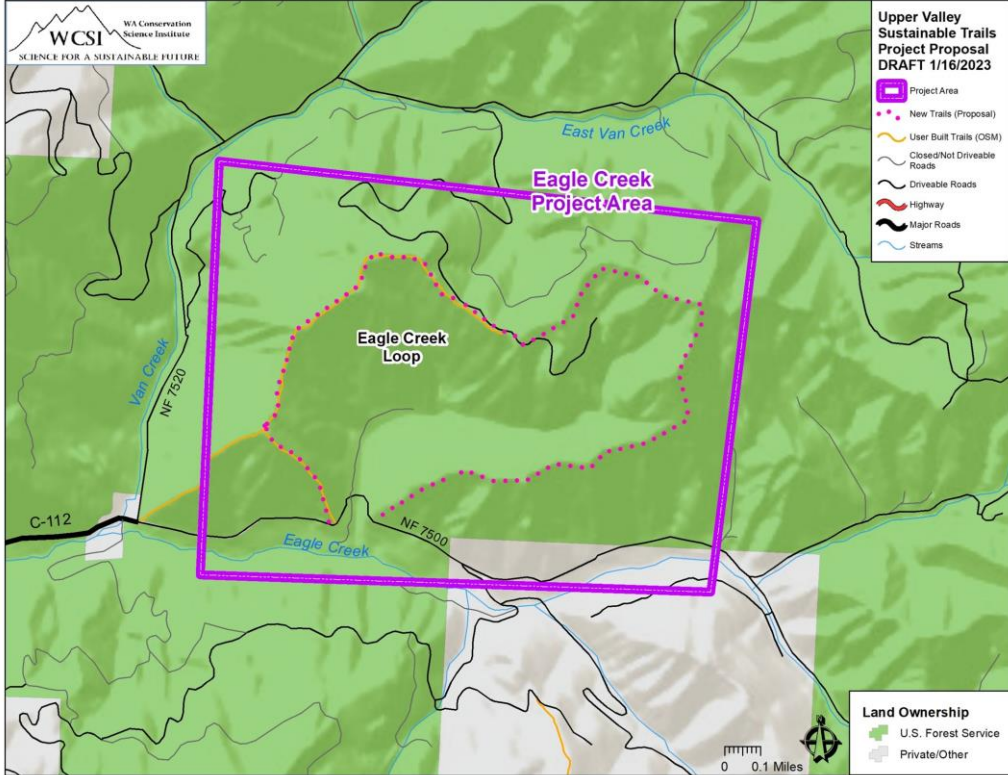


Figure 6. Eagle Creek project area within the UWVST Project.

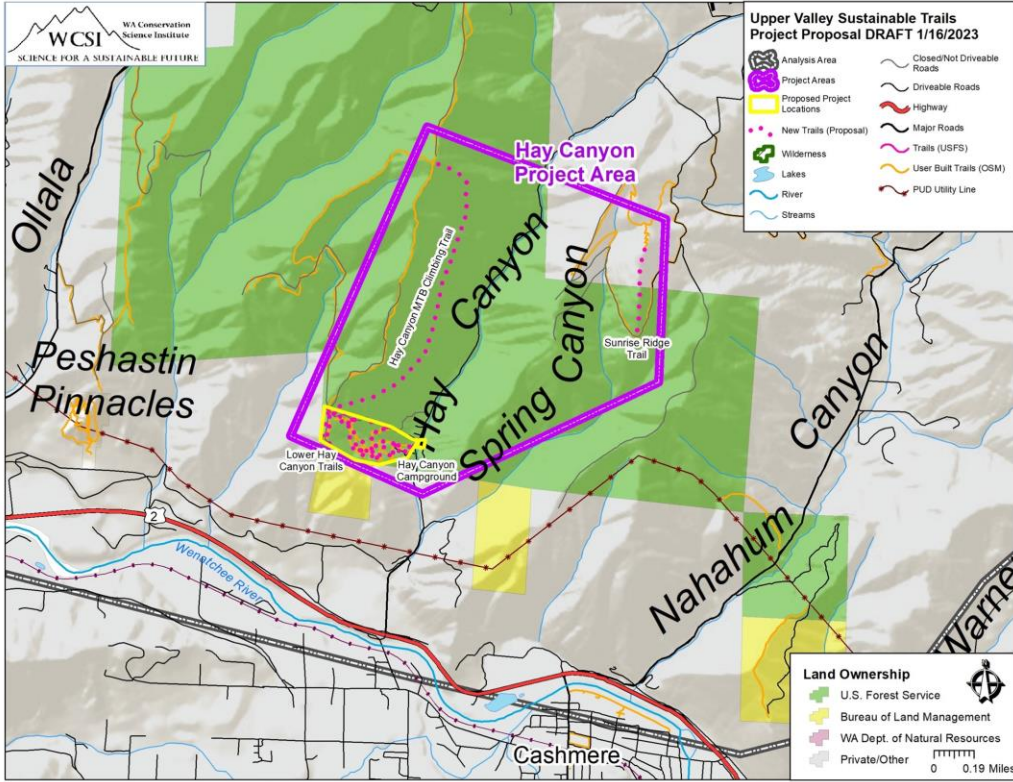


Figure 7. Hay Canyon project area within the UWVST Project.

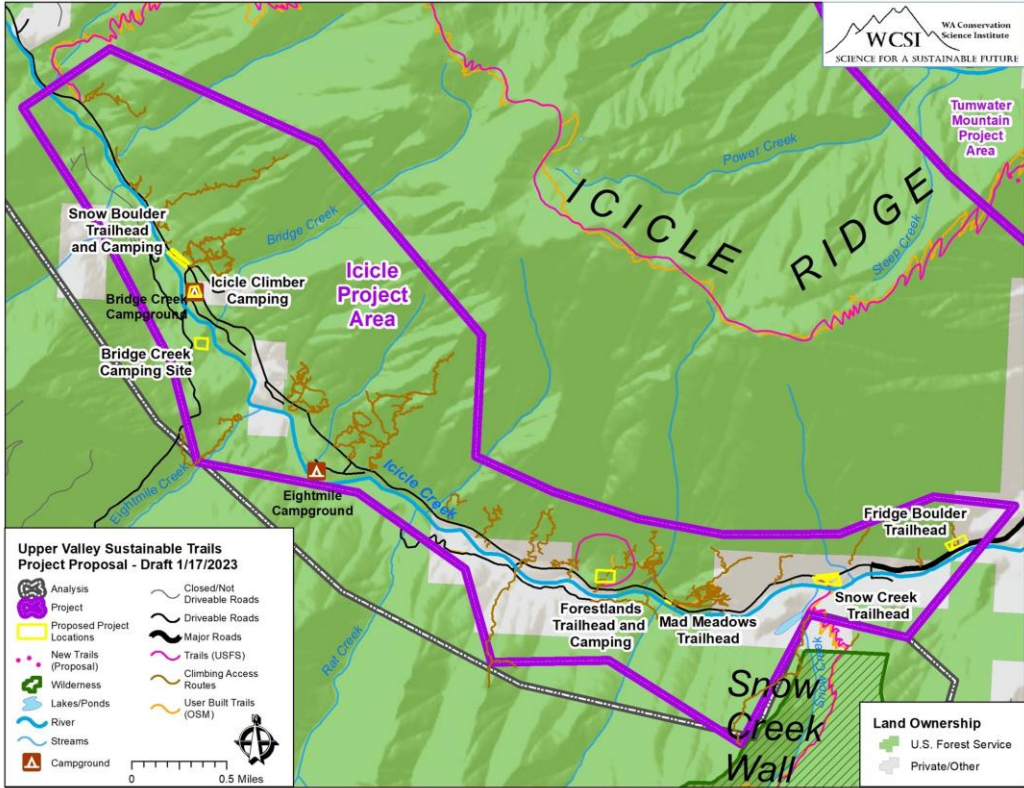


Figure 8. Icicle Creek project area within the UWVST Project.

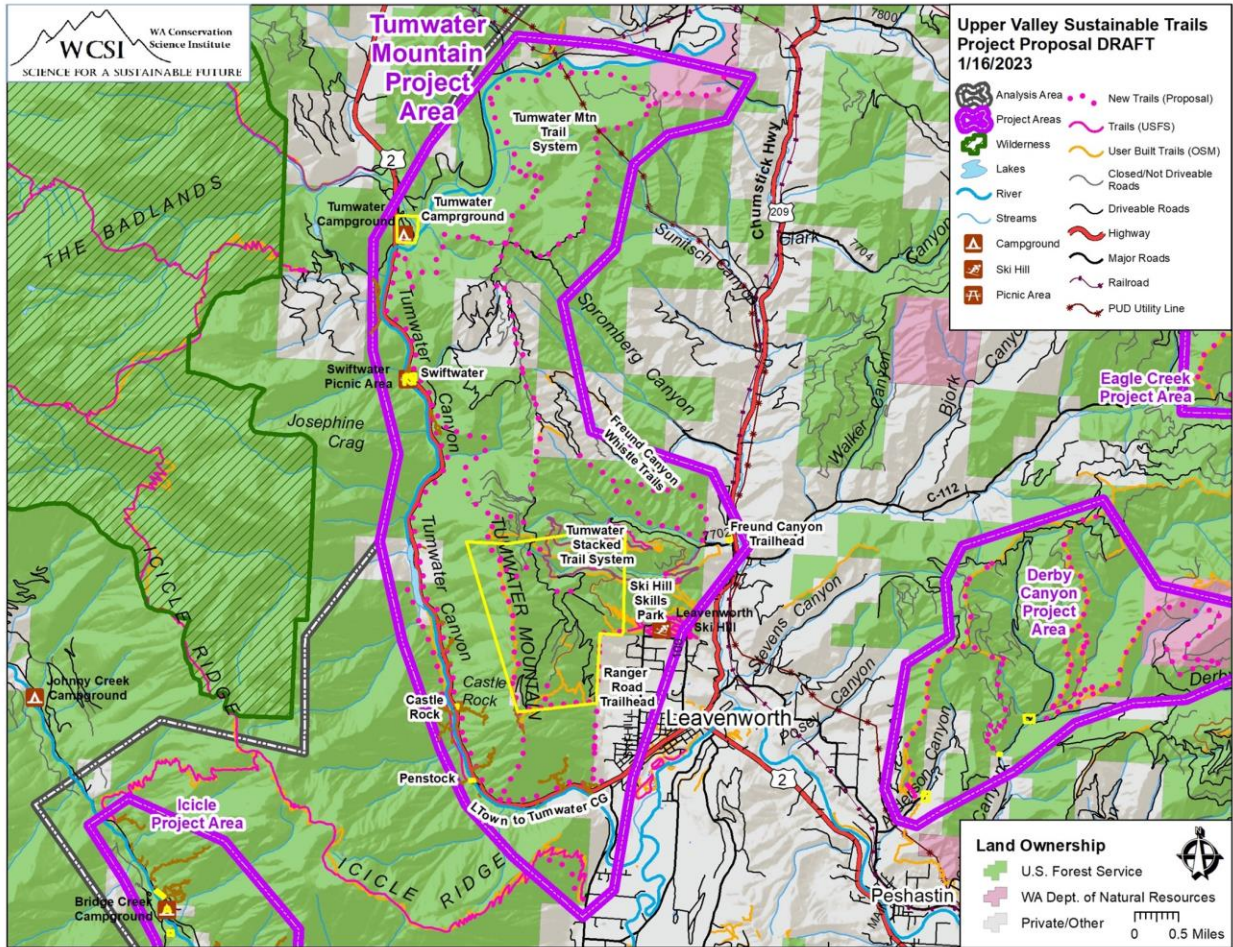


Figure 9. Tumwater Mountain project area within the UWVST Project.

The project would not change the availability of any existing motorized access but would expand a non-motorized trail system that supports hiking, biking, horseback riding, or other human-powered recreational uses. Similarly, currently existing trails that are in concert with the protective measures or mitigation could be incorporated into the overall trail network and would not be considered “new” construction. Existing or designated two-tracks or motorized routes would also not be considered “new” construction for the purposes of analysis. However, any existing trails that do not conform to the protective measures identified through project design and analysis would be reclaimed or rerouted. Trail development would follow the Forest Service Handbook (FSH) 2309.18 – Trails Management Handbook standards.

We anticipate that up to approximately 25 miles of existing user built trail would be incorporated into the Forest Service trail system and up to 69 miles of new trail would be constructed across multiple ownerships (Table 1). Approximately 12 miles of existing closed road would be converted to

trails. Approximately 30 miles of existing climbing access routes may be incorporated into the FS system or approved via the associated landowner.

Table 1. Approximate miles of trail to be constructed or added to the U.S. Forest Service (USFS) trail system and on multiple land ownerships.

Project Area	Chelan County PUD	Chelan-Douglas Land Trust	Private	USFS	WA State Dept. of Natural Resources	WA State Dept of Transportation	All land-owners	Grand Total
Boundary Butte		0.2	1.0	13				14.2
New construction		0.2	1.0	11				12.2
Road to trail conversion				2				2
Derby Canyon			0.1	17	3.3			20.4
Existing - Add to system			0.1	10	0.3			10.4
New construction				3	3			6
Road to trail conversion				4				4
Eagle Creek				4				4
Existing - Add to system				4				4
Hay Canyon			0.5	6				6.5
Existing - Add to system			0.5	4				4.5
New construction				2				2
Tumwater Mountain	0.1		4	53		1		58.1
Existing - Add to system	0.1		0.0	5				5.1
New construction			2	45		1		48
Road to trail conversion			2	3				5
Icicle & Tumwater Mountain							30	30
Climbing Trails - Add to system							30	30
Grand Total	0.1	0.2	5.6	93	3.3	1	30	133.2

In addition, this project proposal includes infrastructure associated with trails, such as trailheads, signage, parking lots, kiosks, toilets and camping sites, anticipated at less than 1-5 acres each. The approximate location of these sites have been identified within the project areas (Figure 4 through Figure 9 and Table 2), but additional detail would be determined through the NEPA/SEPA process. Under this proposal, the appropriate land managers could authorize up to approximately 17 trailheads or other facilities, primarily on National Forest lands, but also on other land ownerships: one in Boundary Butte, two in Derby Canyon, two in Hay Canyon, seven in Icicle and five in Tumwater Mountain. Restoration of the currently closed Tumwater Campground is included in this proposal. Reopening Tumwater Campground would require replacing the potable water system, conducting hazard tree mitigation, and implementing strategies to mitigate potential for debris flow and flooding at a minimum. There is also interest in modernizing the campground to provide charging stations for electric vehicles and accommodate increased future use.

Table 2. Infrastructure proposed actions and property owner/manager within each project area. This includes parking lots, trailheads, toilets, etc. Only a general location has been identified. These actions would require additional design during NEPA/SEPA process.

Boundary Butte Project Area

East View Point Trailhead

Chelan-Douglas Land Trust (CDLT)
Build new parking lot and trailhead

Derby Canyon Project Area

Sauer Mountain Trailhead

Chelan County, private
Build new parking lot for Sauer Mtn trail
USFS
Build new parking lot for alternative Sauer Mtn Trail

Tres and Xanadu Trailhead

USFS
Parking lot. Trailhead amenities.

Hay Canyon Project Area

Hay Canyon Campground

USFS
New campground with appropriate infrastructure. Special use permit for raft guides (during rafting season).

Lower Hay Canyon Trails

USFS
Existing user built trail system. Consider adding to USFS system. These trails are included in mileage above.

Icicle Project Area

Bridge Creek Camping Site

USFS
Bridge creek free site. Permanent toilets. Designated tent sites

Forestlands Trailhead and camping

USFS
Add permanent camping sites and toilets

Fridge Boulder Trailhead

USFS
New parking on north side of road, trailhead, etc. Previously owned by CDLT

Icicle Climber Camping

USFS
Permanent toilet. Designated tent pads

Mad Meadows Trailhead

USFS
Trailhead and toilet

Snow Creek Trailhead

USFS
Additional toilets at Snow Creek trailhead

Sword Boulder Trailhead and camping

USFS

At Sword Boulder pullout. 2 permanent toilets. Larger parking with barrier to river. Rehab dispersed camping. Allow car camping.

Tumwater Mountain Project Area

Castle Rock

USFS

Construct permanent toilet in existing parking lot

Freund Canyon Trailhead

Private

Construct parking lot and trailhead with permanent toilet

Ranger Road Trailhead

USFS

Construct parking lot and trailhead with permanent toilet

Swiftwater

USFS

Increased maintenance of toilets and parking lot

Tumwater Campground

USFS

Restore Tumwater Campground

Tumwater Stacked Trail System

USFS

Area identified for construction of stacked trails (connectors, etc.). Mileage included in Table 1.

This project would require collaboration with adjacent willing landowners, local governments, state agencies, and tribes to identify and implement mutually beneficial partnerships to enhance and maintain public recreational opportunities, access, and experiences while preserving other important resources and public land uses within project areas. This effort would include establishing mechanisms so that partners (including other local agencies or municipalities) could participate in construction efforts and be responsible for subsequent maintenance (i.e. trails and toilets) or establishment of rights-of-way. The USFS may need to pursue access easements from willing adjacent landowners to ensure legal public access and to prevent inadvertent trespass or enter into Memorandums of Understanding for easements obtained by other entities (e.g., state, local governments or tribes) that pertain to access to USFS-managed public lands in the project areas.

Appropriate protective measures (mitigation) would be developed and applied to protect cultural resources, wildlife habitat, water quality, soils and vegetation, visual and other resources.

In addition to the multi-user trails described above, a network of trails currently exists within the Icicle and Tumwater Project Areas to access climbing routes. In some cases these access trails are

redundant and causing erosion and resource damage. One objective of the UWVST Project is to map all of these trails and identify which trails should be retained, restored or modified.

Associated long-term surface disturbance would generally not exceed a total of approximately 150 acres, as follows:

1) Trails:

- New Construction: up to approximately 60 acres of total new disturbance (up to 50 total miles/264,000 feet in length \times 10 foot width for the right-of-way (incorporates total trail tread and vegetation removal, which would generally be less than 10' wide).
- Road to Trail Conversion: up to approximately 15 acres of total new disturbance (up to 15 total miles/63,360 feet in length \times 10 foot width for the right-of-way (incorporates total trail tread and vegetation removal, which would generally be less than 10' wide). Because these occur on existing roadbeds, actual disturbance could be less.
- Existing User-built Trail – add to system: up to approximately 4.5 acres of total new disturbance (up to 25 total miles/132,000 feet in length \times 10 foot width for the right-of-way, incorporates total trail tread and vegetation removal, which would generally be less than 10' wide. We would assume only about 15% of this total trail length/area would need work to improve sustainability.

2) Parking, Restrooms, Kiosks, Camping – up to approximately 70 acres (assume <1 to up to 5 acres each, for approximately 17 trailheads with some combination of parking, restrooms, camping sites and/or kiosks).

These are simplified estimates that calculate a maximum area of disturbance based upon a straight-line length of trail and do not account for the fact that trail features, such as curves and switchbacks, create overlapping areas of disturbance. Therefore the total area affected may be lower than the straight-line estimate. The estimates also do not consider the influence of terrain features that could either decrease or increase disturbance effects. As such, the actual area of disturbance would likely be substantially less than the totals listed above.

Newly constructed trail is expected to range from 18 inches to 40 inches wide and could be sited to avoid mature vegetation such as large trees and bushes, but vegetation that presents a hazard to trail users (e.g. woody shrubs or tree branches) would be cleared for approximately 2 to 5 feet on either side of the trail. Some trails would be designed for mountain bikers and could have large, banked corners; however, this would not occur on all trails. Additional areas of ground and vegetation disturbance would occur at proposed parking and trailhead areas.

Areas of trail construction along steep inclines may require more ground disturbance to create a sustainable trail footprint. The proposed trails would occur on a variety of terrain, ranging from relatively flat slopes on existing closed roads to trails that may bisect very steep, rocky terrain that could require high-level engineering and construction. For example, the trail that is proposed to go from Leavenworth to the Tumwater Campground could require blasting or cantilevered

construction to navigate steep rock faces. This document does not provide that level of detail or analysis but is intended to provide an initial discussion of potential issues as the partners proceed through the NEPA and SEPA processes.

In some cases, proposed trails, parking and trailhead areas would be located in areas that could impact aquatic resources. In these places projects would be designed to control runoff, such that there would be no alteration of peak and base flows in area streams and sediment would be captured. In addition, stream crossings would be designed to avoid water courses and associated riparian areas through adequate bridge spans. Or alternatively, culverts, fords or stepping/rolling stones could be placed at crossings of smaller non-fish bearing perennial streams and intermittent streams. Well-placed stepping/rolling stones would allow water to flow around the stones as well as provide a dry surface to walk/step/ride over.

New bridges and culverts would be designed to accommodate at least the 100-year flood, including associated bedload and debris. Crossings would be constructed near perpendicular to the stream to minimize impacts and be maintained to prevent diversion of streamflow out of the channel. Trail drainage would be managed on the approaches to stream crossings to prevent sediment-laden water from entering streams by routing drainage to the forest floor.

All attempts would be made to route the trails to avoid wetland areas or standing water. However, if there are places where standing water cannot be avoided, puncheon bridges, or other features would be employed to mitigate water and keep the trail dry. Seasonal closures would be issued during high precipitation seasons and muddy conditions to ensure sediments and fines would not be transported to streams.

While many trail segments would be built by hand, small trail building machines would be used throughout the entire trail system. Construction would include brush clearing, soil grading, removing roots and rocks, and ensuring the width is kept around 30 inches. Some rocks and roots would still exist in the trail tread in some areas. High slide-slope gradients that require deeply bench-cut trails may be more efficiently built by small trail building machinery. Waterbars, culverts, and bridges would be installed to control drainage and runoff. Installation of bridges and culverts would require larger machinery than the smaller machinery that may be used to build the proposed trail system.

Trail building would require vegetation removal. Tree cutting would be kept to a minimum with the trail being routed around large trees (greater than 21 inches). All large trees to be cut would be designated by the land manager prior to cutting. Marking by the land manager would ensure that only necessary trees would be cut and that riparian zones would be protected. Slash would be disposed of through chipping or via lop and scatter. Parking lots and trailheads may require more extensive vegetation removal.

Best Management Practices, design criteria and mitigation measures, including rehabilitation and revegetation in riparian areas, would be designed so the project would be consistent with the Forest

Plan, as amended, as well as all recovery plans for listed species, at the Project Area and Analysis Area scales. In particular, timing restrictions would be employed as needed to mitigate impacts to fish, wildlife, plants, and tribal use of these areas.

Although the approximate/conceptual trail routes are depicted in Figure 4 through Figure 9, final trail alignment would depend on terrain and the findings of field surveys for aquatic, botany, and wildlife species of concern and cultural resources as identified through the subsequent NEPA/SEPA process. For example, *Hackelia venusta*, the federally endangered plant, is known to occur on the steep slopes between Leavenworth and Tumwater campground, so would need to be considered in trail design. And non-archaeological tribal values occur in this area as well; necessitating tribal consultations and engagement early in planning. The NEPA/SEPA assessment would identify these known issues as well as explore other potential issues and opportunities for design and mitigation. This sensing document is designed to provide a preliminary discussion of the project and potential impacts, but project specifics may be modified as a result of subsequent public outreach and analysis.

5.0 Approach

This project is unique in that it covers a large area and is a collaborative process between multiple entities. This provides an opportunity to meet multiple objectives and benefit multiple users. Analyzing the entire project at once, as opposed to a piecemeal approach by landowner, would provide the information necessary for individual land managers to make decisions specific to their lands within the scope of the broader project. Additionally, an annual review of the analysis file could allow for monitoring of project progress and updating to account for changes to species status, policy changes, etc., thereby extending the “shelf-life” of the project. This approach would also allow for project prioritization based on different criteria (e.g., funding, project complexity, capacity, etc.).

Some of the projects are fairly straight-forward as described in this document such as the Sunrise Ridge Trail in the Hay Canyon Project Area. This would convert a user-built trail that provides access to a launching point for paragliders to a USFS system trail and would include any necessary trail work to ensure the trail is sustainable. Other projects would be much more complicated, and we have identified some of the complicating factors below.

Boundary Butte Project Area

- Some of the actions proposed on private land would require coordination with private landowners.
- Stream crossings would need to be identified.

Derby Canyon Project Area

- Some of the trails and parking/trailheads identified in the Derby Canyon Project Area have potential conflict with private property owners. The existing Sauer Mountain trail has become very popular and has resulted in unsafe parking on high-use days. There is a need to

identify mitigation for the current trail access and parking situation, or alternatively to identify a different parking site and trail access. Private property within this action may require permitting through Chelan County or development of easements.

Tumwater Mountain Project Area

- Restoration of Tumwater Campground would be an expensive undertaking that is long overdue.
- “Ltown to Tumwater” trail – this trail would likely require significant engineering input and design with potential for substantial ground disturbance (steep rock faces) and coordination with WSDOT and/or possibly the Federal Highways.
- The trailhead and parking on Ranger Road is adjacent to private property.
- Trailhead and parking at end of pavement on Freund Canyon Road is proposed on private property and would require coordination with current landowners.

5.1 Aquatic Resources

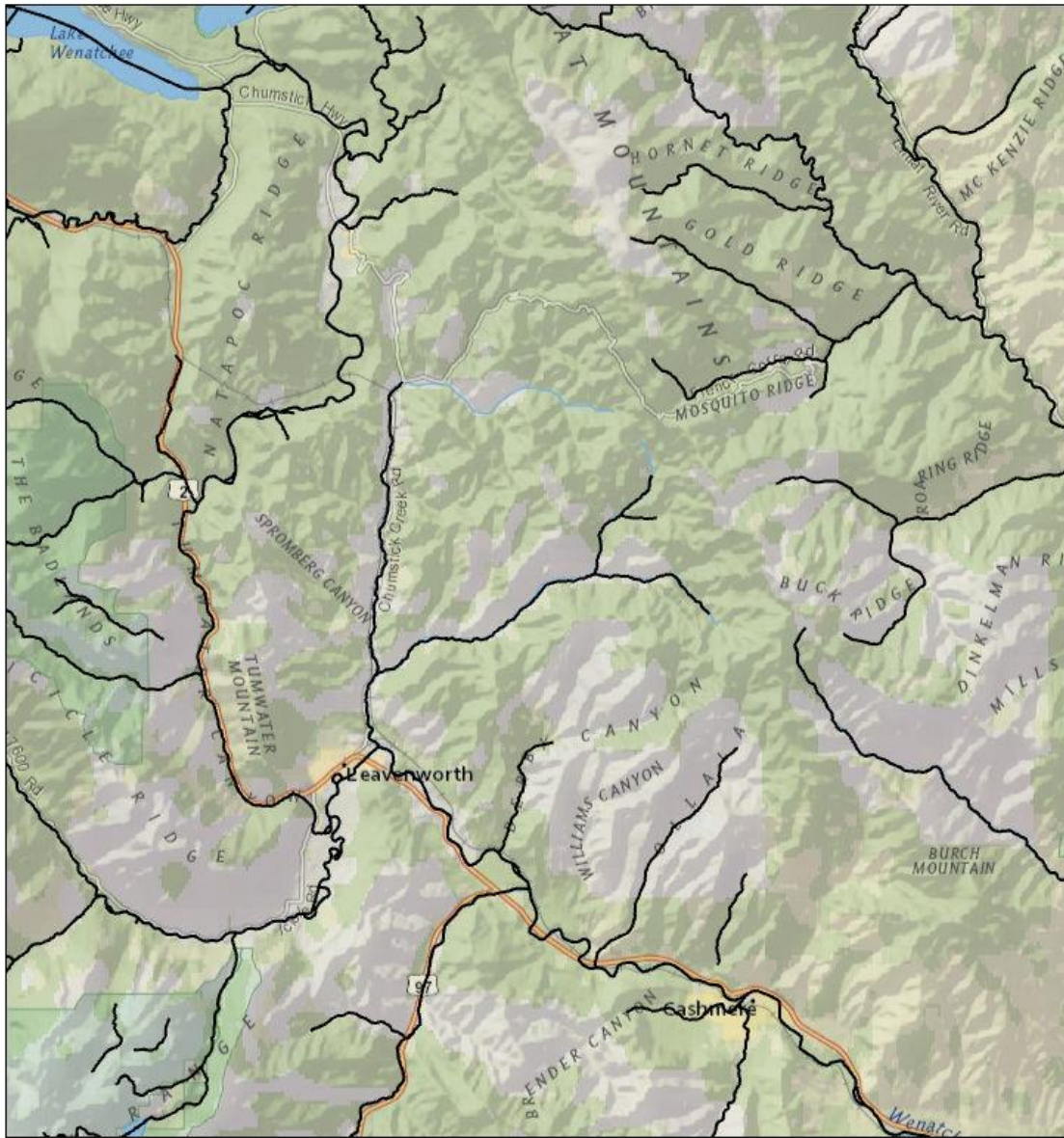
The Analysis Area is in the Icicle River, Peshastin Creek and Wenatchee River watersheds in Water Resource Inventory Area (WRIA) 45. Icicle River watershed is a Tier 1 key watershed (USDA 1994). The proposed project areas intersect 9 subwatersheds (Beaver Creek – Wenatchee River, Chumstick Creek, Derby Canyon-Wenatchee River, Eagle Creek, Lower Icicle Creek, Lower Peshastin Creek, Middle Icicle Creek, Ollala Canyon-Wenatchee River, and Tumwater Canyon-Wenatchee River).

As discussed above, the proposed trails may cross fish bearing and non-fish bearing streams. The fish bearing streams include Wenatchee River (near Tumwater Campground and Penstock Bridge), Mill Creek (lower end of Boundary Butte to HWY 97 trail), and Hay Canyon Creek (campground). Three ESA listed fish species (Chinook salmon, steelhead trout and bull trout) and designated Critical Habitat occur in the analysis area. The Wenatchee River basin, including streams in the proposed project area, also provides Essential Fish Habitat (EFH) for Chinook and coho salmon for adult, fry, juvenile, and smolt life history stages (NOAA 2023). Other species such as westslope cutthroat trout, rainbow trout, eastern brook trout, mountain whitefish, pygmy whitefish, inland Columbia basin red band trout, Pacific lamprey, and sockeye salmon, are also known to be in the Analysis Area. Table 3 and Figure 10 through Figure 13 provide information on species, critical habitat and listing status expected to be in the Analysis Area. Figure 14 provides an overview of important fish facilities in and adjacent to the Analysis Area.

Table 3. Aquatic Federal Endangered, Threatened, Species of Concern and Region 6 Regional Forester Sensitive Species in the UWVST Project Area (NOAA, 2023a, 2023b; USFS, 2021; USFWS, 2023).

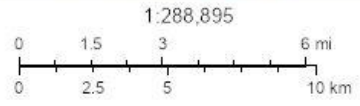
Common Name	Scientific Name	Evolutionary Significant Unit	Critical Habitat	Regulatory Agency / Status
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	Upper Columbia River Spring Run	Yes	NOAA / Endangered
Steelhead trout	<i>Oncorhynchus mykiss</i>	Upper Columbia River Summer	Yes	NOAA / Threatened

Common Name	Scientific Name	Evolutionary Significant Unit	Critical Habitat	Regulatory Agency / Status
Bull trout	<i>Salvelinus confluentus</i>	All	Yes	USFWS / Threatened
Pacific lamprey	<i>Lampetra tridentata</i>	Washington	No	USFWS / Species of Concern / Region 6 Sensitive Species
Inland Columbia Basin redband trout	<i>Oncorhynchus mykiss gairdneri</i>	All	No	Region 6 Sensitive Species
Westslope cutthroat trout	<i>Oncorhynchus clarkii lewisi</i>	All	No	Region 6 Sensitive Species
Pygmy whitefish	<i>Prosopium coulterii</i>	All	No	Region 6 Sensitive Species



February 13, 2023

— All SalmonScape Species



National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, Increment P Corp., WDFW

Figure 10. Map of expected fish presence in Wenatchee River basin and project area. (WDFW SalmonScape, 2023). Fish species as identified on the map may include one or more of the following: Chinook salmon, steelhead trout, bull trout, coho salmon, westslope cutthroat trout, rainbow trout, eastern brook trout, mountain whitefish, pygmy whitefish, inland Columbia basin red band trout, Pacific lamprey, and/or sockeye salmon.

Upper Columbia River Spring Chinook

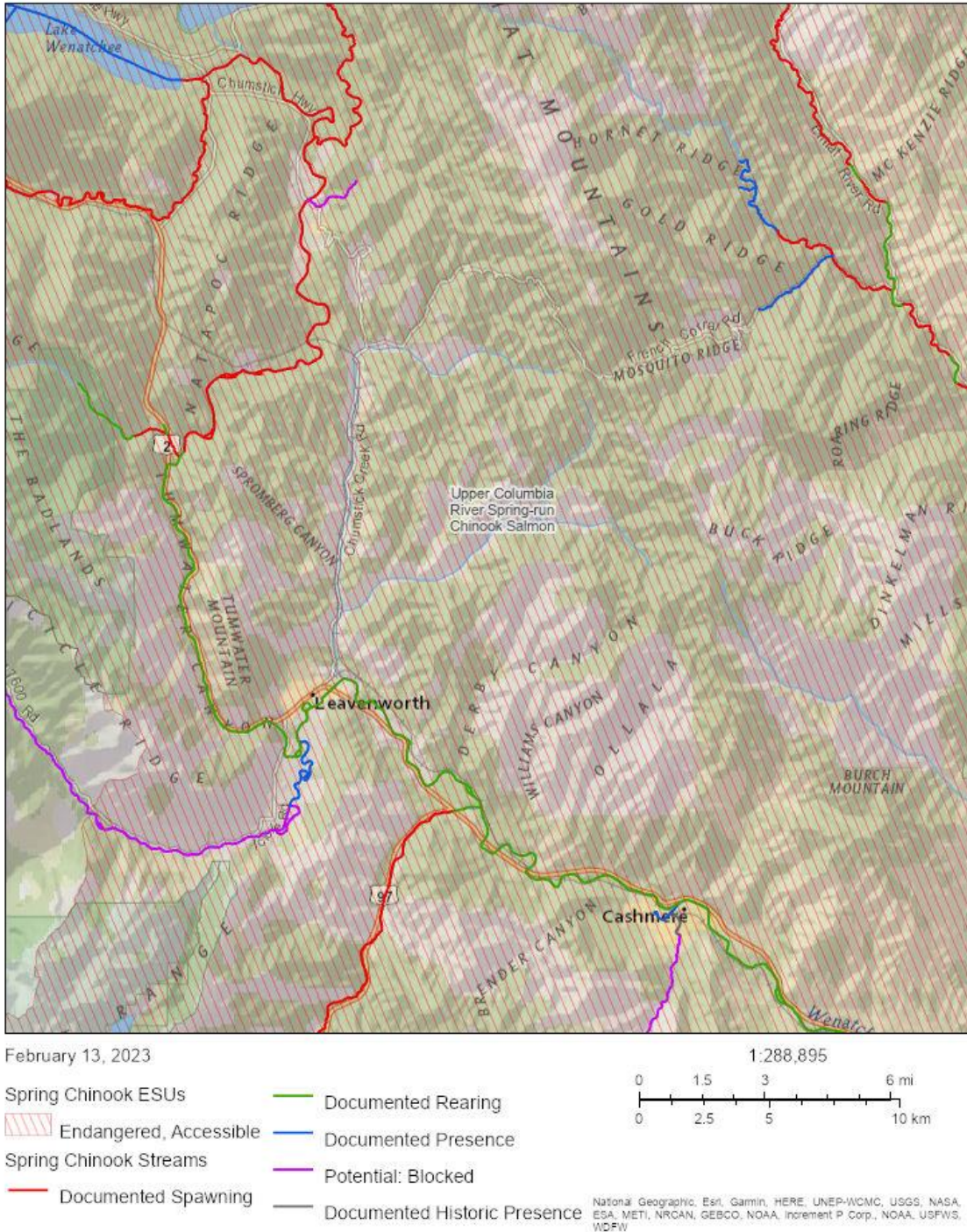


Figure 11. Map of Upper Columbia River Spring Chinook salmon presence in Wenatchee River basin and project area (SalmonScope, 2023).

Upper Columbia River Summer Steelhead

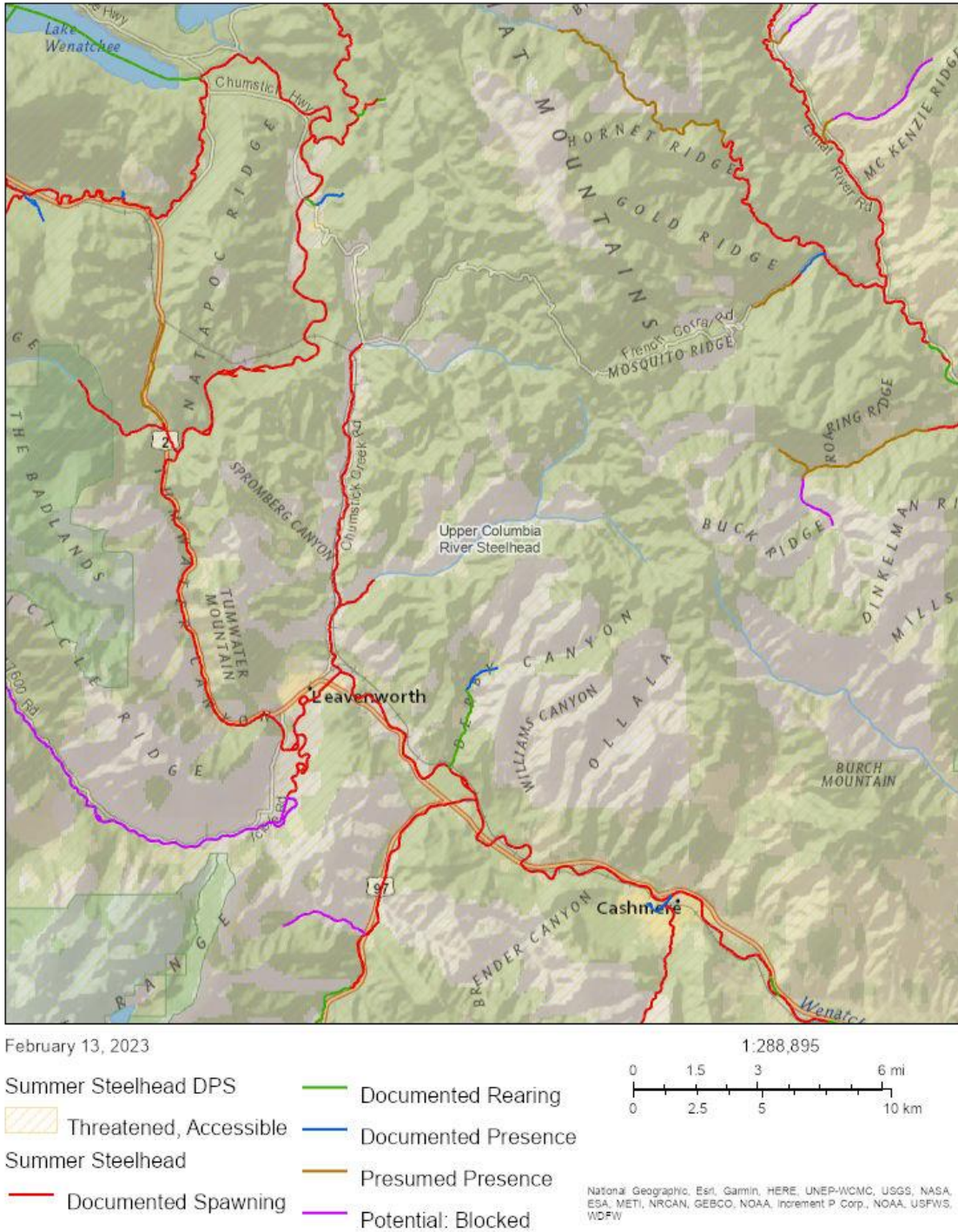
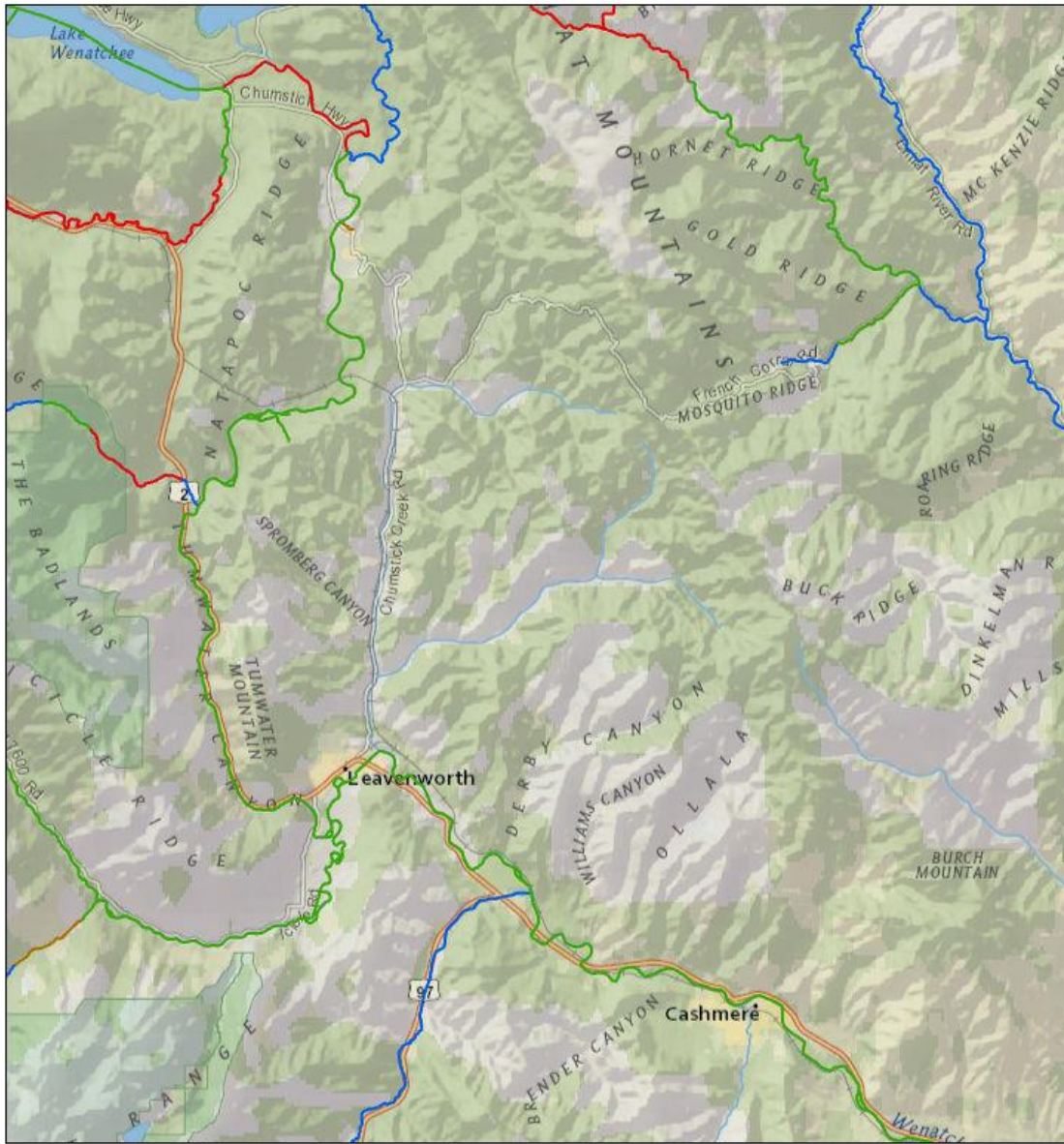


Figure 12. Map of Upper Columbia River summer steelhead presence in Wenatchee River basin and project area (SalmonScope, 2023).

Bull Trout

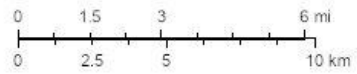


February 13, 2023

Bull Trout

- Documented Spawning
- Documented Rearing
- Documented Presence
- Presumed Presence

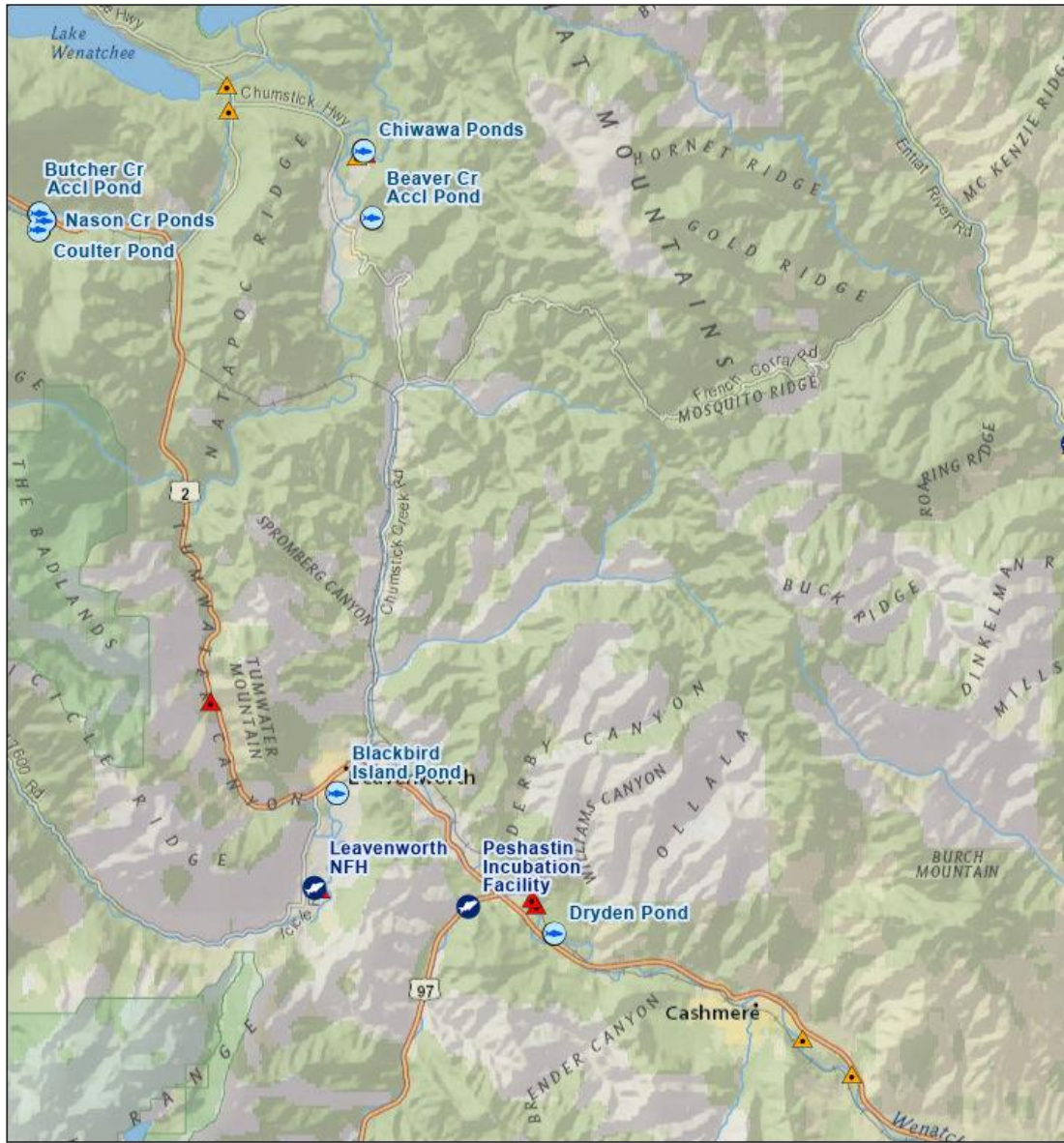
1:288,895



National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, Increment P Corp., WDFW

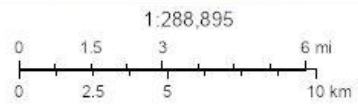
Figure 13. Map of bull trout presence in Wenatchee River basin and project area (SalmonScape, 2023).

Fish Facilities



February 13, 2023

- | | |
|--|---|
| <p>FishTraps</p> <ul style="list-style-type: none"> ▲ Trap - Adult ▲ Trap - Juvenile | <p>Hatcheries and Rearing</p> <ul style="list-style-type: none"> ● Hatchery ● Rearing Facility |
|--|---|



National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, Increment P Corp., WDFW

Figure 14. Map of fish facilities in Wenatchee River basin and project area (SalmonScape, 2023).

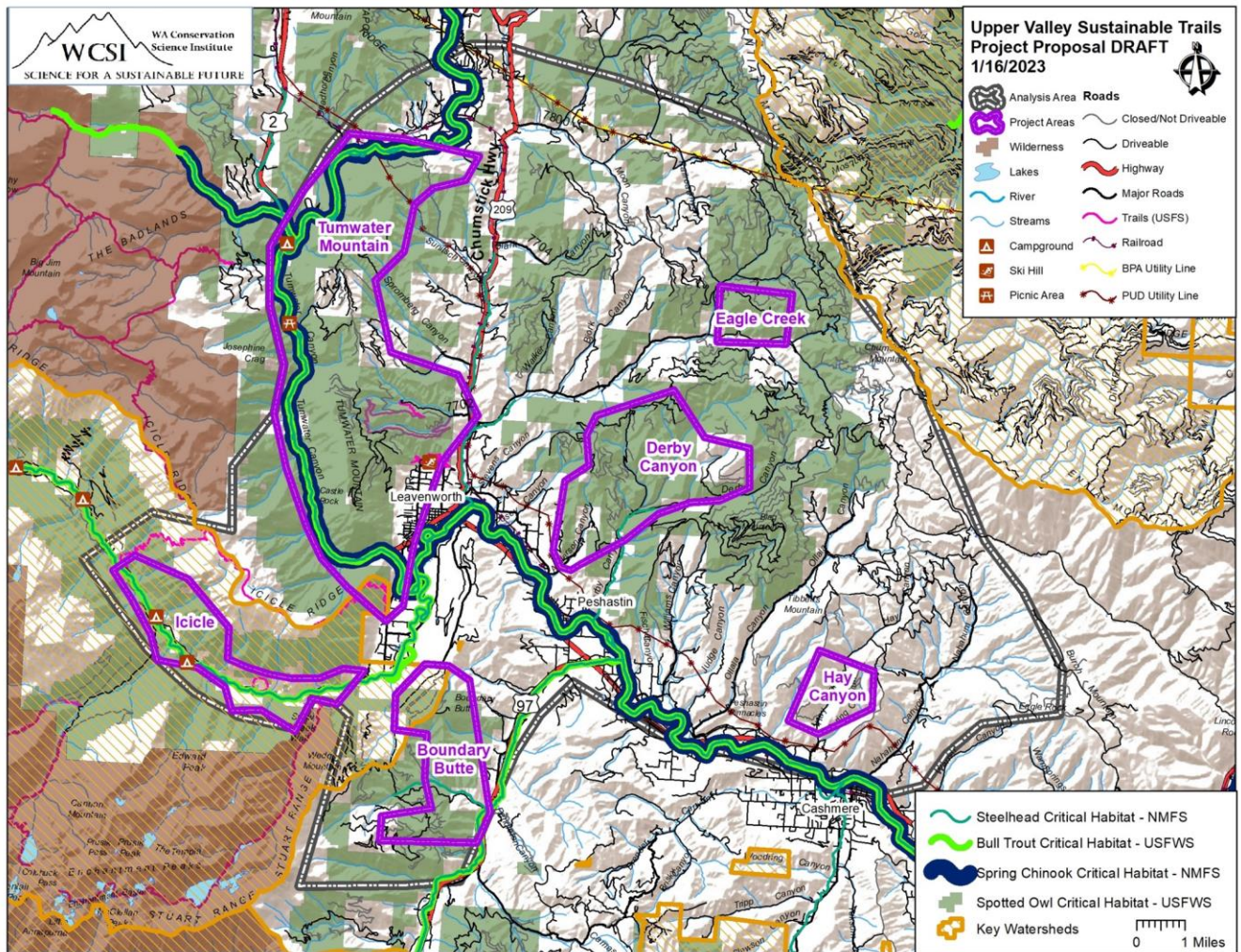


Figure 15. UWVST project areas in relation to designated Critical Habitat and Key Watersheds.

As discussed above, some of the proposed projects may occur in Riparian Reserves. According to the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (USFWS NWI, 2021; Figure 16), mapped wetlands are located in all of the project areas except Hay Canyon. Every effort would be made to avoid wetlands and wetland habitat, associated buffers, and riparian habitat within Riparian Reserves.

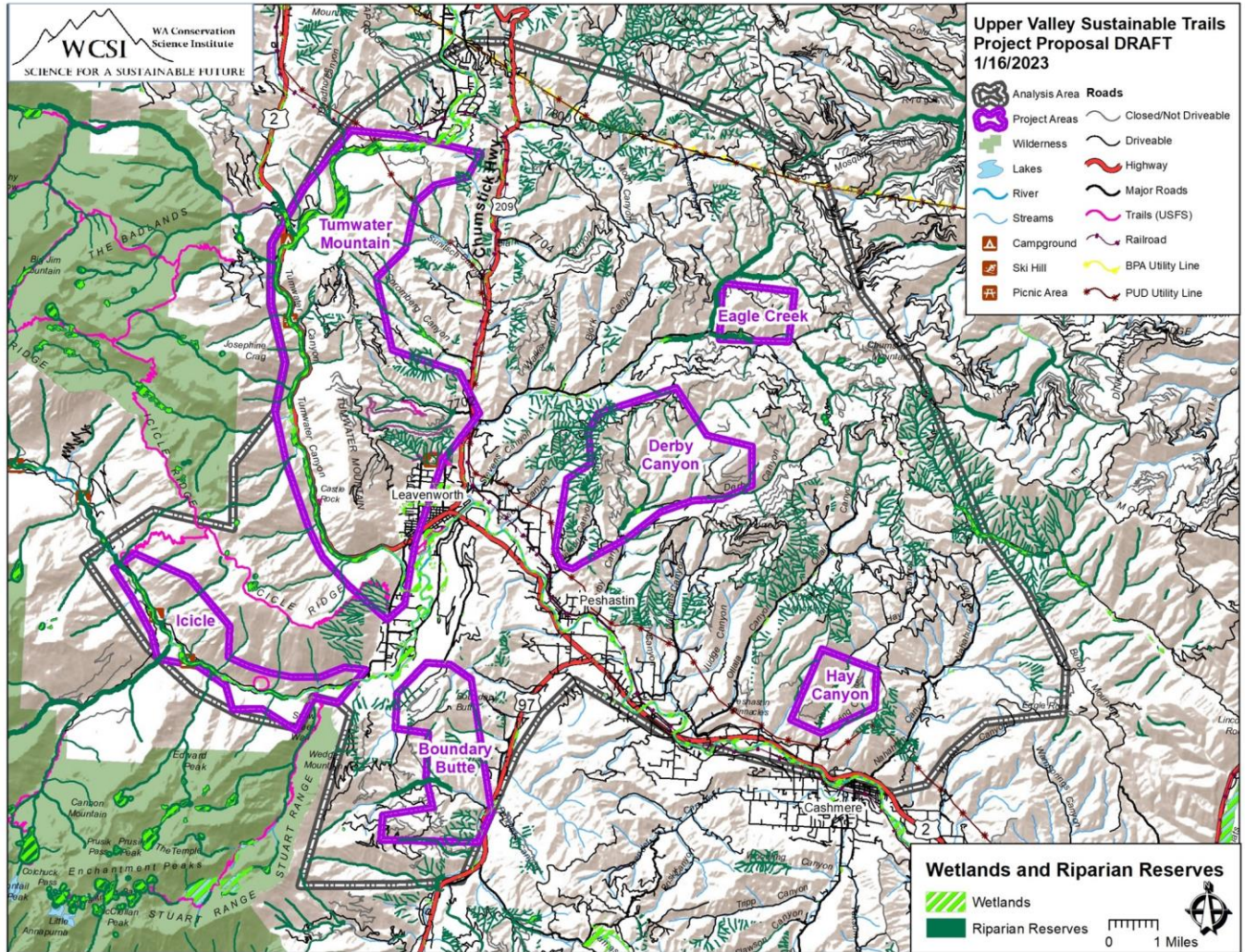


Figure 16. Map of wetlands in project area (USFWS NWI, 2021).

For the NEPA process, stream habitat assessments including assessment of riparian habitat would need to be conducted along the trail alignments and associated infrastructure to identify ideal areas for stream crossings and to provide a baseline of existing conditions for future mitigation and monitoring efforts relative to aquatic habitat. Coordination and consultation would occur with NOAA on two ESA listed salmonid species (Chinook salmon and steelhead trout) and designated Critical Habitat including Essential Fish Habitat for Chinook salmon and coho salmon. Coordination and consultation would occur with USFWS on one ESA listed species and Critical Habitat (bull trout).

5.2 Wildlife

The following species list has been compiled to provide an initial summary of species or habitat that may be affected by project implementation and may be analyzed further. This includes species with the following special status:

1. Federal or Washington state endangered or threatened
2. Sensitive species (R6 Regional Forester Special Status Species List, June 21, 2021)
3. Survey and manage species (S&M)
4. Management indicator species (MIS) (1990 Okanogan-Wenatchee National Forest Land and Resource Management Plan (as amended by the Northwest Forest Plan)
5. Washington Department of Fish and Wildlife, Priority Habitats and Species
6. Migratory bird species

Species status can be somewhat fluid, so species have been included if their status has recently changed or is under review. Species presence would be confirmed with local specialists. Further detailed assessment would be needed to determine where surveys may be required. This information would allow for development of appropriate conservation measures or modification of project design to be consistent with the 1990 Okanogan-Wenatchee National Forest Land and Resource Management Plan as amended by the Northwest Forest Plan (USFS 1994). Conservation measures can be created to avoid or mitigate effects for many species.

Pre-disturbance surveys are required in suitable habitat in stands that are over 80 years in age for Category A and C Survey & Manage species. Where Survey & Manage species are found within project areas, buffers would be established to protect habitat features and microclimate conditions at the sites.

In general, the trails and other infrastructure would route through a variety of land management designations, and in general, with appropriate design and mitigation would be consistent with LRMP standards and guidelines. In some cases proposed actions would occur in late-successional and old forest (LSOF) habitats within a designated LSR or Managed Late Successional Areas (MLSA). LSOF associated species, such as the northern spotted owl, or Survey and Manage species, could be affected. The proposed actions are located within the 1.8 mile home range of several historical owl sites and designated critical habitat for spotted owl. As such, conservation measures would be required to prevent negative impacts to LSOF habitat (i.e., no habitat removal) and mitigate impacts to LSOF associated species (i.e., buffers around identified sites, or potential timing restrictions near spotted owl habitat).

Table 4. Wildlife species/habitat, status and presence within the UWVST analysis area.

a. ESA

Species Name	Common Name	Species Status (Federal)	Species Status (State)	Species habitat present within or adjacent to project area	Species documented in project area	Surveys needed?
Mammals						
<i>Lynx canadensis</i>	Canada lynx	Threatened	Endangered	NO	NO	NO
<i>Pekania pennanti</i>	Fisher	Proposed Threatened	Endangered	NO	NO	NO
<i>Canis lupus</i>	Gray wolf	Threatened, R6 Sensitive	Endangered	YES	YES	NO
<i>Ursus arctos horribilis</i>	Grizzly bear	Threatened. Project area is in NCGBE	Threatened	YES	NO	NO
<i>Gulo gulo</i>	Wolverine	Proposed threatened	Candidate	NO	NO	NO
Birds						
<i>Strix occidentalis caurina</i>	Northern spotted owl	Threatened	Endangered	YES	Historically – project areas are within home ranges of historical spotted owl sites	Surveys or timing restrictions would be required
	Northern spotted owl – critical habitat			YES	NA	NA
<i>Brachyramphus marmoratus</i>	Marbled murrelet	Threatened		NO – project areas are located outside of the designated MM Conservation Area	NO	NO

b. Survey and Manage and R6 Sensitive Wildlife Species on the OWNF and within the Project Areas.

Species Name	Common Name	Species Status on OWNF D: documented S: suspected	Species habitat present within or adjacent to project area	Species documented in project area	Surveys needed?
Mammals					
<i>Ovis canadensis</i>	Bighorn sheep	Sensitive (D)	YES	Possibly in Eagle Creek	NO
<i>Vulpes cascadenis</i>	Cascade red fox	Sensitive (D)	NO	NO	NO
<i>Canis lupus</i>	Gray wolf	Sensitive (D), also Federally listed	YES	YES	NO
<i>Myotis keenii</i>	Keen's myotis	Sensitive (S)	NO	NO	NO
<i>Myotis lucifugus</i>	Little brown myotis	Sensitive (D)	YES	TBD	NO
<i>Oreamnos americanus</i>	Mountain goat	Sensitive (D)	NO	NO	NO
<i>Sciurus griseus</i>	Western gray squirrel	Sensitive (D)	NO	NO	NO
Birds					
<i>Accipiter gentilis</i>	Northern goshawk	Sensitive (D)	YES	YES	NO
<i>Empidonax wrightii</i>	Gray flycatcher	Sensitive (D)	YES	NO	NO
<i>Gavia immer</i>	Common loon	Sensitive (D)	YES	NO	NO
<i>Grus canadensis</i>	Sandhill crane	Sensitive (D)	NO	NO	NO
<i>Haliaeetus leucocephalus</i>	Bald eagle	Sensitive (Species delisted in 2008, but delisting monitoring plan includes monitoring until 2029 so species remains as Sensitive based on agencies' policies) (D)	YES	YES	NO
<i>Histrionicus histrionicus</i>	Harlequin duck	Sensitive (D)	YES	NO	NO
<i>Melanerpes lewis</i>	Lewis's woodpecker	Sensitive (D)	YES	YES	NO
<i>Numenius americanus</i>	Long-billed curlew	Sensitive (D)	NO	NO	NO
<i>Pelecanus erythrorhynchos</i>	American white pelican	Sensitive (D)	NO	NO	NO
<i>Picoides albolarvatus</i>	White-headed woodpecker	Sensitive (D)	YES	YES	NO
<i>Strix nebulosa</i>	Great gray owl	Sensitive (D), Survey and Manage	YES	NO	NO
<i>Tympanuchus phasianellus</i>	Sharp-tailed grouse	Sensitive (S)	NO	NO	NO

Species Name	Common Name	Species Status on OWNF D: documented S: suspected	Species habitat present within or adjacent to project area	Species documented in project area	Surveys needed?
Reptiles & Amphibians					
<i>Plethodon larselli</i>	Larch mountain salamander	Sensitive (D)	NO	TBD	NO
<i>Actinemys marmorata</i>	Western pond turtle	Sensitive (S)	YES	TBD	TBD
Mollusks and Earthworms					
<i>Driloleirus americanus</i>	Giant palouse earthworm	Sensitive, Survey and Manage (D)	YES	TBD	TBD
<i>Cryptomastix devia</i>	Puget oregonian	Sensitive, Survey and Manage (D)	YES	TBD	TBD
<i>Oreobelix junii</i>	Grand coulee mountainsnail	Sensitive, Survey and Manage (D)	YES	TBD	TBD
<i>Pristiloma wascoense</i>	Shiny tightcoil	Sensitive (D)	NO	NO	NO
<i>Prophysaon coeruleum</i>	Blue-gray tail-dropper	Sensitive (D)	YES	NO	YES
Invertebrates – Butterflies and Beetles					
<i>Bombus occidentalis</i>	Western bumble bee	Sensitive (D)	YES	YES	NO
<i>Bombus suckleyi</i>	Suckley cuckoo bumble bee	Sensitive (S)	YES	UNK*	NO
<i>Boloria astarte</i>	Astarte fritillary	Sensitive (D)	NO	NO	NO
<i>Boloria bellona</i>	Meadow fritillary	Sensitive (D)	TBD	TBD	TBD
<i>Boloria freija</i>	Freija fritillary	Sensitive (D)	NO	NO	NO
<i>Colias nastes</i>	Labrador sulphur	Sensitive (D)	NO	NO	NO
<i>Cupido comyntas</i>	Eastern tailed blue	Sensitive (S)	TBD	TBD	TBD
<i>Lycæna cupreus</i>	Lustrous copper	Sensitive (D)	NO	NO	NO
<i>Oeneis melissa</i>	Melissa arctic	Sensitive (D)	NO	NO	NO
<i>Polites mardon</i>	Mardon skipper	Sensitive (D)	NO	NO	NO
<i>Polites peckius</i>	Peck's skipper	Sensitive (D)	TBD	TBD	TBD
<i>Polites themistocles</i>	Tawny-edged skipper	Sensitive (D)	NO	NO	NO
<i>Speyeria egleis</i>	Great basin fritillary	Sensitive (S)	NO	NO	NO

Species Name	Common Name	Species Status on OWNF D: documented S: suspected	Species habitat present within or adjacent to project area	Species documented in project area	Surveys needed?
<i>Aeshna sitchensis</i>	Zigzag darner	Sensitive (D)	Possibly (wet meadows, bogs)	TBD	TBD – can be avoided
<i>Aeshna subarctica</i>	Subarctic darner	Sensitive (D)	Possibly (wet meadows, bogs)	NO	NO
<i>Coenagrion interrogatum</i>	Subarctic bluet	Sensitive (S)	NO	NO	NO

Management Indicator Species (MIS)

The following species are listed as Management Indicator Species for the Okanogan-Wenatchee National Forest. Management indicator species are species whose population parameters appear to show the effects of land management practices on specific types of wildlife habitat. All species that are known to occur or could potentially occur in or adjacent to the project areas would be assessed.

- Rocky Mountain Elk – summer and winter range
- Mule Deer – winter range
- Northern spotted owl – Represents species requiring mature and old-growth forest.
- Pileated woodpecker – Represents species requiring mature and old-growth forest.
- Primary cavity excavators – Represents species requiring snags and down logs.
- Pine marten/Northern three-toed woodpecker - For management purposes, these two species have been combined. They are not uncommon and are generally found associated with mature or old-growth habitats.
- Beaver/Ruffed grouse – Represents species requiring riparian habitats.

Mountain goat is also a MIS species that is sought after for viewing and hunting. However, the project areas do not provide associated habitat, so this species is not included in the analysis.

Unique or Special Habitats and Species

Unique or special habitats and species have been identified within the Forest Plan because of a need to protect them. The habitats and species in this category are: cliffs and rims, ponds, marshes, springs, great blue heron, osprey, goshawks, sharp-shinned hawk, and barred owls (USFS 1989).

Additional Considerations

Preliminary Spotted Owl and Late-Successional and Old Forest Habitat Analysis

Because late-successional habitat and effects to associated species is a consideration of this project, we conducted a pre-liminary analysis of spotted owl habitat and late-successional and old forest (LSOF) habitat within the project areas (Figure 17 and Figure 18). Figure 17 displays spotted owl habitat as mapped by Davis et al. (2022). Figure 18 depicts the old-growth structure index. This index allows us to estimate LSOF habitat in the analysis area. The 80-year threshold old growth structure index (OGSI-80) represents forests that have achieved structure commonly associated with mature, late-successional, and older forests in the Pacific Northwest region. The OGSI-200 threshold represents forests that have achieved structure found in the later stages of succession commonly associated with old growth (Davis et al. 2016). Preliminary assessment indicates there is limited habitat that meets the OGSI-200 index, but there may be spotted owl habitat and LSOF habitat that meets the OGSI-80 index along certain trail alignments. A refined habitat map would need to be created to better identify these habitats at the project level scale. To avoid impacts to

spotted owls and old forest habitat, trails or infrastructure would be designed to prevent removal of large trees and avoid key LSOF habitats. In addition, to avoid disturbance to nesting spotted owls, surveys or timing restrictions may be required.

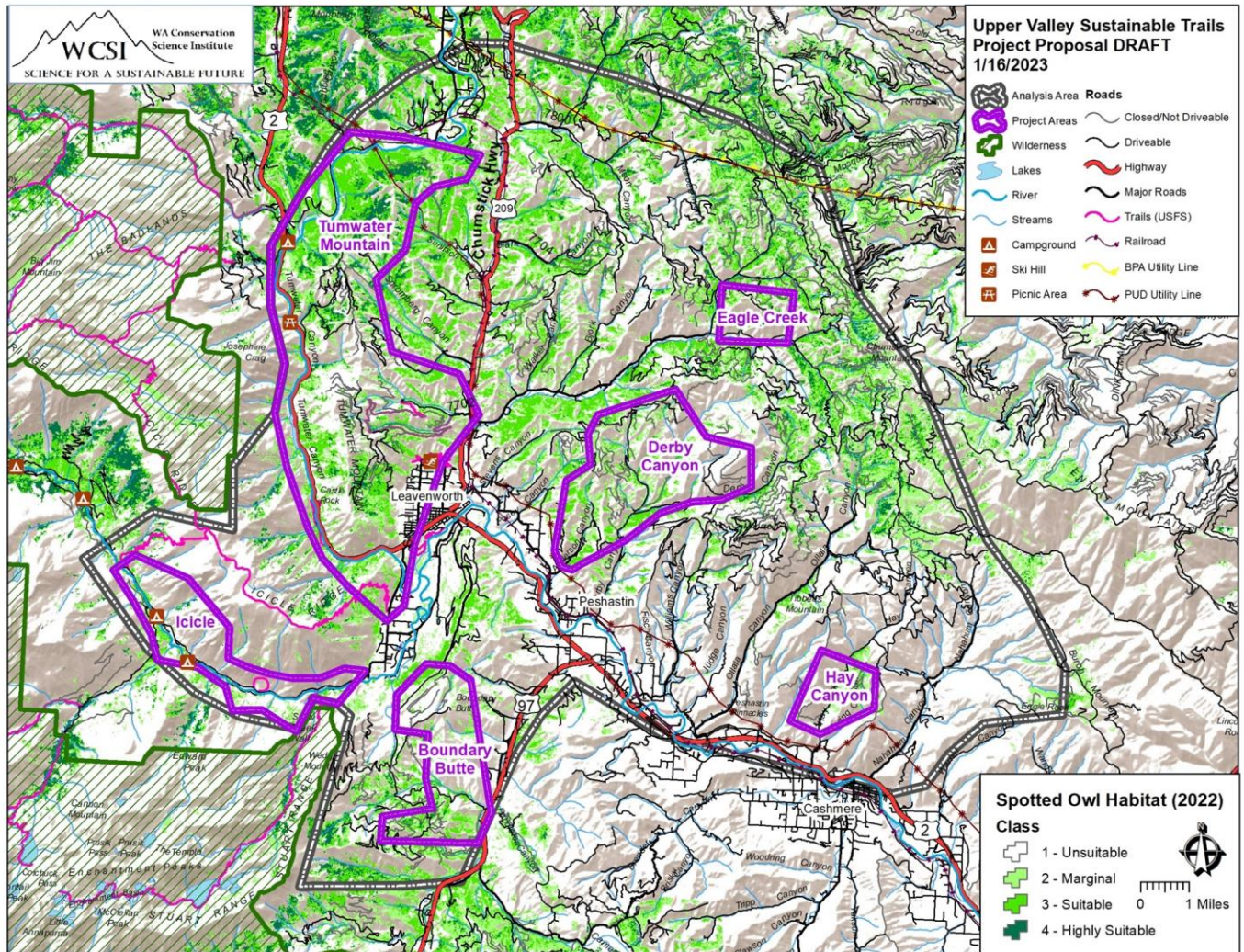


Figure 17. Potential northern spotted owl habitat and designated critical habitat within the UWVST analysis area.

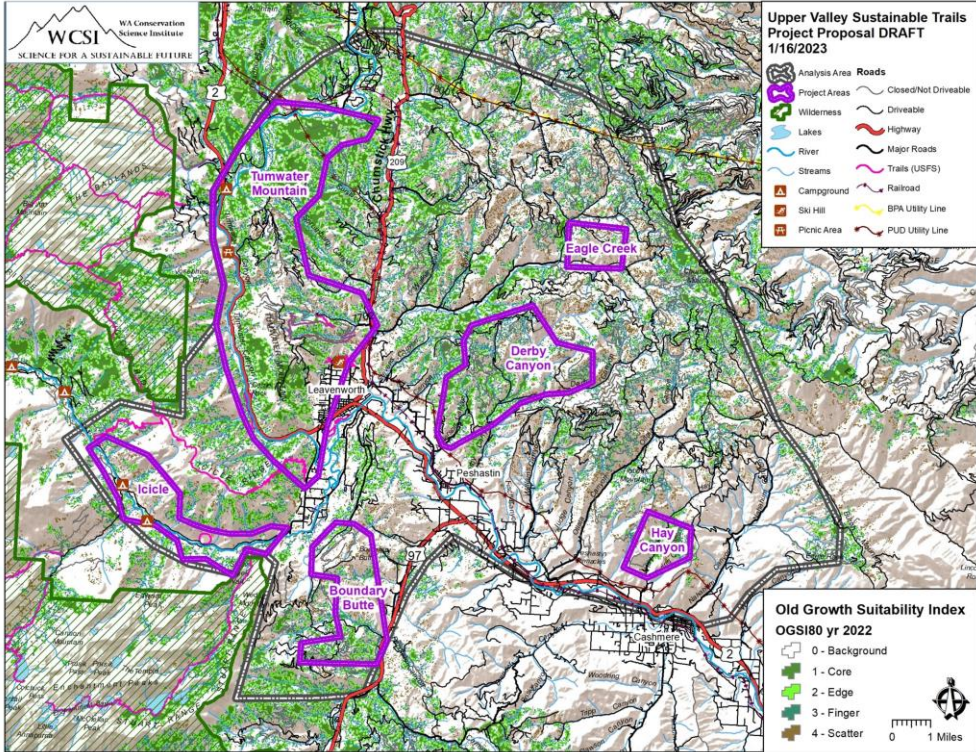


Figure 18. Forest structure within the UWVST analysis area that meets the old growth structure index threshold of 80 years.

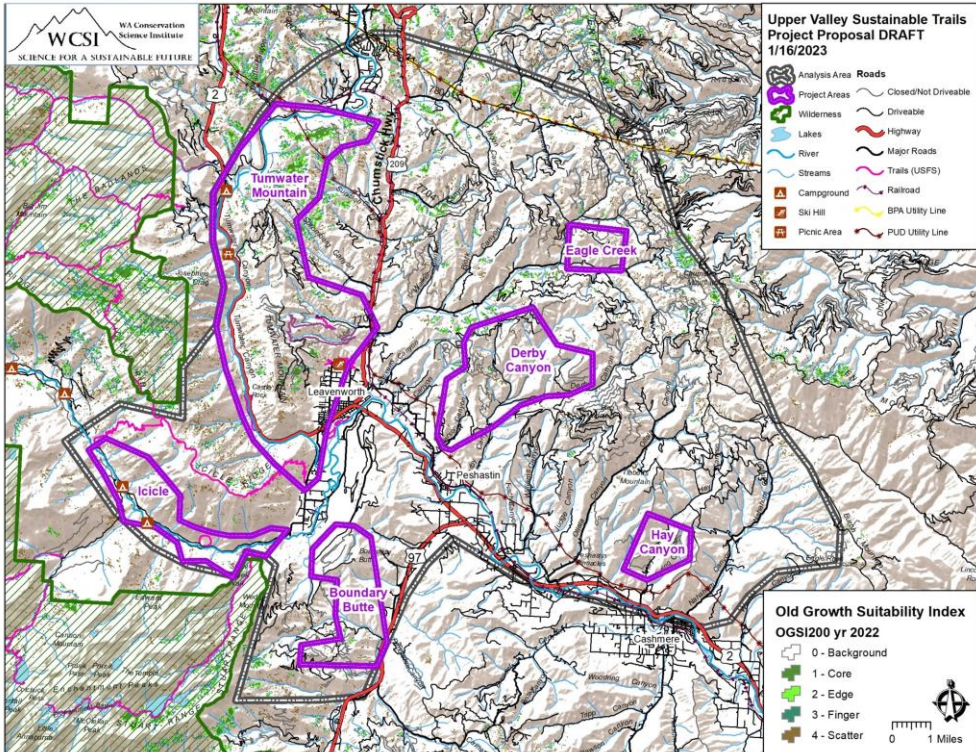


Figure 19. Forest structure within the UWVST analysis area that meets the old growth structure index thresholds of 200 years.

Ungulate Habitat: Preliminary Ungulate Winter Range and Migration Corridor Analysis

Over 24,000 acres of key winter range, as defined in the LRMP (USFS 1990), are located within the project areas. Additionally, recent research on ungulate migration corridors and winter range (Kaufmann et al. 2022) have identified a lesser extent of winter range (only in the SE part of the analysis area), but a broad migration corridor from the northern part of the Tumwater Mountain project area along the north/east side of the analysis area to the Hay Canyon project area. Another corridor is located in the Boundary Butte project area. Generally speaking, implementation of this project should not impact winter range, as this project focuses on non-winter activities. However, emerging winter use of summer trails has been identified as another topic that would need to be examined, with potential for seasonal closures to protect habitat and ungulate species. Potential disturbance during migration would need to be considered during analysis for SEPA as well. In addition, WDFW has identified some areas of mule deer fawning that could be impacted by trail locations. This would also be considered during project design and development of mitigation.

Grazing Allotments

The proposed project areas intersect three active grazing allotments: Eagle-Blagg, Switchback and Upper Hay Canyon. Although new trail or infrastructure construction would be limited within the allotments, and trail use would not impact livestock use of the allotments, timing of construction would likely be coordinated with the permittees to avoid displacing sheep.

Disturbance

Project implementation would result in new trails and infrastructure in locations with existing human use, but also in places where access is currently limited. As such, the subsequent analysis would need to examine the impacts of changes in human use on various wildlife species and the potential for disturbance.

For the NEPA process, assessment of LSOF habitat, large trees, and certain late-successional habitat associated species would need to be conducted within proposed trail alignments and construction sites within LSRs. This would identify areas that should be avoided. Consultation with USFWS would be conducted on all listed species within the analysis area. Because this is considered new development in an LSR the project would need concurrence from the Regional Late Successional Reserve Working Group.

5.3 Botany

The following lists (Table 5 and Table 6) provide an initial assessment of plant species that may be located in the analysis area and potentially impacted by project actions. According to the Washington Natural Heritage Program (12 August 2022), 7 rare plant species have been observed in the analysis area. Noxious weeds, such as diffuse knapweed and Dalmatian toadflax are also present

and can negatively impact rare plant species. Species may be added or deleted from the assessment based on coordination with district botanists/biologists and field evaluations of habitat. The need for surveys would be determined following modifications to this initial list. Prior to implementation of proposed project actions, surveys would be completed for botanical species, by qualified botanists.

In addition to individual species assessments, Forest Service Manual 2903 requires that Noxious Weed Risk Assessments be prepared for all projects involving ground-disturbing activities. For projects that have a moderate to high risk of introducing or spreading invasive plants, recent Forest Service policy requires that decision documents must identify invasive plant control measures that would be undertaken during project implementation (USFS, 2020). Additionally, the Project Area also operates under the Okanogan-Wenatchee National Forest Invasive Plant Management Final EIS (2016), which permits invasive plant control, including the use of herbicides. These project areas would be included in the assessment and mitigation of invasive plants .

Table 5. Federally Listed Plant Species within the UWVST analysis area.

Species Name	Common Name	Species Status (Federal)	Species habitat present within or adjacent to the project area	Species documented in project area	Surveys needed?
<i>Hackelia venusta</i>	Showy stickseed	Endangered	Yes	Yes – on slopes between Leavenworth and Tumwater Campground	TBD
<i>Sidalcea oregana var. calva</i>	Wenatchee Mountains checker-mallow	Endangered	TBD	Documented in Analysis Area	TBD
<i>Spiranthes diluvialis</i>	Ute ladies'-tresses	Threatened (Suspected)	No	No – only along Columbia River	No
<i>Pinus albicanlis</i>	Whitebark pine	Proposed Threatened	TBD	TBD	TBD

Table 6. Survey and Manage, R6 Sensitive Plant Species and species of concern that potentially occur within the Analysis Area. This list is a compilation of suspected and documented species on the OWNF (from FINAL Region 6 Regional Forester Special Status Species List, June 21, 2021 and Survey and Manage species) and the Washington Natural Heritage Program (WNHP).

Scientific Name	Common Name	Presence in OWNF D = documented S = Suspected S & M* = survey and manage
<i>Scouleria marginata</i>	Moss	D
<i>Dactylina arctica</i>	Lichen	D
<i>Dermatocarpon meiophyllizum</i>	Lichen	D

Scientific Name	Common Name	Presence in OWNF D = documented S = Suspected S & M* = survey and manage
<i>Tholurna dissimilis</i>	Lichen	D
<i>Umbilicaria rigida</i>	Lichen	S
<i>Achnatherum richardsonii</i>	Richardson's ricegrass	D
<i>Agoseris aurantiaca var. carnea</i>	Pink agoseris	D
<i>Agrostis mertensii</i>	Northern bentgrass	D
<i>Allium campanulatum</i>	Sierra onion	D
<i>Anemone patens var. multifida</i>	Pasqueflower	D
<i>Antennaria corymbosa</i>	Meadow pussy-toes	D
<i>Arceuthobium tsugense mertensiana</i>	Mountain hemlock dwarf mistletoe	S & M – F
<i>Arctoparmelia incurva</i>	Lichen	D
<i>Astragalus arrectus</i>	Palouse milk-vetch	D
<i>Astragalus microcystis</i>	Least bladderly milk-vetch	S
<i>Botrychium ascendens</i>	Upward-lobed moonwort	D
<i>Botrychium crenulatum</i>	Crenulate moonwort	D
<i>Botrychium hesperium</i>	Western moonwort	D
<i>Botrychium lineare</i>	Slender moonwort	S
<i>Botrychium paradoxum</i>	Twin-spiked moonwort	D
<i>Botrychium pedunculatum</i>	Stalked moonwort	D
<i>Carex capillaris</i>	Hairlike sedge	D
<i>Carex chondrorhiza</i>	Cordroot sedge	D
<i>Carex cordillerana</i>	Cordilleran sedge	S
<i>Carex gynocrates</i>	Yellow bog sedge	D
<i>Carex heteroneura var. epapillosa</i>	Different nerve sedge	D
<i>Carex macrochaeta</i>	Large-awn sedge	S
<i>Carex media</i>	Intermediate sedge	D
<i>Carex pauciflora</i>	Few-flowered sedge	D
<i>Carex proposita</i>	Smokey Mtn. sedge	D
<i>Carex rostrata</i>	Beaked sedge	D
<i>Carex scirpoidea ssp. Scirpoidea</i>	Canadian single-spike sedge	D
<i>Carex sychnocephala</i>	Many-headed sedge	D
<i>Carex tenuiflora</i>	Sparseflower sedge	D

Scientific Name	Common Name	Presence in OWNF D = documented S = Suspected S & M* = survey and manage
<i>Carex vallicola</i>	Valley sedge	D
<i>Castilleja cryptantha</i>	Obscure 41ndian-paintbrush	D
<i>Chaenactis thompsonii</i>	Thompson's chaenactis	D
<i>Chrysosplenium tetrandrum</i>	Northern golden-carpet	D
<i>Cicuta bulbifera</i>	Bulb-bearing water-hemlock	D
<i>Coeloglossum viride</i>	Long-bract frog orchid	D
<i>Comastoma tenellum</i>	Slender gentian	D
<i>Coptis asplenifolia</i>	Spleenwort-leaved goldthread	S, S&M-A
<i>Cryptogramma stelleri</i>	Steller's rockbrake	D
<i>Cypripedium fasciculatum</i>	Clustered lady's-slipper	S&M-C
<i>Cypripedium montanum</i>	Mountain lady's-slipper	S&M-C
<i>Cypripedium parviflorum</i>	Yellow lady's-slipper	D
<i>Delphinium viridescens</i>	Wenatchee larkspur	D
<i>Draba aurea</i>	Golden draba	D
<i>Draba cana</i>	Lance-leaved draba	D
<i>Draba taylori</i>	Taylor's draba	D
<i>Dryas drummondii</i> var. <i>drummondii</i>	Drummond's mountain-avens	S
<i>Erigeron salishii</i>	Salish fleabane	D
<i>Eriophorum viridicarinatum</i>	Green keeled cotton-grass	D
<i>Eritrichium nanum</i> var. <i>elongatum</i>	Pale alpine forget-me-not	D
<i>Erythranthe patula</i>	Stalk-leaved monkeyflower	D
<i>Erythranthe pulsiferae</i>	Pulsifer's monkey-flower	D
<i>Erythranthe suksdorfii</i>	Suksdorf's monkey-flower	D
<i>Erythronium quinaultense</i>	Quinault fawnlily	D
<i>Eucephalus vialis</i> (<i>Aster vialis</i>)	Wayside aster	S&M-A
<i>Eurybia merita</i>	Arctic aster	D
<i>Galium kamtschaticum</i>	Boreal bedstraw	S&M-A
<i>Gentiana douglasiana</i>	Swamp gentian	D
<i>Gentiana glauca</i>	Glaucous gentian	D
<i>Geum rivale</i>	Water avens	D
<i>Geum rossii</i> var. <i>depressum</i>	Ross' avens	D
<i>Githopsis specularioides</i>	Common blue-cup	D

Scientific Name	Common Name	Presence in OWNF D = documented S = Suspected S & M* = survey and manage
<i>Hackelia cinerea</i>	Gray stickseed	D
<i>Hackelia taylorii</i>	Taylor's stickseed	D
<i>Heterotheca oregona</i>	Oregon goldenaster	D
<i>Howellia aquatilis</i>	Water howellia	S
<i>Isoetes minima</i>	Midget quillwort	S
<i>Juncus howellii</i>	Howell's rush	D
<i>Kalmia procumbens</i>	Alpine azalea	D
<i>Lathrocasis tenerrima</i>	Delicate gilia	D
<i>Lomatium knokei</i>	Desert-parsley	D
<i>Lomatium roneorum</i>	Rone's bitterroot	WNHP – documented in analysis area
<i>Lomatium serpentinum</i>	Snake canyon desert parsley	D
<i>Luzula arcuata ssp. unalascensis</i>	Alaska curved woodrush	D
<i>Lycopodium dendroideum</i>	Treelike clubmoss	S
<i>Micranthes tischii</i>	Tisch's saxifrage	D
<i>Monolepis spatulata</i>	Prostrate poverty-weed	D
<i>Montia diffusa</i>	Branching montia	D
<i>Nicotiana attenuata</i>	Coyote tobacco	D
<i>Oxytropis campestris var. gracilis</i>	Yellowflower locoweed	D
<i>Packera bolanderi var. harfordii</i>	Harford's ragwort	D
<i>Packera porteri</i>	Porter's butterweed	D
<i>Parnassia kotzebuei</i>	Kotzebue's grass-of-parnassus	D
<i>Pedicularis pulchella</i>	Mountain lousewort	D
<i>Pedicularis rainierensis</i>	Mt. Rainier lousewort	D
<i>Pellaea brachyptera</i>	Sierra cliffbrake	D
<i>Pellaea breweri</i>	Brewer's cliff-brake	D
<i>Penstemon eriantherus var. whitedii</i>	Whited's penstemon	D
<i>Petrophytum cinerascens</i>	Chelan rockmat	D
<i>Phacelia minutissima</i>	Dwarf phacelia	D
<i>Pinus albicaulis</i>	Whitebark pine	D
<i>Platanthera chorisiana</i>	Choris' bog-orchid	S
<i>Platanthera orbiculata</i> var. <i>orbiculata</i> (<i>Habenaria orbiculata</i>)	White bog orchid	S&M-C

Scientific Name	Common Name	Presence in OWNF D = documented S = Suspected S & M* = survey and manage
<i>Polemonium viscosum</i>	Skunk polemonium	D
<i>Potentilla breweri</i>	Brewer's cinquefoil	D
<i>Potentilla glaucophylla</i> var. <i>perdissecta</i>	Diverse-leaved cinquefoil	D
<i>Potentilla nivea</i>	Snow cinquefoil	D
<i>Pyrrocoma hirta</i> var. <i>sonchifolia</i>	Sticky goldenweed	D
<i>Ribes oxycanthoides</i> ssp. <i>irriguum</i>	Idaho gooseberry	D
<i>Rotala ramosior</i>	Lowland toothcup	D
<i>Rubus arcticus</i> ssp. <i>acaulis</i>	Nagoonberry	D
<i>Salix glauca</i> ssp. <i>glauca</i> var. <i>villosa</i>	Glaucus willow	D
<i>Salix maccalliana</i>	Maccall's willow	D
<i>Salix pseudomonticola</i>	False mountain willow	D
<i>Saxifraga cernua</i>	Nodding saxifrage	D
<i>Saxifragopsis fragarioides</i>	Joint-leaved saxifrage	D
<i>Silene seelyi</i>	seely's silene	D
<i>Sisyrinchium sarmentosum</i>	Pale blue-eyed grass	D
<i>Spiranthes porrifolia</i>	Western ladies-tresses	D
<i>Swertia perennis</i>	Swertia	D
<i>Trifolium thompsonii</i>	Thompson's clover	D
<i>Triglochin palustris</i>	Slender bog arrowgrass	D
<i>Vaccinium myrtilloides</i>	Velvet-leaf blueberry	D

*Category A (Rare, Pre-Disturbance Surveys Practical)

Category B (Rare, Pre-Disturbance Surveys Not Practical)

Category C (Uncommon, Pre-Disturbance Surveys Practical)

Category D (Uncommon, Pre-Disturbance Surveys Not Practical or Not Necessary)

Category E (Rare, Status Undetermined)

Category F (Uncommon or Concern for Persistence Unknown, Status Undetermined)

For the NEPA process, and potentially for SEPA as well, rare plant species and noxious weed surveys would be conducted in the project areas, along the proposed trail alignments and within construction areas where potential habitat occurs. Coordination with the Forest Service botanist would be required. Coordination with Tribes, to identify cultural use areas to avoid, and important plant species/habitats to protect or enhance, would be conducted.

5.4 Cultural Resources /Heritage

The analysis area has a long pre- and post- Euro-American settler history. The area has been identified as important to the Confederated Tribes of the Colville Reservation and Confederated Tribes, Bands of the Yakama Nation, the Sauk-Suiattle Indian Tribe and the Wanapum (DAHP WISAARD 2022). While several archeological, cultural, and historic sites exist in the Upper Wenatchee Valley analysis area, most of the sites are outside the proposed trail alignments and associated infrastructure. However, there is potential for these sites to be impacted by the proposed project depending on the construction or future improvement and maintenance needs. Figure 20 provides a publicly available overview of a predictive model used to map areas of risk of impacting cultural and archeological sites and suggested survey need. Because not all recorded sites are in the WISAARD database, additional assessment of known sites and need for surveys would be an important piece of subsequent analyses.

Similarly, the DAHP WISAARD tool provides information on the location of public historic places, ranging from cabins and buildings to bridges and trails. This information would be consulted during project design.



Figure 20. Map showing predictive model for Upper Wenatchee Valley Sustainable Trails project area (DAHP WISAARD, 2022).

A cultural and historical archaeological survey and inventory would need to be conducted in the project area of potential effects (APE) depending on the likelihood of risk as determined by the USFS archeologist. Consultation with all affected tribes and the State Historic Preservation Officer (SHPO) would be required. In the event that cultural resources or human remains are discovered

during project implementation, all activities in the area of the discovery would stop and a Forest Archaeologist would be notified immediately. An inadvertent discovery plan would also need to be in place during implementation. The area would be reasonably secured and protected during inspection and evaluated by the archaeologist. If the discovery is determined to be a National Register eligible site and avoidance during project implementation is not possible, site specific mitigation would be developed by the Forest Archaeologist in consultation with the State Historic Preservation Officer and the Tribal Historic Preservation Officers (THPO). Depending upon what type of resource is in question, additional consultations with WA-DAHP and Tribes may be necessary at the time. Early Tribal engagement would be recommended in the planning for these various proposals. The Leavenworth/Icicle/Tumwater area is a historically important locality to members of the Colville Tribes and the Yakama Nation Tribes and their values are multi-faceted in this area.

5.5 Spatial Data - GIS

A review of available GIS data for the UWVST project area was conducted and is described in Table 7.

Table 7. Available GIS data for the Upper Wenatchee Valley Sustainable Trails analysis area.

Category	Description	Layer Name	Data Type	Source	Date (Year)
Admin	NWFP Land Use Allocation	Nwfp_lua_2013	Polygon	REO	2013
Admin	Roadless Areas: 2001 Roadless Rule	RoadlessArea_2001	Polygon	FS Data Clearinghouse	8/18/2021
Admin	Key Watersheds	keywtrshd	Polygon	REO	2002
Archaeology	Cultural Resources	FSTopo_Culture_PT, DAHP & WISAARD 2022	Point, Polygon	FS Data Clearinghouse, https://wisaard.dahp.wa.gov/	10/29/2020
Botany	Current Invasive Plants	InvasivePlantCurrent	Polygon	FS Data Clearinghouse	8/18/2021
Botany	NRIS TESP and Invasive plant database	TBD		USFS	
Botany	Washington State Heritage Rare Plants	TBD		Washington State Heritage	
Botany	Noxious weeds – Chelan County	TBD		Chelan County	
Boundary	Okanogan-Wenatchee National Forest Boundary	OWNF_boundary	Polygon	Bioregional Assessment	
Boundary	Wenatchee River Ranger District Boundary	WenatcheeRiver_RD	Polygon	Bioregional Assessment	
Boundary	Land Ownership	BasicOwnership_EDW	Polygon	Bioregional Assessment	
Fish	Steelhead Critical Habitat	STLCR_ch	Polyline	NOAA	
Fish	Chinook Salmon Critical Habitat	CKLCR_ch	Polyline	NOAA	
Fish	Fish Distribution	SWIFD	Polyline	WDFW	2022
Hydrology	HUC12 boundaries	OWNF_NHD_HUC12	Polygon	NHD	
Hydrology	NorWeST Predicted Stream, Temperature Lines	NorWeST_PredictedStreams	Polyline	FS Data Clearinghouse	7/10/2018
Hydrology	Watershed Condition Classification	WatershedConditionClass	Polygon	FS Data Clearinghouse	8/18/2021
Hydrology	Rivers and Streams	NHDFlowline	Polyline	USGS	7/06/2021
Hydrology	Lakes/Waterbodies	NHDWaterbody	Polygon	USGS	7/06/2021
Hydrology	Major Rivers	NHDArea	Polygon	USGS	7/06/2021
Hydrology	Wetlands	WA_Wetlands	Polygon	USFWS	2020
Recreation	National Forest System Trails	TrailNFS_Publish	Polyline	FS Data Clearinghouse	8/18/2021
Topography	Elevation	USGS_13_n47w122	Raster	USGS	2/08/2018
Transportation	National Forest System Roads	RoadCore_FS	Polyline	FS Data Clearinghouse	8/18/2021
Transportation	Scenic Highway	Road_ScenicByway_WA_WSDOT	Polyline	WSDOT	

Category	Description	Layer Name	Data Type	Source	Date (Year)
Vegetation	GNN Structure (Species-Size)	GNNStruc	Raster	LEMMA	2017
Wildlife	Critical Habitat – Spotted Owl/Marbled Murrelet	CRITHAB_POLY	Polygon	USFWS	2012

5.6 Survey, Data and Coordination Needs

The following is a general list of surveys, data needs, and consultation/coordination for the proposed project:

- Identify all proposed stream type crossings (fish and non-fish bearing) and crossing types (bridge, culvert, fords), including any wetlands in the project areas.
- Conduct plant/botany/invasive surveys in appropriate habitat sites within anticipated trail alignment or construction areas. Cultural plant surveys may be requested by THPOs
- Conduct surveys for identified Survey & Manage species in appropriate habitat conditions within anticipated trail alignment or construction areas.
- Identify NSO habitat and determine need for surveys and/or timing restrictions.
- Conduct coordination and consultation with Tribes, SHPO, NOAA, and USFWS.
 - Conduct cultural/historic surveys throughout Project Area of Potential Effect as identified by USFS and through tribal and SHPO consultation.
- Conduct coordination and consultation with Washington State Department of Transportation and Federal Highways Administration for proposed work in Highway 2 right-of-way.

5.7 Other Planning Processes

There are several other planning processes, primarily with recreation focused actions, that are currently taking place within the vicinity of the UWVST project. These projects would need to be considered concurrently with the UWVST project to increase efficiency and address potential cumulative effects. These include:

1) Alpine Lakes Collaborative Project

The purpose of this network is to develop a modernized and enduring method for collaboratively managing visitor use in the Alpine Lakes Wilderness and surrounding adjacent wildlands. The project is focused on creative, inclusive, and highly transparent decision-making, and aligning management decision-space with diverse public input.

2) Nason Ridge Community Forest Management Plan: Recreation & Public Use

A collaborative approach to providing access and increasing recreation opportunities for non-motorized recreation in summer and winter, for diverse user-groups within the Nason Ridge Community Forest. This effort is led by Chelan County Natural Resources.

3) Chelan County Multi-Use Pathways Plan

A collaborative approach to develop a multi-use, inter-urban trail system within Chelan County.

4) Chelan County PUD - Bavarian Substation

This project seeks to provide approximately 3 miles of paved pathway which will connect the city of Leavenworth to the railroad depot, and to the trails at Ski Hill. The Wenatchee River Ranger District, Chelan County and Chelan County PUD will be involved in order to complete these trail connections.

5) Chumstick to LP

This is a vegetation management / fire risk reduction project identified in the WADNR 20-year Forest Health Strategic Plan. This planning area extends from Chumstick Creek in the north to Lower Peshastin (LP) Creek in the south. The area is popular for tourism and recreation and includes Leavenworth and other communities in the Wenatchee River corridor. The planning area has substantial overlap with the UWVST analysis area.

6.0 Summary

We reviewed available data to identify a list of important issues to be considered in the planning process. An initial assessment of the likelihood of extraordinary circumstances is also described in Appendix C. Based on our experience in conducting NEPA planning for USFS lands and SEPA planning for State and private lands, this environmental analysis would likely entail a moderate level of complexity, primarily due to the number of different landowners, construction requirements for a subset of the projects, considerations for species of concern, land allocation emphasis, and likelihood that project implementation would not fall under extraordinary circumstances.

7.0 References

- Bureau of Land Management (BLM). 2021. Trail development in the Lake Mountains, North Oquirrh Management Area and Rose and Yellow Fork Canyons. Salt Lake Field Office. DOI-BLM-UT-W010-2020-007-EA. April 2021.
- Davis, Raymond J.; Ohmann, Janet L.; Kennedy, Robert E.; Cohen, Warren B.; Gregory, Matthew J.; Yang, Zhiqiang; Roberts, Heather M.; Gray, Andrew N.; Spies, Thomas A. 2016. Northwest Forest Plan—the first 20 years (1994–2013): status and trends of late-successional and old-growth forests. Gen. Tech. Rep. PNW-GTR-911. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 112 p.
- Davis, R.J., D.B. Lesmeister, Z. Yang, B. Hollen, B. Tuerler, J. Hobson, J. Guetterman, and A. Stratton. 2022. Northwest Forest Plan—the first 25 years (1994–2018): status and trends of northern spotted owl habitats. Gen. Tech. Rep. PNW-GTR-1003. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 45 p.
- Gaines, W.L., P.H. Singleton, and R.C. Ross. 2003. Assessing the cumulative effects of linear recreation routes on wildlife habitats on the Okanogan and Wenatchee National Forests. General Technical Report, PNW-GTR-586. Portland, OR: Pacific Northwest Research Station, US Forest Service (USFS). 79 pp. Available online at <http://www.fs.fed.us/pnw/pubs/gtr586.pdf>.
- Kauffman, M.J., Lowrey, B., Berg, J., Bergen, S., Brimeyer, D., Burke, P., Cufaude, T., Cain, J.W., Cole, J., Courtemanch, A., Cowardin, M., Cunningham, J., DeVivo, M., Diamond, J., Duvuvuei, O., Fattebert, J., Ennis, J., Finley, D., Fort, J., Fralick, G., Freeman, E., Gagnon, J., Garcia, J., Gelzer, E., Graham, M., Gray, J., Greenspan, E., Hall, L.E., Hendricks, C., Holland, A., Holms, B., Huggler, K., Hurley, M., Jeffreys, E., Johnson, A., Knox, L., Krasnow, K., Lockyer, Z., Manninen, H., McDonald, M., McKee, J.L., Meacham, J., Merkle, J., Moore, B., Mong, T.W., Nielsen, C., Oates, B., Olson, K., Olson, D., Olson, L., Pieron, M., Powell, J., Prince, A., Profitt, K., Reddell, C., Riginos, C., Ritson, R., Robatcek, S., Roberts, S., Sawyer, H., Schroeder, C., Shapiro, J., Simpson, N., Sprague, S., Steingisser, A., Tatman, N., Turnock, B., Wallace, C., and Wolf, L.. 2022. Ungulate migrations of the western United States, Volume 3: U.S. Geological Survey data release, <https://doi.org/10.5066/P9LSKEZQ>.
- Mojica, J. and A. Fletcher. 2020. Economic analysis of outdoor recreation in Washington State, 2020 Update. Earth Economics. Tacoma, WA.
- National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries). 2023a. Species Under the Endangered Species Act (ESA). NMFS Office of Protected Resources. Available at: <http://www.nmfs.noaa.gov/pr/species/esa/listed.htm#fish>.
- National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries). 2023b. Endangered Species Act Critical Habitat. West Coast Region. Available at: http://www.westcoast.fisheries.noaa.gov/maps_data/endangered_species_act_critical_habitat.html.
- Northwest Indian Fisheries Commission. 2023. Statewide Washington Integrated Fish Distribution (SWIFD) web map tool. 2021.
- Rinella, S. 2022. Outdoor Kids in an Inside World: Getting Your Family Out of the House and Radically Engaged with Nature. United States, Random House Publishing Group, 2022.

- Upper Columbia Salmon Recovery Board (UCSRB) and United States National Marine Fisheries Service (NMFS). August. Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan. Available at: <https://repository.library.noaa.gov/view/noaa/15990>
- U.S. Department of Agriculture Forest Service (USDA) and U.S. Department of the Interior (USDI). 1994. Record of Decision for amendments to Forest Service and Bureau of Land Management planning documents within the range of the northern spotted owl; Standards and Guidelines for management of habitat of late-successional and old-growth related species within the range of the northern spotted owl (Northwest Forest Plan). USDA Forest Service and USDI Bureau of Land Management. Portland, OR. April 1994. Available online at <http://www.reo.gov/general/aboutnwfp.htm>.
- U.S. Department of Agriculture Forest Service (USDA) and US Dept of Interior (USDI). 2001. Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines.
- U.S. Forest Service (USFS). 1990. Wenatchee National Forest land and resource management plan. USDA Forest Service, Pacific Northwest Region, Wenatchee, WA.
- U.S. Forest Service (USFS). 1997. Forest-wide assessment for late successional reserves and managed late successional areas. Wenatchee National Forest.
- U.S. Forest Service (USFS). 2016. Okanogan-Wenatchee National Forest Site Specific Invasive Plant Management Final Environmental Impact Statement. Pacific Northwest Region. Wenatchee, WA.
- U.S. Forest Service (USFS). 2019. Region 6 Interagency Special Status /Sensitive Species Program (ISSSSP). Species of special status. Available at: <https://www.fs.fed.us/r6/sfpnw/issssp/agency-policy/>. Region 6 Regional Forester Sensitive Species List.
- United States Fish and Wildlife Service (USFWS). 2021. National Wetland Inventory (NWI) Wetlands Map. Available at: <http://www.fws.gov/wetlands/Data/Mapper.html>.
- United States Fish and Wildlife Service (USFWS). 2023. Species Information: Threatened and Endangered Animals and Plants. Available: <http://www.fws.gov/oregonfwo/Species/default.asp>.
- Washington Department of Fish and Wildlife (WDFW). 2023. SalmonScape Mapping System. Available at: <http://apps.wdfw.wa.gov/salmonscape/>.
- Washington Department of Fish and Wildlife (WDFW). 2023. Wildlife Priority Habitats and Species (PHS), GIS data set. Available at: <http://wdfw.wa.gov/mapping/phs/> (Appendix A).
- Washington State Department of Archeology and Historic Preservation (DAHP) Washington Information System for Architectural and Archaeological Records Data (WISAARD) map tool. 2022. <https://wisaard.dahp.wa.gov/>
- Washington State Department of Natural Resources (WDNR). 2017. Washington Natural Heritage Program GIS data set. Available at: <https://www.dnr.wa.gov/natural-heritage-program>. Accessed 8 January 2023.

8.0 Appendix A. WDFW PHS Report

The following Priority Habitats and Species were identified within the Analysis Area with the Priority Habitats and Species (PHS) on the Web app (accessed 4 January 2023). The full report is over 2,000 pages and would be made available electronically in the project analysis file. A summary of the species and habitats and their status is in Table 8.

Table 8. Priority habitats and species that occur within the Upper Wenatchee Valley Sustainable Trails Analysis Area.

Occurrence Name	Federal Status	State Status	Sensitive Location
Bighorn sheep	N/A	N/A	No
Bull Trout	Threatened	N/A	No
California floater	undefined	Candidate	No
Chinook	Not Warranted	N/A	No
Chinook	Endangered	N/A	No
Cliffs/bluffs	N/A	N/A	No
Columbia spotted frog	undefined	Candidate	No
Dolly Varden/ Bull Trout	N/A	N/A	No
Dusky Grouse	N/A	N/A	No
Fisher	Candidate	Endangered	No
Flammulated owl	undefined	Candidate	No
Freshwater Emergent Wetland	N/A	N/A	No
Freshwater Forested/Shrub Wetland	N/A	N/A	No
Freshwater Pond	N/A	N/A	No
Fringed myotis	undefined	Candidate	No
Giant Palouse Earthworm	undefined	Candidate	No
Mountain goat	N/A	N/A	No
Mule deer	N/A	N/A	No
Northern goshawk	undefined	Candidate	No
Pacific Marten	Candidate	Candidate	No
Rainbow Trout	N/A	N/A	No
Riverine	N/A	N/A	No
Shrubsteppe	N/A	N/A	No
Sockeye	Not Warranted	N/A	No
Sockeye	N/A	N/A	No
Spring Chinook	N/A	N/A	No
Steelhead	Threatened	N/A	No
Summer Chinook	N/A	N/A	No
Summer Steelhead	N/A	N/A	No
Waterfowl Concentrations	N/A	N/A	No
Westslope Cutthroat	N/A	N/A	No
Wetlands	N/A	N/A	No
White-headed woodpecker	undefined	Candidate	No

9.0 Appendix B. Partners, contributions and proposals

TREAD collaborated with over 45 local partners to identify areas for conservation and rehabilitation, new capital projects, problem areas, possible areas of dispersion, and sustainability. This list is not exclusive and may include additional projects based on future public outreach and continued collaboration. The following is a brief summary of some of the contributions, ideas and concerns identified by different partners.

1. Leavenworth Chamber
 - a. Provided funding for sensing document
 - b. Devoting staff time to this project and partnership
 - c. Acknowledges the potential economic impact of this project on the upper valley and their local business partners
2. Bureau of Land Management (BLM)
 - a. Expand and build education and outreach
 - b. Increase and encourage stewardship for new visitors to public lands
 - c. Increase opportunities and information sharing about recreational opportunities on public lands
3. Evergreen Mountain Bike Alliance - Central Washington Chapter
 - a. Identify user-created trails to become sanctioned.
 - b. Increase the number of available scholarships for beginner mountain biking classes
 - c. Trail connectivity- identify areas that need new trail construction
 - d. Identify areas that need new or improved infrastructure (parking, amenities, signage)
4. Forest Service
 - a. Staff time allotment (specialists) in the scope of work for 2023
 - b. Identify user trails to be sanctioned, rehabbed or removed, and new places for trail connectivity
 - c. Alpine Lakes Collaborative Project
 - d. Identified potential projects:
 - i. Xanadu Tres Project, parking lot and toilet, multiuse trail
 - ii. Upper Xanadu Project – new trail on DNR property
 - iii. Tumwater Trails, a trail from town to ridgeline, multiuse trail,
 - iv. re-open Tumwater campground
 - v. Freund Canyon Trails – new trails, explore Rosy Boa solution for bike/pedestrian conflicts.
 - vi. Ski Hill - hiker only trail, Heidelberger trail
 - vii. Icicle Ridge Trail, create downhill for bikes
 - viii. Eagle Creek Loop, EVMTB partner
 - ix. Dog Beach Extension (red bridge),
5. Team Naturaleza

- a. Universal trailhead and wayfinding signage
 - b. Data collection to track needed road improvement needs to increase access
6. Chelan County
 - a. Sharing Chelan County roads assessment analysis
 - b. Compiling a list of county roads in need of outdoor recreation infrastructure (trailheads, parking, amenities) at existing recreation areas
 - c. Identifying funding support for this project
 7. Chelan County PUD
 - a. Locating trail alignments through PUD easements.
 - b. Funding trail connections.
 - c. Identifying alternative routes and infrastructure needs on PUD owned land.
 8. Leavenworth Mountain Association
 - a. Front Country Trail and Trailhead Maintenance
 - b. Signage Improvements
 - c. Re-Open Tumwater Campground
 - d. Identify the location of user trails to be rehabilitated and identify new trail construction locations in their place
 - e. Identify new toilet locations
 9. Backcountry Horseman
 - a. Identifying current horse trailer length turnarounds at trail heads
 - b. Identifying trail heads that need improved infrastructure for stock
 - c. Identifying trail heads that need new infrastructure for stock
 10. Chelan Douglas Land Trust
 - a. Paragliders ridgeline launch point (make a sustainable trail, parking area)
 - b. Boundary Butte trail extensions, potential parking lot and trails extending from this area, private and CDLT land (private owner is currently in agreement)
 - c. Boundary Butte trail connection to HWY 97, CDLT, private owners, and USFS.
 - d. Sauer Mountain Project, a. Original b. alternative , CDLT, and USFS, county, private on board, need parking solutions.

10.0 Appendix C. Consideration of Extraordinary Circumstances

The following tables provide a preliminary assessment of whether Upper Wenatchee Valley Sustainable Trails project elements may result in extraordinary circumstances. This is based on the assumption that trails and infrastructure would be designed to avoid major effects to resources (ie. trails, etc. would be routed away from habitat or plants of concern or cultural resources identified through consultation).

EXHIBIT 1 **CONSIDERATION OF EXTRAORDINARY CIRCUMSTANCES**

EXTRAORDINARY CIRCUMSTANCES	PRESENT YES/NO	MAJOR EFFECT (YES/NO)	INFORMATION OR MANAGEMENT REQUIREMENT
A1. Threatened , endangered, & Sensitive species or their habitats - WILDLIFE	YES	NO	Avoid habitat or habitat removal Timing restrictions as needed
A2. Threatened , endangered, & Sensitive species or their habitats - FISHERIES	YES	NO	Avoid/mitigate impacts to riparian reserves Timing restrictions on inwater work BMPs would apply
A3. Threatened , endangered, & Sensitive species or their habitats - PLANTS	YES	NO	Surveys to identify and mitigate for impacts
B. Floodplains, wetlands, or municipal watersheds	YES	NO	Project would be designed to avoid impacts to these areas.
C. Congressionally designated areas such as wilderness or National Recreation Areas	NO	NO	NA
D. Roadless areas	YES	NO	Some areas of designated roadless adjacent to proposed project elements. All proposed actions would meet intent of roadless rule (2001)
E. Research Natural Areas	NO	NO	NA
F. Native American religious or cultural sites, archeological sites, or historic properties or areas	YES	NO	Pre-disturbance surveys would be conducted depending on likelihood. Monitoring during excavation may be required. In the event that cultural resources or human remains are discovered during project implementation, all activities in the area of the discovery would stop and a Forest Archaeologist would be notified immediately.

EXHIBIT 2

Projects involving Road Construction, Reconstruction, Temporary Roads, and/or Haul Routes – this section primarily applies to Tumwater Campground Restoration and Road to Trail actions

ACCESS CONSIDERATIONS	YES/NO	MITIGATION MEASURE/COMMENTS/INFO
1. Will road construction or reconstruction be required? Type of road and length.	Maybe	Tumwater campground roads would need to be assessed during NEPA
2. Will temporary roads be needed?	NO	NA
3. Will road maintenance be needed? Who will perform?	YES	Within Tumwater CG, by USFS
4. Will there be a change to the current road restrictions?	NO	NA
5. Are haul roads part of an established snowmobile network?	NO	NA
6. Are there public safety concerns for roads, trails, or other road improvements?	YES	Trails would be designed with safety as a priority. As such some vegetation may need to be removed. Hazard tree mitigation would be required in Tumwater Campground
7. Are there other improvements which will require protection?	NO	NA
8. Will the project impact elk security?	NO	NA
9. Will the project or log haul impact winter range?	NO	NA
10. Will the project impact critical elk summer range?	NO	Elk are not a WDFW priority species in this analysis area.

