

**STATE FOREST LAND**  
**SEPA ENVIRONMENTAL CHECKLIST**

***Purpose of checklist:***

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

***Instructions for applicants:***

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

*Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at <http://www.dnr.wa.gov/sepa>. These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

***Instructions for Lead Agencies:***

Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

***Use of checklist for nonproject proposals:***

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements—that do not contribute meaningfully to the analysis of the proposal.

**A. BACKGROUND**

1. Name of proposed project, if applicable:

*Timber Sale Name:* **UNCLE WALT**

*Agreement #* **30-093940**

2. Name of applicant: **Washington Department of Natural Resources**

3. Address and phone number of applicant and contact person:

**Northwest Region  
919 N. Township St.  
Sedro-Woolley, WA 98284**

**Contact Person: Laurie Bergvall  
Telephone: (360) 856-3500**

4. Date checklist prepared: **06/20/2016**

5. Agency requesting checklist: **Washington Department of Natural Resources**

6. Proposed timing or schedule (including phasing, if applicable):

- a. *Auction Date:* **2/22/2017**
- b. *Planned contract end date (but may be extended):* **3/31/2019**
- c. *Phasing:* **Does not apply.**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

**Timber Sale:**

- a. *Site preparation:* **Harvest units may be treated with herbicides prior to planting. Assessment for treatment will occur after completion of harvest.**
- b. *Regeneration Method:* **Hand plant conifer seedlings within two years after completion of harvest.**
- c. *Vegetation Management:* **Treatment to be assessed in 3 to 5 years. Competing vegetation may be treated by manual cutting and/or herbicides.**
- d. *Thinning:* **Treatment to be assessed in 10 to 15 years for pre-commercial thinning. A commercial thinning is possible in 25 to 45 years.**

**Roads:** **The NF-ML, NF-77 and NF-78 roads will continue to be used for future timber sales and forest management activities.**

**Rock Pits and/or Sale:** **The S-1100 Pit will be used for future management activities. Onsite rock may be used for road construction, if rock sources are discovered along haul routes or within the sale area.**

**Other:** **Firewood from piled material, if available, may be sold following the completion of harvest activities.**

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

- 303 (d) – listed water body in WAU:**  *temp*  *sediment*  *completed TMDL (total maximum daily load):* **Cornell Creek, Gallup Creek**
- Landscape plan:*
- Watershed analysis:* **Warnick Watershed Analysis**
- Interdisciplinary team (ID Team) report:*
- Road design plan:* **Please see the Uncle Walt Road Plan.**
- Wildlife report:* **See Biology Memorandum, dated August 15, 2016**
- Geotechnical report:*
- Other specialist report(s):* **See Geological Memorandum dated August 3, 2016.**
- Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
- Rock pit plan:* **Please see the Uncle Walt Road Plan.**
- Other:* **State Soil Survey, 1992; Policy for Sustainable Forests, December 2006; Final Habitat Conservation Plan (HCP)**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.  
None known.

10. List any government approvals or permits that will be needed for your proposal, if known.

FPA #             FHPA    Burning permit    Shoreline permit    Incidental take permit    Existing HPA    Other:

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

a. *Complete proposal description:*

**Proposal Area:**

The proposal is a Variable Retention Harvest (VRH) with an estimated harvest volume of 2,100 mbf of timber on State managed trust lands. The harvest will most likely occur via ground-based yarding systems. The proposal is surrounded by State trust land.

Approximately 180 acres were considered for this proposal; this has been reduced to approximately 135.6 gross acres due to operational feasibility, wildlife habitat, stream buffers and potentially unstable slopes. The resulting timber sale area consists of 2 variable retention harvest subunits and 1 Right of Way area (ROW). VRH harvest totals 124.5 acres and ROW harvest totals 0.3 acres for an overall total of approximately 124.8 net harvest acres after deducting leave tree areas and existing roads. Net acres were determined using a handheld GPS.

Rock pits will be utilized with this proposal. See A.7.

Road work will be completed as part of this proposal, as described in A.11.c.

b. *Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.*

**Pre-Harvest Stand Description:**

A majority of this proposed harvest is occurring in a conifer dominated stand with an origin date of 1975. This stand has suffered heavy ice storm damage and contains rapidly expanding laminated root rot pockets. According to the agency's Forest Resource Inventory System, the stand has a 50-year site index of 129 with an RD of 42 and a QMD of 15.1. By basal area, the stand is 93% Douglas-fir, 5% red alder, 1% bigleaf maple, and less than 1% western redcedar and black cottonwood. Scattered western hemlock stems have been identified on site but aren't reflected in the agency's inventory data.

Isolated parts of an older stand feather into the stand above and are included in this proposal. According to the agency's Forest Resource Inventory System, these areas have an origin date of 1925, a 50-year site index of 93, an RD of 57, and a QMD of 18.4. By basal area, the stand is 67% conifer ( 39% Douglas-fir, 22% western redcedar, 5% western hemlock, and 1% sitka spruce) and 33% deciduous (21% red alder, 8% bigleaf maple, and 4% black cottonwood). Scattered grand fir stems have been identified on site but aren't reflected in the agency's inventory data.

**Harvest Type**

This proposal will be treated with a VRH prescription that will retain 8 trees per acre.

**Overall Unit Objectives:**

1. Generate revenue for state trust beneficiaries;
2. Maintain biological productivity of the site, retain short and long term forest structural diversity, protect and maintaining water quality;
3. Meet or exceed internal procedures derived from the Forest Practices Rules, Policy for Sustainable Forests, and the HCP;
4. Identify and protect historic and archaeological sites consistent with state/federal law.

c. Road activity summary. See also forest practice application (FPA) for maps and more details.

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)	Steepest Side Slope Road Crosses
Construction		2,086	.77		50
Reconstruction		0			0
Pre-haul Maintenance		42,956			
Abandonment		0			0
Temporary construction		3,347	1.23		50
Bridge Install/Replace	0				
Culvert Install/Replace (fish)	0				
Culvert Install/Replace (no fish)	2				

\*This refers to only typed stream crossings and does not include relief culverts.

\*\*Of the length listed for Temporary Construction in the above table, zero feet up to the entire length listed may be built.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

a. Legal description :

Sections 28, 29, 32 and 33 of Township 40 North, Range 6 East, W.M.

Rock pit is located at Section 1 of Township 39 North, Range 5 East, W.M.

Pre-haul maintenance is located in:

Sections 28, 29, 31, 32 and 33 of Township 40 North, Range 6 East, W.M.

Sections 1, 2, 10, 11 and 15 of Township 39 North, Range 5 East, W.M.

Section 6 of Township 39 North, Range 6 East, W.M.

b. Distance and direction from nearest town (include road names):

The proposal area is located approximately 2 miles east of Maple Falls, WA.

c. Identify the names of all watershed administrative units (WAU). See also landscape/WAU map on DNR website:

<http://www.dnr.wa.gov/sepa> under the topic "Current SEPA Project Actions – Timber Sales" for a broader landscape perspective.

WAU Name	WAU Acres
Warnick	14,374
Sub-Basin 1 (Warnick)	396
Sub-Basin 2 (Warnick)	1,146

13. Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website <http://www.dnr.wa.gov/sepa> for a broader landscape perspective.)

No cumulative change in the environment is expected from the combination of past and future activities with this proposal. This proposal as well as past and future activities meet or surpass Forest Practice Rules by complying with the commitments of the HCP and as such protect water quality and mitigate environmental impacts.

Data in the table below was reported in the Department's GIS database on June 9, 2016.

Name of WAU	Acres	DNR Managed Acres	Federal Managed Acres	Private Managed Acres	Percent DNR Managed Land	Percent Federal Managed Land	Percent Private Managed Land
Warnick WAU	14,374	8,303	278	5793	57.8	1.9	40.3
Subbasin 1	396	396	0	0	100	0	0
Subbasin 2	1,146	1,146	0	0	100	0	0

**Past Activities in WAU**

The following table reports Forest Practice approved applications for harvest activities in the Warnick WAU within the past seven years on both DNR managed lands and non-DNR lands. The data was reported in the Department's GIS database on June 9, 2016.

NAME OF WAU	DNR ACRES EVEN-AGED HARVESTED IN LAST 7 YEARS	DNR ACRES UNEVEN-AGED HARVESTED IN LAST 7 YEARS	DNR EXPECTED HARVEST ACRES WITHIN NEXT 7 YEARS*	PRIVATE ACRES EVEN-AGED HARVESTED IN LAST 7 YEARS	PRIVATE ACRES UNEVEN-AGED HARVESTED IN LAST 7 YEARS
Warnick WAU	190	0	1,679	56	209

*NOTE: This information is derived from activity locations collected by varying methods ranging from hand drawn maps to precise GPS collection. No verification of map accuracy or activity completion is conducted. Totals may not be the sum of all harvest types due to overlapping activities. The same land may be counted more than once if, in the past seven years, more than one Forest Practice application has been approved for different harvests (salvage and even-age for example). Future harvest acres for non-DNR lands are difficult to determine and are not represented in the table.*

*NOTE: All acreages are approximate. Rounding to the nearest 10 or even to the nearest 50 acres may be appropriate. Totals may not be the sum of all harvest types due to overlapping activities.*

*NOTE: \* Acres include even-aged, uneven-aged and salvage. Expected harvest acres and gross acres and include multiple proposals that may not be feasible harvest areas but are simply scheduled for review and reconnaissance. No screening for slope stability, wildlife habitat, stream impacts, or other issues has been completed on these reported acres.*

Future forest management activities in this WAU will include road building, rock pit expansion, silvicultural work and timber harvesting. Activities occurring on DNR managed land will follow Forest Practices Rules, Habitat Conservation Plan (HCP) guidelines, and the Policy for Sustainable Forests – policies designed to minimize environmental impacts. Future forest management activities on privately managed, non-DNR lands will be subject to Forest Practice Rules.

The Department's Habitat Conservation Plan (HCP) outlines strategies to protect federally listed threatened and endangered species, and species that are in danger of being listed in the future, as well as uncommon habitat types found on forest lands in western Washington. HCP riparian buffers intended to protect salmon and trout habitat were applied to this proposal, and will be applied to all future sales in the vicinity. The HCP identifies large, structurally unique trees and snags as uncommon habitats that need to be protected. An average of 8 trees per acre will be left in the proposed harvest units. These trees will function for future snag and large structurally unique tree recruitment.

Under the Interim Strategy for the Marbled Murrelet in the North Puget Planning Unit outlined in the Department's HCP, several stands in this WAU have been deferred from timber harvest to protect known murrelet nesting sites and to provide potential additional nesting habitat. This Interim Strategy also requires Department field staff to search for and delineate any "newly identified" marbled murrelet habitat in the vicinity of any proposed timber harvest. These stands may be deferred from timber harvest throughout the remainder of the Interim Strategy (with occasional exceptions made to allow road and/or yarding access into non-habitat areas). Two Criteria 2 Newly identified habitats were found. These areas were excluded from harvest. Portions of the NF-ML that will have pre-haul maintenance are within lands identified by the Department as potential Marbled Murrelet long term conservation areas. Adjacent to the S-1100 rock pit, a Criteria 3 Habitat polygon has been identified, therefore, a timing restriction will be implemented. This has been verified by a region biologist. The proposal meets all requirements of the Interim Strategy.

**B. ENVIRONMENTAL ELEMENTS**

1. Earth

a. General description of the site (check one):

- Flat,  Rolling,  Hilly,  Steep Slopes,  Mountainous,  Other:

1) *General description of the WAU or sub-basin(s)(landforms, climate, elevations, and forest vegetation zone).*

The Warnick WAU is defined by the North Fork Nooksack River and the northern slopes of Slide Mountain. It is comprised of mountainous forested slopes that drain into the middle portions of the North Fork Nooksack River. Characteristic aspects are northeast and northwest with elevations ranging from 465 to 5,009 feet. The climate is typical of western slopes of the Cascade Range with local influences from Mt. Baker and the Fraser River valley. Average annual rainfall is approximately 72 inches and varies from 60 to 110 inches. The forest vegetation zone is the westside western hemlock zone with the major timber type being Douglas-fir, western redcedar, western hemlock, and Pacific silver fir at low to mid altitudes and Pacific silver fir, western hemlock, mountain hemlock, and Alaska yellow cedar at higher elevations. A hardwood component of bigleaf maple, red alder, black cottonwood, and paper birch is present at lower elevations. Unmanaged and managed mixed conifer/hardwood young forest stands (0 to 60 years) exist throughout the WAU while older remnants and isolated pockets of old-growth conifer species can be found at middle and higher elevations.

2) *Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).*

None known.

b. What is the steepest slope on the site (approximate percent slope)?

60%

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

*Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

State Soil Survey #	Soil Texture	% Slope	Mass Wasting Potential	Erosion Potential
0964	LOAM	15-30	INSIGNIFIC'T	LOW
0960	LOAM	5-15	INSIGNIFIC'T	LOW
7284	GRAVELLY LOAM	15-30	INSIGNIFIC'T	LOW
0138	GRAVELLY LOAM	60-90	HIGH	HIGH *
7427	XTR.GRAVELLY LOAMY SAND	0-8	INSIGNIFIC'T	LOW

\* Potential impact to soils with high mass wasting and erosion potentials will be mitigated by using low ground pressure tracked machines.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) *Surface indications:*

There is evidence of shallow slope failures within incised stream channels and inner gorges and deep-seated landslide. There is evidence of past road fill failures along extremely steep side slopes.

The statewide landslide inventory (LSI) screening tool indicates the presence of polygons mapped as landslides within the proposed harvest unit boundaries. This landslide database is maintained by the Washington

Department of Natural Resources, Forest Practices Division. The LSI includes landslides mapped during many different projects including large-scale geologic mapping, watershed analyses, landscape planning, and landslide hazard zonation, in addition to other case studies and mapping efforts. A large majority of landslides identified by these projects are mapped by remote review with minimal field verification. In addition, dormant and ancient deep-seated landslides are mapped in many projects included in the LSI. A large number of the remotely identified landslides and deep-seated features have been mapped with a questionable, probable, or unknown certainty. As a result, the LSI database is meant to be used as a screening tool and field verification is a necessary step in confirming the absence, presence, and extent of mapped features, as well as their actual level of activity/instability.

According to the Forest Practices Landslide Inventory Layer the proposal is shown to underlie or be in close proximity to the following landslides: 30371 and 31758.

2) *Is there evidence of natural slope failures in the sub-basin(s)?*

No  Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:

(The following is a summary of the Mass Wasting report from the Warnick WAU. See Warnick Watershed Analysis – Mass Wasting). Slide Mountain, which comprises a good portion of the Warnick WAU, is largely made up of a dip slope. This in conjunction with relatively weak, sandstone bedrock has resulted in numerous deep seated, bedrock landslides along the north faces of Slide Mountain. Numerous ancient landslides (presumably Holocene age) have contributed to a low gradient hummocky topography along the base of slide mountain. Except for some localized rotational failures in proximity to some drainages, there has been an absence of large, deep-seated land sliding during the last 50 years in the Warnick WAU. It is likely that some of the largest landslides on Slide Mountain were triggered by earthquakes during the Holocene Epoch. Shallow-rapid landslides along inner gorges in the WAU are typically small. Soil thickness in the inner gorges ranges from shallow (less than 3.3 feet) to deep (greater than 6.6 feet) and originates from a variety of origins (colluvial including landslide debris, glacial and Chuckanut bedrock). The steepest parts of the inner gorge areas (greater than or equal to 36 degrees) are the most unstable. Debris flows are usually triggered by a single, small shallow-rapid landslide at the head of a drainage. Debris flows can transport large amounts of sediment and trees and they can trigger other landslides along inner gorges. Large, shallow landslides that encompasses almost an entire bedrock hollow on steep, long hillslopes – that properly become debris flows prior to depositing into the main channel- are common in the upper Gallop and Cornell basins. Long-runout debris flows are less common in the other tributaries, although almost all of the principal drainages have had at least one debris flow in their headwater areas.

Deep-seated landslide terrain is predominantly located in the Cornell and Hedrick basins. The deep-seated landslides are characterized by tension cracks and tipped trees in areas away from stream channels and inner gorges and by rotational failures and grabens adjacent to the channels.

Shallow and deep-seated failures have occurred in the sub-basins. Failures in these sub-basins have been attributed to over-steepened slopes and stream bank cutting.

3) *Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?*

No  Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:  
Shallow fill failures exist on orphaned road grades within the Warnick WAU. See B.1.d.1

(The following is a summary of the Mass Wasting report from the Warnick WAU. See Warnick Watershed Analysis – Mass Wasting). It appears, at least in the deep-seated landslide along Cornell Creek, that the rotational parts of the slide that are presently delivering sediment of the channel are decoupled from the tension cracks that exist hundreds of meters away in the forest. Part of the evidence for this is that the tension cracks that are probably semi-permanent features were presumably in existence during the logging in the 1930's and 1940's and even later (1960's and 1970's) yet that type of motion did not trigger rotational failures along the toe slopes of the slides. Tension cracks in these areas away from streams were observed under forest canopy in the 1993.

*Associated management activity:*

Unmanaged orphan roads, lack of road maintenance and installation of undersized culverts are typically the cause of road related failures.

4) *Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?*

No  Yes, describe similarities between the conditions and activities on these sites:

**Areas adjacent to this proposal and the surrounding areas contain isolated steep slopes.**

5) *Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.*

Areas discussed above (see. B.1.d.1.), located in and around the harvest units, have been assessed by a licensed engineering geologist, a Forest Practices qualified expert. A field visit with the engineering geologist was conducted on 05/10/16. Potentially unstable features were identified and removed from the harvest and no management activities will occur in these areas. Areas believed to contain potentially unstable landslide features were bounded out of the harvest area. Roads were designed to minimize ground-based yarding distances to an average of 600 feet or less.

A licensed engineering geologist (Forest Practices "qualified expert") has reviewed the site boundaries at locations judged to be critical for this proposal and any areas of potential concern have been excluded from the sale. The identified landslide polygons noted in B.1.d.1. above are discussed in detail in the Geological Memorandum. See Memorandum – In or Around Landslides Uncle Walt Timber Sale; August 3, 2016, prepared by the Licensed Engineering Geologist.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

*Fill Source:* Native (bank run) materials.

Acreage of new permanent roads will be 0.77 acres. Acreage of new temporary roads will be 1.23 acres. Acreage of new landings will be approximately 2.5 acres.

Road construction will utilize standard cut and fill methodology to obtain grade and alignment. Native soil and rock will be excavated from the road prism and used for fill in the sub-grade and over cross drains and stream crossings.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Minor erosion may occur from freshly exposed soils along road cut slopes and embankment slopes. Yarding, rock and timber hauling, and road construction during periods of heavy rainfall could cause localized erosion. Any erosion should be contained on site.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

**Less than 1% of the site will be covered with impervious surfaces.**

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

*(Include protection measures for minimizing compaction or rutting.)*

**The following timing and access restrictions will be applied to the project:**

- No road construction or abandonment, or timber or rock haul will occur from November 1 to March 31 unless the operator formulates an adequate plan to prevent erosion from entering surface waters.
- No ground-based yarding operations will occur from November 1 to March 31 during times of heavy precipitation and/or soil saturation unless the operator formulates an adequate plan, approved by the Contract Administrator, to prevent erosion from entering surface waters.

**The following strategies will be applied to proposed road construction/abandonment/maintenance:**

- Road pioneering will generally not extend more than 500 feet beyond completed construction.
- Culverts will be installed concurrently with construction of the road subgrade, and culvert outlets will not terminate on unprotected soils.
- On newly constructed roads, cross-drain culverts will be adequate in size and frequency to prevent concentration of road runoff to the extent that it would cause gulying of stream drainages. Cross drain culverts will be placed in order to minimize the amount of ditch water that flows into surface waters. Rip-rap will be utilized at culvert inlets and outlets as necessary to prevent erosion at these vulnerable points. Existing roads will be maintained so that drainage structures remain functional.

- Storm patrols will be conducted as necessary on existing and newly constructed roads to identify and address potential erosion problems.

The following strategies will be applied to the proposed timber harvest:

- Riparian (RMZ) buffers as described in B.3.a.1.b. and B.3.a.1.c., will be retained.
- Only low-ground-pressure tracked machines will be used to conduct ground-based falling and yarding.
- Ground-based equipment will be restricted to operating on sustained slopes of 40% or less.
- Any equipment trails will be water-barred if necessary.

## 2. Air

- What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.  
Minor amounts of engine exhaust from logging equipment and dust from vehicle traffic and logging equipment are expected while the project is active. Following harvest, logging slash debris may be reduced by accumulating it into piles and burning.
- Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.  
Does not apply.
- Proposed measures to reduce or control emissions or other impacts to air, if any:  
If slash is burned, it will be burned in adherence to the State's Smoke Management Plan.

## 3. Water

- Surface Water:

- Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. (see timber sale map available at DNR region office, or forest practice application base maps.)  
Yes, seasonal stream segments, perennial stream segments and wetlands are in or within 200 feet of the harvest area.

- Downstream water bodies:

All surface water from this proposal flows into the North fork of the Nooksack River.

- Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in feet (per side for streams)
North Fork of Nooksack River	Type 1	1	200 feet no-harvest
Aldrich Creek	Type 3	1	189 feet no-harvest
Unnamed Stream	Type 4	5	100 feet no-harvest
Unnamed Stream	Type 5	18	30 foot equipment limitation zone
Wetland	Forested	6	100 feet no-harvest

- List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.

See A.11.a., A.11.b. and B.5.d. All RMZ and WMZ are no-harvest buffers. Wetland A's WMZ buffer was adjusted to protect drainage into wetland. The total acres of the WMZ were not changed. Areas of the WMZ were moved to better protect drainage into the wetland. All new and existing roads through RMZs will be monitored during hauling to ensure ditchwater and road runoff will not enter or otherwise adversely affect water quality or RMZ function. Corrective action such as straw bales, silt fencing, rock-lined ditches, and sediment traps will be installed/constructed as necessary. Ditchwater will be diverted through relief culverts prior to stream crossing. No wind buffers were deemed necessary due to low occurrences of wind throw in the area. See B.1.b.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

No  Yes (See RMZ/WMZ table above and timber sale map available at DNR region office.)

*Description (include culverts):*

Two typed waters will be crossed during road construction. Ditchwater will be diverted through relief culverts or use topographic controls prior to stream crossings to keep sediment out of streams. Timber will be felled immediately adjacent to the WMZ/RMZs as described in the table in B.3.a.1.b. Timber will be felled away from the streams where practicable to avoid damage to residual trees within the RMZ, the inner zone, and protect stream bank integrity. Timber will be felled and yarded away from type 5 streams where safely practicable. All timber will have the leading end of the logs elevated during yarding to reduce soil disturbance near these features. In addition, there are 30-foot equipment limitation zones on all type 5 streams in the proposal.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected.

Indicate the source of fill material.

Does not apply.

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. (Include diversions for fish-passage culvert installation).

No  Yes, description:

All stream flow will be temporarily diverted through bypass culverts or retained behind (or pumped around) a coffer dam during culvert installation in typed streams. Also, typed waters may be temporarily diverted, if culvert replacement is deemed necessary, through the course of operations, on typed water crossing on existing roads.

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No  Yes, describe location:

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No  Yes, type and volume:

- 7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?

Yes, the following data was reported in the Department's GIS database on June 6, 2016. This data is not available by sub-basin.

Erosion Potential	Acres	% in WAU	Mass Wasting Potential	Acres	% in WAU
High	5640.8	39.2	High	5663.4	39.4
Medium	4619.6	32.1	Medium	3984.7	27.7
Low	3759.7	26.2	Low	1263.8	8.8
Variable	52.9	0.4	Insignificant	3200.7	22.3
No Data	156.1	1.1	No Data	156.1	1.1
N/A	92.5	0.6			

Warnick WAU: Soil data may not be available for 100% of the WAU.

8) *Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?*

No  Yes, describe changes and possible causes:

There is evidence of minor changes and aggradation to the channels of some streams. These changes can most likely be attributed to past mass wasting and peak flow events. Debris flows or torrents have scoured some channels down to bedrock and may have historically resulted in small course changes in some low gradient channel segments.

9) *Could this proposal affect water quality based on the answers to the questions 1-8 above?*

No  Yes, explain:

This proposal includes both the harvest of timber and road work. The removal of overstory vegetation will temporarily reduce interception of water and increase infiltration and saturation of water into the forest floor which could temporarily increase overland flow.

The protection measures identified in B.1.d.5 keep harvest activities away from potentially unstable slopes. RMZ/WMZ buffers (see B.3.a.1.b) and other operation-system control measures (see B.1.h) ensure that any overland flow from disturbed soil areas will filter through substantial amounts of forest-floor vegetation before entering any perennial stream channels.

Road work disturbs surface soils where some temporary surface erosion is likely to occur, especially with the first winter rains following road work at culvert installation locations and road abandonment related culvert removal locations. These installations and removals will follow forest practices rules and Road Maintenance and Abandonment Plan (RMAP) requirements to minimize any erosion-related water quality impacts. See question B.1.h, B.3.a.1.c, and B.3.d. for a partial listing of some of the specific erosion protection measures.

10) *What are the approximate road miles per square mile in the WAU and sub-basin(s)?*

The following data was reported in the Department's GIS database on June 9, 2016. Data is not available for sub-basins.

Land Owner	Miles of Road	Miles per Square Mile
Non-DNR	44.5	2.0
DNR	60.5	2.7
Total	105.0	4.7

*Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?*

No  Yes, describe:

11) *Is the proposal within a significant rain-on-snow (ROS) zone? If not, STOP HERE and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*

No  Yes, approximate percent of sub-basin(s) in significant ROS zone:

Or, approximate percent of WAU:

12) *If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?*

13) *Is there evidence of changes to channels associated with peak flows in the WAU and sub-basin(s)?*

No  Yes, describe observations in the WAU and in the sub-basin(s):

Shallow rapid failures on steep slopes and inner-gorges have occurred throughout the WAU as stated in B.1.d.2. These events were likely the result of peak flow events.

14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in*

combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.

The proposal should have no measurable impact on peak flow in the WAU or sub-basins.

- 15) Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?

No  Yes, possible impacts:

North Fork of the Nooksack River is adjacent to the proposal. The North Fork River has a 200-foot no-harvest RMZ measured from the edge of the CMZ and no impacts are anticipated.

- 16) Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.  
See B.3.a.2, B.3.a.1.c., and B.1.h.

As stated in B.3.a.14, this proposal is not expected to cause a damaging increase in peak flows. In order to minimize the risk of road failures during peak flow events, all culverts utilized in new road construction will be sized to withstand a 100-year flood event. Culverts and ditches will be maintained so that they remain functional. Storm patrols will be conducted as necessary on existing and newly constructed roads to identify and address potential erosion problems.

b. Ground Water:

- 1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.  
Groundwater will not be withdrawn.

Channelized water through ditches and culverts emptying out onto the forest floor will increase surface saturation in localized areas, but is not expected to affect ground water.

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.  
Minor amounts of oil and lubricants could be inadvertently spilled as a result of heavy equipment use. No lubricants will be disposed of on site. See also B.7.a.

- 3) Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?

No  Yes, describe:

a. Note protection measures, if any.

Road locations were selected to minimize ground water interception.

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.  
Storm water runoff from landings and road surfaces will be collected by ditches and diverted through cross drain culverts onto the forest floor. Culverts will be placed to minimize the amount of ditch water entering existing streams.

- 2) Could waste materials enter ground or surface waters? If so, generally describe.

No  Yes, describe:

Minor spills of petroleum products resulting from logging operations may occur on roads or landings but it is unlikely that any waste material could enter any surface or ground water.

a. Note protection measures, if any.

Existing regulations and contract requirements regarding spill prevention and waste cleanup will be followed.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.  
New road construction may intercept subsurface water flows. Intercepted water will be collected by ditches and directed to relief culverts affecting drainage patterns as described in B.3.b.1.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

Constructed ditches, cross-drain culverts, drain dips, and water bars will be used to control road related runoff. Straw, grass seeding, or other appropriate methods may be used on any soil exposed cut and fill slopes during the course of this proposal in order to prevent sediment movement. Roads and landings will be crowned to avoid water accumulation. Falling and yarding away from all seasonal streams will be applied where feasible. All activities associated with this proposal will meet or exceed Forest Practices standards and will follow the Habitat Conservation Plan. See also B.1.d.5 and B.1.h.

#### 4. Plants

a. Check the types of vegetation found on the site:

deciduous tree:

alder, maple, aspen, cottonwood, western larch, birch, other:

evergreen tree:

Douglas fir, grand fir, Pacific silver fir, ponderosa pine, lodgepole pine, western hemlock, mountain hemlock, Englemann spruce, Sitka spruce, red cedar, yellow cedar, other:

shrubs:

huckleberry, salmonberry, salal, other: sword fern

grass

pasture

crop or grain

wet soil plants:

cattail, buttercup, bullrush, skunk cabbage, devil's club,  
other:

water plants:

water lily, eelgrass, milfoil, other:

other types of vegetation:

plant communities of concern:

What kind and amount of vegetation will be removed or altered? (See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)

See A.11. Third growth conifer and hardwoods will be removed using a VRH prescription over the majority of the proposed harvest area. Some immature trees or snags may be left unless they need to be felled for safety or operational reasons. Understory vegetation will be disturbed by logging or road building activities. These stands will retain snags, dominant and co-dominant and/or structurally unique trees via clumps and scattered leave trees to increase horizontal and vertical diversity over the landscape.

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See color landscape/WAU and adjacency maps on the DNR website:  
<http://www.dnr.wa.gov/sepa> (Click on the DNR region under the Topic "Current SEPA Project Actions - Timber Sales."))

##### Unit 1:

North: RMZ of Nooksack River containing mature timber roughly 90 years old.

South: Mixed species plantation roughly 30 years old.

East: RMZ of Nooksack River containing mature timber roughly 90 years old.

West: RMZ of Nooksack River containing mature timber roughly 90 years old.

2) Retention tree plan:

An average of 8 trees per acre will be left as scattered leave trees and in clumps that are distributed across the proposal area. These clumps include all tree species currently found in the proposal area. These clumps were located around features that will contribute to the maintenance of biological diversity such as snags, wet areas, down logs, areas with extensive understory development, and large wind firm conifer trees.

- b. List threatened and endangered *plant* species known to be on or near the site.  
DNR's TRAX system indicates wetlands associated with the North Fork Nooksack River drainage basin. Wetlands are protected with wetland management zones as directed under the DNR's HCP policy and no talus habitat will be affected by the proposal.
- c. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:  
The variable retention harvest portion of the proposal area will be planted with conifer seedlings after harvest. See green tree retention plan in B.4.b.2.
- d. List all noxious weeds and invasive species known to be on or near the site.  
There are no noxious weeds or invasive species known to be on or near the site.

**5. Animals**

- a. List any birds and other animals or unique habitats which have been observed on or near the site or are known to be on or near the site. Examples include:

birds: hawk, heron, eagle, songbirds, pigeon, other: Marbled Murrelet

mammals: deer, bear, elk, beaver, other:

fish: bass, salmon, trout, herring, shellfish, other:

unique habitats: talus slopes, caves, cliffs, oak woodlands, balds,  
mineral springs

**Murrelet:** Two criteria 2 habitat areas have been delineated and were bounded out of the sale. The S-1100 rock pit and a portion of the pre-haul road maintenance activities on the NF-ML Road are within 0.25 miles of a criteria 3 suitable habitat block.

**Eagle:** Communal roost sites are adjacent to the S-1100 rock pit.

**Talus:** These are not part of the proposal area and were indicated on DNR TRAX report to be in the section. DNR's TRAX system indicates talus slopes in Section 32 of Township 40 North, Range 6 East.

- b. List any threatened and endangered species known to be on or near the site (include federal- and state-listed species).

Common Name	Federal Listing Status	WA State Listing Status
Chinook	Threatened	Critical
Bull Trout	Threatened	Critical

- c. Is the site part of a migration route? If so, explain.  
 Pacific flyway  Other migration route: Explain if any boxes checked:  
All of Washington State is considered part of the Pacific Flyway. No impacts are anticipated as a result of this proposal.
- d. Proposed measures to preserve or enhance wildlife, if any:

- 1) Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.

Species /Habitat: **Fish Habitat**

Protection Measures: Stream protection measures listed in B.3.a.1.b.c., B.3.a.2; soil protection measures in B.1.h.; slope stability protection in B.1.d.5.; and peak flows protection in B.3.a.16.

Species /Habitat: **Mature Forest Components**

Protection Measures: Retention tree plan described in B.4.b.2.

Species/Habitat: **Marbled Murrelet**

Protection Measures: 2 separate polygons of newly identified suitable habitat were identified with this proposal. These areas are classified as criteria 2 as per the 2007 agreement with USFWS. No harvest is scheduled in these

areas. Roughly 5 acres were removed from the proposed harvest areas in conjunction the habitat. The S-1100 rock pit to be used in this proposal, and a portion of the pre-haul maintenance, is within 0.25 mile of a criteria 3 suitable habitat block and is subject to a seasonal timing restriction for Marbled Murrelets. This restriction runs from April 1 through August 31. From one hour before official sunrise to two hours after official sunrise and from one hour before official sunset to one hour after official sunset, all operation of heavy equipment, yarding activities, and felling and bucking activities are prohibited.

**Species/Habitat: Bald Eagle Roost**

**Protection Measures: There is a bald eagle communal roost located near the S-1100 rock pit. There is a timing restriction associated with any blasting activities in the pit. This is a seasonal timing restriction from November 15 to March 15 for any blasting.**

- c. List any invasive animal species known to be on or near the site.  
None known.

#### 6. Energy and natural resources

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.  
Does not apply.
- b. Would your project affect the potential use of solar energy by adjacent properties?  
If so, generally describe.  
Does not apply.
- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:  
Does not apply.

#### 7. Environmental health

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal?  
If so, describe.

**There is minimal anticipated hazard from heavy equipment operations. There is also a potential fire hazard if operations occur in moderate to severe fire weather conditions during summer months. There is a slight chance of hydraulic or oil spills from equipment operating on the site. The timber sale contract contains language that addresses hazardous materials spill prevention; hazardous material spill containment, control and cleanup; hazardous material release reporting. The contract also contains language for operations during fire season.**

**If any toxic or hazardous chemical spill occurs, or if past contamination is discovered, the Department of Ecology will be notified.**

- 1) Describe any known or possible contamination at the site from present or past uses.  
No known contamination on or near the site.
- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.  
None.
- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.  
Heavy equipment fuel and fluids will be used on-site during the project. The timber sale contract contains language that addresses these materials and potential spills. In addition, various pesticides may be used on the site for vegetation management.
- 4) Describe special emergency services that might be required.  
Firefighting by the Department of Natural Resources, possibly supported by local fire districts. Emergency medical and/or ambulance service for personal injuries. Responses by the Department of Ecology if a spill were to occur.
- 5) Proposed measures to reduce or control environmental health hazards, if any:  
Safe operation of all equipment will be encouraged. Industrial restrictions and precaution levels regarding forest fire protection will be enforced. The timber purchaser will be required to have fire suppression equipment on site during the restricted fire season while harvest activity is ongoing operations will cease if relative humidity falls below 30%.

b. Noise

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?  
None.
- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.  
Noise from rock drilling/crushing machinery, rock blasting, road building, and logging equipment such as chain saws, yarding whistles, and log/dump trucks will increase noise levels during periods of operation, typically occurring between 4 a.m. and 5 p.m. on weekdays, on a short-term basis. Noise from road construction and harvest activity will be present in the immediate vicinity of this proposal during operations. Noise from log hauling will be present along the haul routes during operations.
- 3) Proposed measures to reduce or control noise impacts, if any:  
Noise associated with harvest and road construction activity will be minimal anywhere but in the immediate vicinity of the proposal. Harvest activity and log hauling are historic activities in the area and noise should not be present above customary levels.

8. Land and shoreline use

- a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. (Site includes the complete proposal, e.g. rock pits and access roads.)  
Timber production. The proposal should have minimal effects on nearby properties.
- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?  
Yes, this site has historically been working forest land. No conversion is planned.
  - 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:  
Yes, the proposal is a forest land management operation. This is typical for the area and has been so historically. See also A.7.a, A.11.a, A.11.c, B.1.h, B.3.a.1.c, and B.3.d.
- c. Describe any structures on the site.  
No structures on site.
- d. Will any structures be demolished? If so, what?  
No.
- e. What is the current zoning classification of the site?  
Industrial Forestry
- f. What is the current comprehensive plan designation of the site?  
Industrial Forestry
- g. If applicable, what is the current shoreline master program designation of the site?  
Does not apply.
- h. Has any part of the site been classified as a critical area by the city or county? If so, specify.  
Does not apply.
- i. Approximately how many people would reside or work in the completed project?  
Does not apply.
- j. Approximately how many people would the completed project displace?  
Does not apply.
- k. Proposed measures to avoid or reduce displacement impacts, if any:  
Does not apply.
- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:  
This project is consistent with current comprehensive plans and zoning regulations.
- m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:  
Project should have no effect on adjacent agricultural or forest lands.

9. Housing

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.  
Does not apply.
- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.  
Does not apply.

- c. Proposed measures to reduce or control housing impacts, if any:  
**Does not apply.**

#### 10. Aesthetics

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

**Does not apply.**

- b. What views in the immediate vicinity would be altered or obstructed?

- 1) *Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?*

No     Yes, viewing location:

- 2) *Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?*

No     Yes, scenic corridor name:

**Hwy 542**

- 3) *How will this proposal affect any views described in 1) or 2) above?*

**Mature timber will be converted to a young conifer plantation.**

- c. Proposed measures to reduce or control aesthetic impacts, if any:

**Riparian buffer along Nooksack River should provide adequate visual screening. In addition, timber harvesting is a normal occurrence in the vicinity of the proposal, and recent timber harvests are visible throughout the area. Within and around the proposal area, un-harvested stands, stream buffers, and leave tree clumps will remain to reduce the visual impact. These residual stands will break up the view of the harvested area considerably, and will help maintain the aesthetic quality of the area. Furthermore, the proposal area will be planted with conifer trees within two years of completion of harvest activities.**

#### 11. Light and glare

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

**Does not apply.**

- b. Could light or glare from the finished project be a safety hazard or interfere with views?

**Does not apply.**

- c. What existing off-site sources of light or glare may affect your proposal?

**Does not apply.**

- d. Proposed measures to reduce or control light and glare impacts, if any:

**Does not apply.**

#### 12. Recreation

- a. What designated and informal recreational opportunities are in the immediate vicinity?

**Informal recreational opportunities exist in the vicinity. These include hiking, mountain biking, hunting, berry picking and mushroom picking.**

- b. Would the proposed project displace any existing recreational uses? If so, describe.

**Use of the proposal area by other users may be limited during the course of operations due to safety/security concerns. No permanent displacement of existing use will occur as a result of this proposal.**

**In addition, proposal area is behind a locked gate and gets little recreational use.**

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

**None planned.**

#### 13. Historic and cultural preservation

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe.

**There is a GLO trail identified adjacent to the proposal in Sections 28 and 33 of Township 40 North, Range 6 East.**

It has been reviewed by a cultural resource technician on June 27, 2016 and the proposal should have no impact on the GLO trail.

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.  
**None known.**
- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.  
**Methods for review include reviewing DNR TRAX reports, consulting affected tribes, reviewing historical GLO and USGS maps and consultation with a DNR cultural resources technician on June 27, 2016.**
- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.  
**Any cultural resources identified during operations will be protected. Should archaeological materials or cultural items be discovered during the course of operations, all work in the vicinity will be stopped and associated tribes and Department of Archaeological and Historic preservations (DAHP) will be contacted.**

#### 14. Transportation

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.  
**See WAU and adjacency maps on the DNR website under "SEPA CENTER". See A.12.b.**
  - 1) *Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?*  
**No.**
- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?  
**No.**
- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?  
**Does not apply.**
- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).  
**New forest roads will be constructed as part of this proposal. See A.11.c.**
  - 1) *How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?*  
**Apart from log hauling traffic during the course of operations, this proposal will have minimal impact on the overall transportation system in the surrounding area.**
- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.  
**Does not apply.**
- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?  
**The completed project will generate approximately 1-2 trips per year for management purposed, for the first 5-10 years after the completion of the proposal. Up to 25 vehicular trips per day could occur during peak harvest activities. These trips would occur primarily between the hours of 4 a.m. and 5 p.m. on weekdays.**
- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.  
**No.**
- h. Proposed measures to reduce or control transportation impacts, if any:  
**None.**

#### 15. Public services

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.  
**No.**

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. Utilities

a. Check utilities currently available at the site:

electricity  natural gas  water  refuse service  telephone  sanitary sewer

septic system  other:

None.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

None.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Samuel Petska

Name of signee Samuel Petska

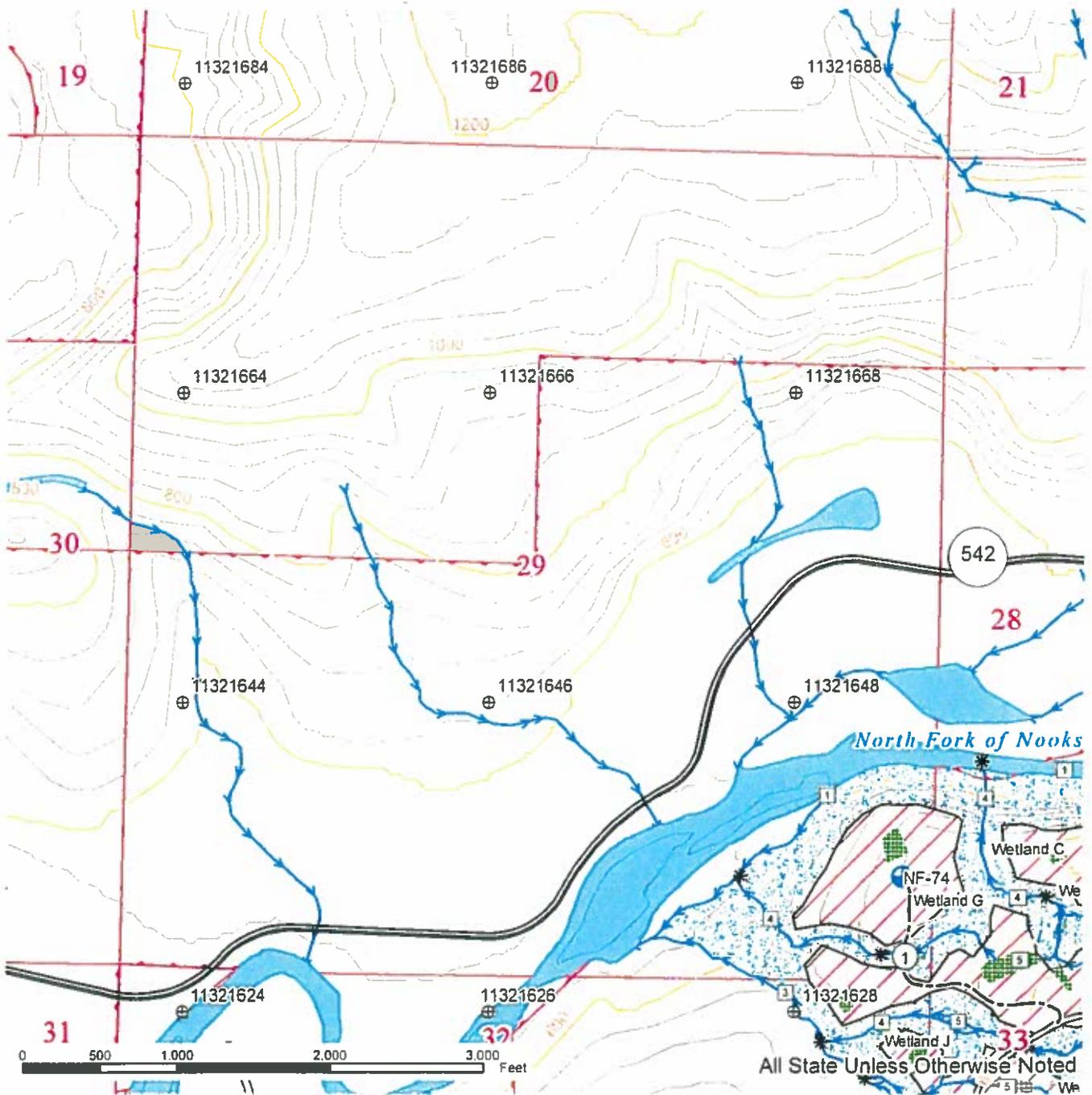
Position and Agency/Organization DNR Forester

Date Submitted: 11-3-16

# FOREST PRACTICES ACTIVITY MAP

SALE NAME: UNCLE WALT  
 APPLICATION #: None

COUNTY(S): WHATCOM  
 TOWNSHIP(S): T40R06E



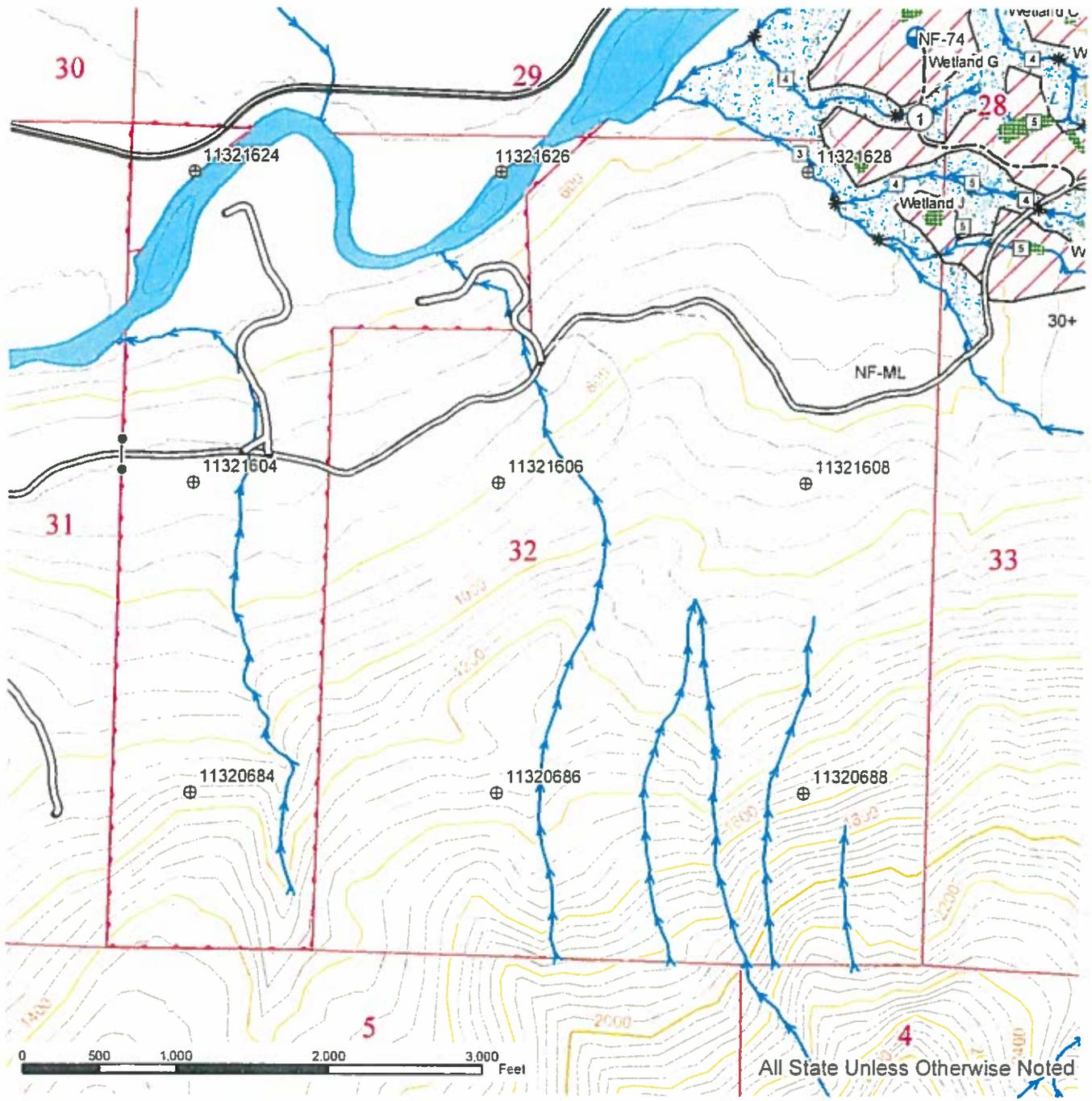
All State Unless Otherwise Noted

Timber Sale Unit	Existing Roads	Streams
Wetland Management Zone	Existing Roads	Stream Type
Forested Wetland	New Construction	Stream Type Break
Riparian Management Zone	Temporary Construction	Landing - Proposed
Leave Tree Area	Old Grades	DNR Managed Lands
Crossing Identifier	Highway	Tics - 2000' Interval

# FOREST PRACTICES ACTIVITY MAP

SALE NAME: UNCLE WALT  
 APPLICATION #: None

COUNTY(S): WHATCOM  
 TOWNSHIP(S): T40R06E



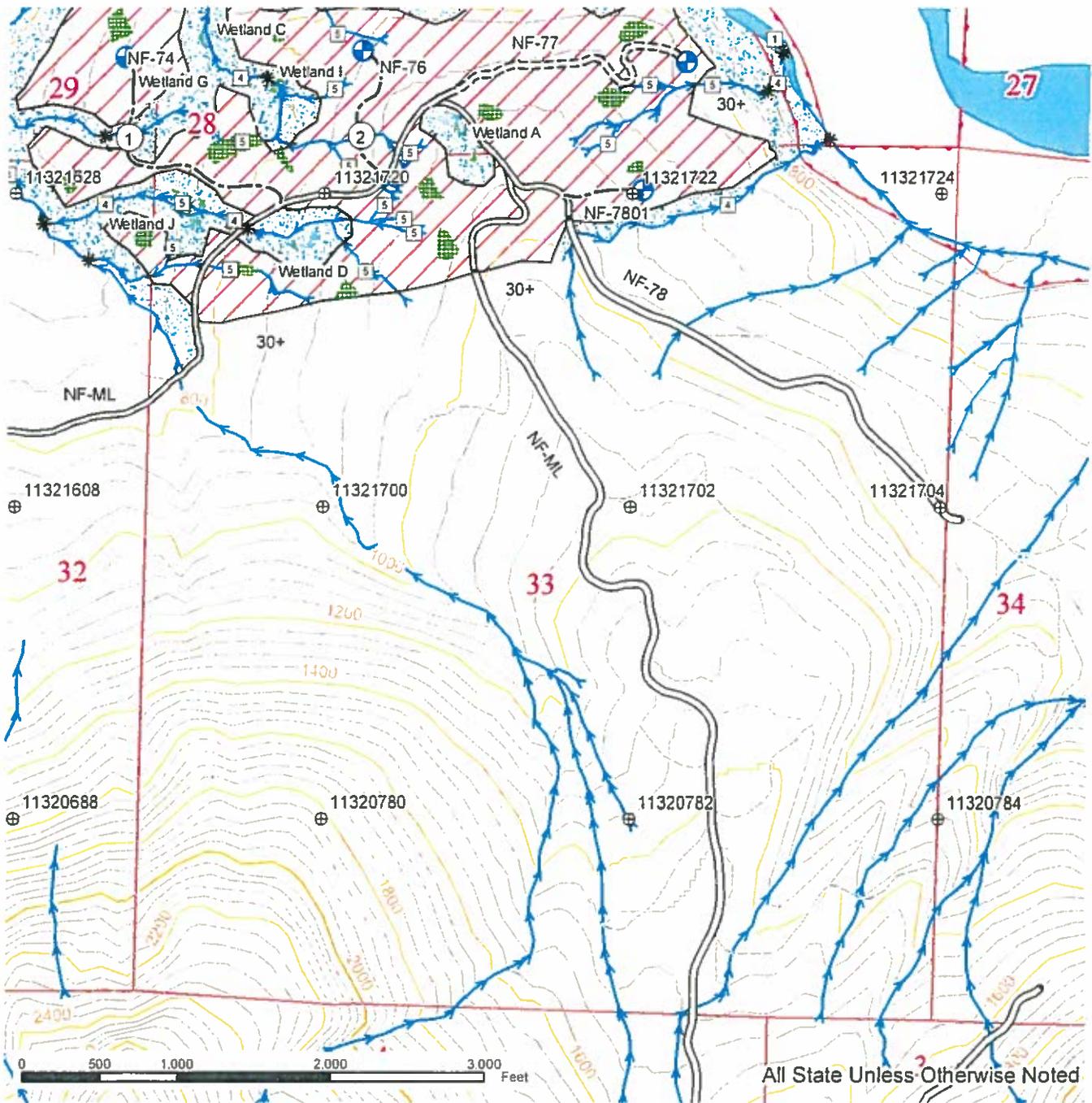
Timber Sale Unit	Existing Roads	Streams
Wetland Management Zone	Existing Roads	Stream Type
Forested Wetland	New Construction	Stream Type Break
Riparian Management Zone	Temporary Construction	Landing - Proposed
Leave Tree Area	Old Grades	Gate
Crossing Identifier	Highway	DNR Managed Lands
		Tics - 2000' Interval



# FOREST PRACTICES ACTIVITY MAP

SALE NAME: UNCLE WALT  
 APPLICATION #: None

COUNTY(S): WHATCOM  
 TOWNSHIP(S): T40R06E



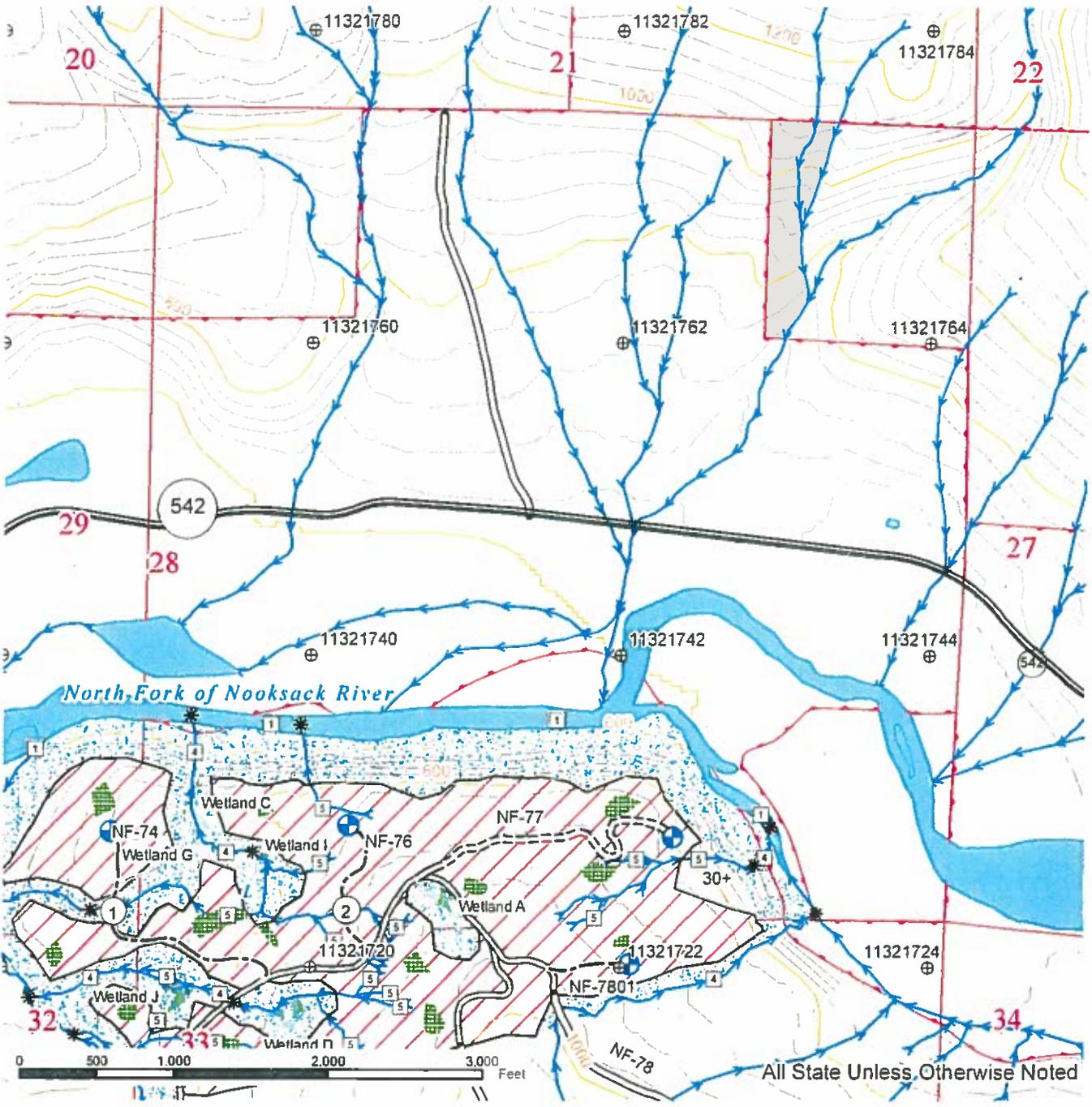
All State Unless Otherwise Noted

Timber Sale Unit	Existing Roads	Streams
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Leave Tree Area	Old Grades	DNR Managed Lands
Crossing Identifier		Tics - 2000' Interval

# FOREST PRACTICES ACTIVITY MAP

SALE NAME: UNCLE WALT  
 APPLICATION #: None

COUNTY(S): WHATCOM  
 TOWNSHIP(S): T40R06E



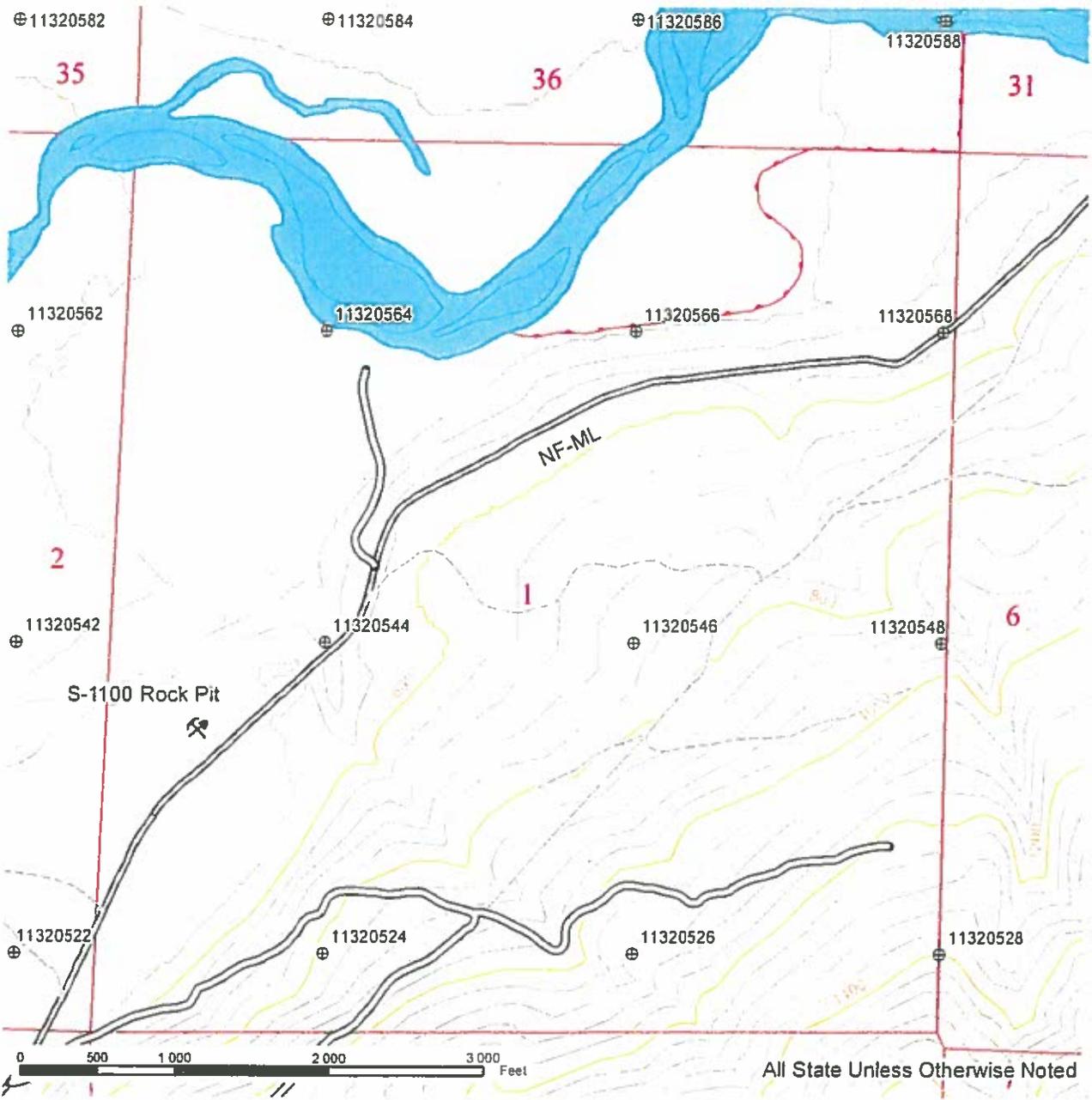
Timber Sale Unit	Existing Roads	Streams
Wetland Management Zone	Existing Roads	Stream Type
Forested Wetland	New Construction	Stream Type Break
Riparian Management Zone	Temporary Construction	Landing - Proposed
Leave Tree Area	Old Grades	DNR Managed Lands
Crossing Identifier	Highway	Tics - 2000' Interval



# FOREST PRACTICES ACTIVITY MAP

SALE NAME: UNCLE WALT  
 APPLICATION #: None

COUNTY(S): WHATCOM  
 TOWNSHIP(S): T35R05E



All State Unless Otherwise Noted

Timber Sale Unit	Existing Road	Streams
Wetland Management Zone	Existing Roads	Stream Type
Forested Wetland	New Construction	Stream Type Break
Riparian Management Zone	Temporary Construction	Existing Rock Pit
Leave Tree Area	Old Grades	DNR Managed Lands
Crossing Identifier		Tics - 2000' Interval



**August 15, 2016**

**TO:** Sam Petska, Forester  
**FROM:** Chris Danilson, Wildlife Biologist  
**SUBJECT:** Biologist Review of Uncle Walt Timber Sale

**Background & Office Review**

This memo documents the biological review of the Uncle Walt Timber Sale in Sections 28, 29, 32, & 33 of T40N R06E. The timber sale is located along the southern edge of the North Fork Nooksack River approximately 1.5 miles east of Maple Falls. The originally proposed sale area which was reviewed is a single harvest units of approximately 130 acres. It is proposed for variable retention harvest.

I conducted an office review using existing department databases and available Washington Department of Fish and Wildlife data in a geographic information system (GIS). The proposed harvest units are located within the Warnick watershed administrative unit. According to available forest inventory data, a single forest management unit, which was established in 1975, makes up this sale.

The proposed harvest area lies outside of those areas currently under consideration for long-term marbled murrelet conservation strategy alternatives. However, the proposed haul route (on an open existing road) is currently delineated as an "emphasis area".

Marbled murrelet surveys were performed on state lands in the vicinity of the proposed sale. In the 1990s and 2000s. The nearest observation of a marbled murrelet occurred in 2006 and is 1.2 miles northwest of the proposed sale in Section 30 of T40N R06E. Behaviors observed were not indicative of occupancy however. The nearest occupied site is the Racehorse Creek site located approximately 3.7 miles southwest of the sale area. Suitable habitat that has been surveyed for murrelets, but determined to be unoccupied is as close as 0.6 miles from the proposed sale. A separate Criteria 3 newly identified suitable habitat block was recently identified near the SL-1100 rock pit. Because this pit will provide source material for road construction and is located within ¼ mile of this habitat block, operation of heavy equipment here is affected by a seasonal timing restriction (further explained in the Conclusions and Recommendations Section of this memo).

The proposed harvest units are outside of those areas designated for management of Northern spotted owl habitat management. The nearest observation of this species is more than six miles from the sale area.

There are numerous bald eagle winter roost sites along the North Fork Nooksack River to the west of the propose sale. The closest roost is more than a mile away from the proposed timber sale, however several are near the S-1100 pit (the proposed source of materials for road construction and maintenance). In addition, these roosts are adjacent to the North Fork mainline road, the haul route for the sale.

The only other historic wildlife sightings that have been documented in this area are Northern goshawk nest sites on state lands in Section 26 of T40N R06E. The history on this breeding

territory dates back to 1996 and a successful nesting attempt was documented in 2015. However, this site is more than a mile from the proposed timber sale.

Orthophotography, LiDAR, and existing uncommon habitat feature databases were used to determine which areas (if any) had the potential to contain uncommon habitat features such as cliffs, caves, talus, or balds. There were no areas within the proposed sale with a potential signature for such features.

### **Field Review**

The biological field review of this timber sale was conducted in May and June of 2016. A comprehensive delineation of marbled murrelet was not performed within the sale area because the stand age and structure did not warrant this level of assessment. However, adjacent riparian areas associated with the North Fork Nooksack River and Aldrich Creek contained obvious platform trees, so these areas were delineated.

I performed a validation of the delineation for this sale on July 12, 14, & 20. A total of 197 platform trees were identified and, ultimately, two newly identified suitable habitat blocks were identified as part of this delineation (Figure 1). The larger of the two is a linear string of trees within the riparian management zone along the North Fork Nooksack River. It is 18.03 acres in size with a platform density of 16.5 platforms/acre. The smaller suitable habitat block is 7.76 acre block along Aldrich Creek at the southwestern edge of the sale. Both of these suitable habitat blocks meet the thresholds of “Criteria 2” habitat as outlined in the 2007 concurrence memo between the department and the US Fish and Wildlife Service (a.k.a. “Ken Berg” memo).

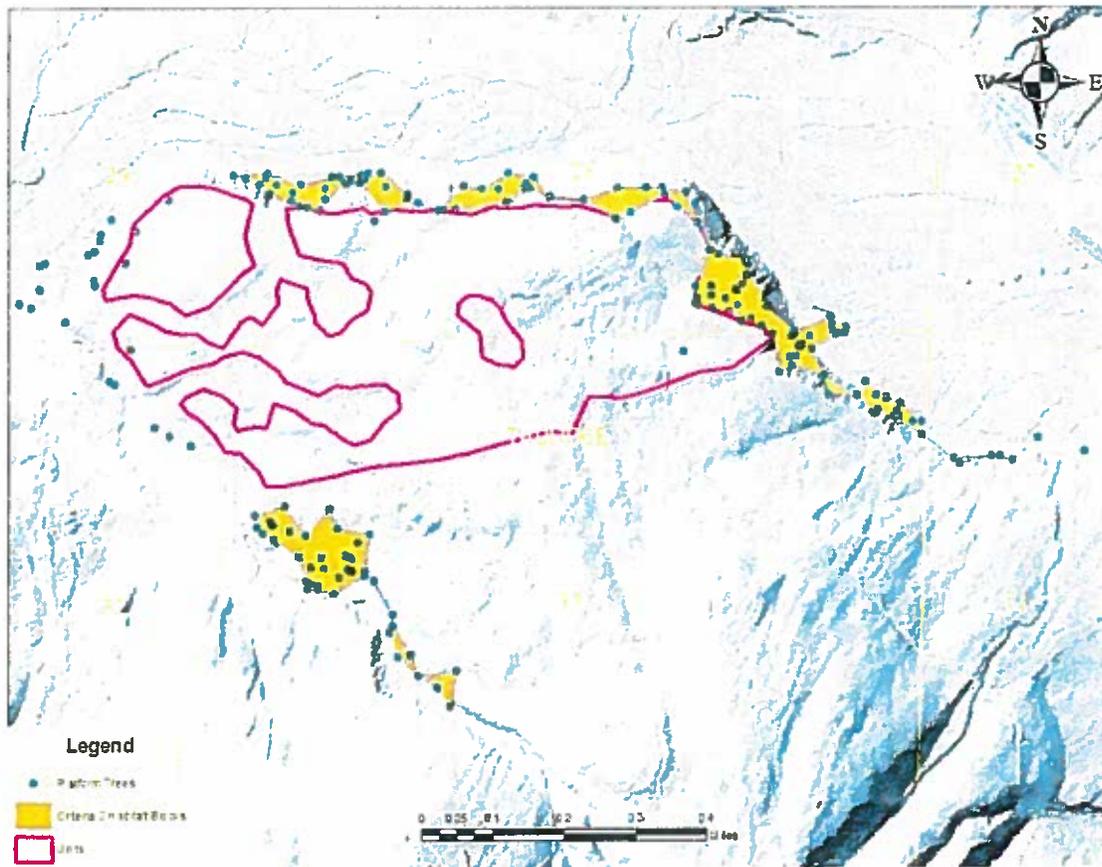


Figure 1. Platform trees and newly identified habitat associated with the Uncle Walt timber sale

No uncommon habitat features such as cliffs, caves, talus, or balds were identified by myself or other field staff during the development of this timber sale.

### **Conclusion & Recommendations**

Two newly identified "Criteria 2" habitat blocks were identified within and adjacent to the proposed sale area. The net loss to the proposed timber sale to avoid impacting this habitat was approximately three to four acres. There are no management buffers or timing restrictions for Criteria 2 habitat, so timber harvest activities are not restricted in any way.

The S-1100 pit, which will be used as source material for road construction and maintenance associated with this proposal, will be encumbered by timing restrictions for marbled murrelets and bald eagles as follows:

**Marbled murrelet** – seasonal timing restrictions apply to all operation of heavy equipment, yarding activities, and felling and bucking activities. The restriction runs from April 1<sup>st</sup> through August 31<sup>st</sup> and includes the periods of one hour before official sunrise to two hours after official sunrise AND one hour before official sunset to one hour after official sunset, are prohibited.

**Bald eagle** – several bald eagle communal winter roost sites are located along the North Fork mainline, which is ungated road system. As such, there is ongoing ambient noise and disturbance in this area associated with vehicles (including off road vehicles), shooting, eagle watching/photography, and other public uses. For this reason, timber hauling and road maintenance associated with this proposal should not have a seasonal timing restriction. However, any blasting activities within the S-1100 pit (which is not anticipated) is subject to a seasonal timing restriction intended to minimize disturbance to wintering eagles. This seasonal restriction runs from November 15 to March 15.

To the extent practical, leave tree patches should strive to protect existing snags and down woody debris and, given operational constraints, should be well distributed throughout the proposed harvest units.