

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> under "SEPA Center." 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: **WADDELL SOUTH**

Agreement # **30-091555**

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

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

**Department of Natural Resources
950 Farman Avenue North
Enumclaw, WA 98022
Phone: (360) 825-1631
Contact Person: Audrey Mainwaring**

4. Date checklist prepared: **10/16/2014**

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

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

a. Auction Date: **08/25/2015**

b. Planned contract end date (but may be extended): **10/31/2016**

c. Phasing: **Not applicable.**

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

Yes,

Timber Sale:

a. Site preparation:

Site prep, including a chemical herbicide application, may be used to ensure that planting can be achieved at acceptable stocking levels to meet or exceed Forest Practice standards following harvest. Slash may be piled, removed, or burned to abate fire hazard and provide plantable spots.

b. Regeneration Method:

Unit 1 will be hand planted with conifer species following harvest

c. Vegetation Management:

Possible treatments, including a chemical herbicide application, could occur following harvest. Treatments will be based on vegetative competition, and will ensure a free-to-grow status that complies with Forest Practices standards.

d. *Thinning:*

Pre-commercial thinning needs will be assessed at approximately 10 to 15 years of age. Commercial thinning potential will be assessed at approximately 25 to 35 years of age. Thinning will be done as needed to meet desired density, stocking, species diversity, and growth.

Roads: Road maintenance assessments will be conducted and will include periodic ditch and culvert cleanout, and grading as necessary. Construction, reconstruction, pre-haul maintenance and decommissioning are associated with forest management activities.

Rock Pits and/or Sale: The Mima Pit will be used as a rock source for future road construction associated with forest management activities.

Other: Slash may be burned following harvest activities or sold as biomass.

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): **Black River**

Landscape plan:

Watershed analysis:

Interdisciplinary team (ID Team) report:

Road design plan: **Road plan completed by Will Hoskins, Dated 11/12/2014**

Wildlife report:

Geotechnical report:

Other specialist report(s):

Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):

Rock pit plan: **Attached to Road Plan (dated 11/12/2014)**

Other: **Forest Practices Board Manual; Forest Practices Activity Maps; Policy for Sustainable Forests (PSF 2006); State Soil Survey; Habitat Conservation Plan (HCP 1997); HCP Checklist; Riparian Forest Restoration Strategy (RFRS); Planning and Tracking Reports and associated maps; Road Maintenance and Abandonment Plan (RMAP): #:240657. The following information is provided by DNR's GIS database: Weighted Old Growth Habitat Index (WOGHI); WAU Rain-On-Snow Layer; Marbled Murrelet Habitat Layer; Spotted Owl Habitat Layer; and USGS and GLO maps.**

Referenced documents may be obtained from the South Puget Sound Region Office in Enumclaw for review during the SEPA comment period.

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.

HPA Burning permit Shoreline permit Incidental take permit 1168 & PRT 812521

May 2014

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:

Waddell South is a one unit timber harvest in the Capitol Forest. Rock used for road work associated with this proposal will be obtained from the DNR Mima Pit. This proposal will be a ground-based operation. In addition to the roadwork detailed in 11. c. this proposal includes 1,975 feet of road pre-haul maintenance.

Unit	Proposal Acres	Existing Road Acres	Sale Acres	Leave Tree Clump Acres	Harvest Acres
	<i>gross</i>	<i>within unit</i>			<i>net</i>
1	45	<1	40	4	40
Totals	45	<1	40	4	40

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

Pre-harvest Stand Description:

Unit	Age	Species Composition
1	79-years-old	Overstory: Douglas-fir, western hemlock, western redcedar, red alder, bigleaf maple. Understory: sword fern, salal, Oregon grape, salmonberry, elderberry, huckleberry, skunk cabbage, devil's club

Type of Harvest: This proposal is a variable retention harvest of 40 acres with a minimum of 8 leave trees per acre.

Overall unit Objectives:

- 1) Produce revenue for the State Forest Transfer Lands trust (01), State Forest Purchase Lands trust (02), and Forest Board Repayment Trust (42) through the production of timber.
- 2) Provide for wildlife and riparian habitat by developing vertical stand structure and age class distribution in the future stand.
- 3) Address forest health issues by planting root rot resistant species such as Western Red Cedar.

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 (#)
Construction		1396	<1	0
Reconstruction		70		
Abandonment				
Bridge Install/Replace	0			
Culvert Install/Replace (fish)	0			
Culvert Install/Replace (no fish)	0			

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:*

The proposal is located in portions of Section 28 and 33 of Township 17 North, Range 03 West, W.M.

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

Unit 1 is located approximately 3.2 miles to the Northwest of Littlerock. Access is via Waddell Creek Road SW to the C-9050 forest road.

c. *Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website:*

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

WAU Name	WAU Acres	Proposal Acres
BLACK RIVER*	66500.1	9.4
WADDEL CREEK	24321.8	35.1
Sub-basin #3	11,697	35.1

***The 9.4 acres in the Black River WAU is within the low land portion that does not have a designated sub-basin number. The low land portion is 41,403 acres.**

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> under "SEPA Center for a broader landscape perspective.)*

This proposal is located within the Black River and Waddell Creek Watershed Administrative Units (WAUs). Agriculture and home sites are located in the valleys

near the major streams. There appears to be a trend towards increasing conversion of agriculture and forest land to home sites in the low to mid elevation ranges. The uplands are mainly managed for timber production. Ownership includes large industrial forests, small private forests, and Department of Natural Resources managed forests. Forested stands within the WAUs appear to be primarily second and third growth stands. The numbers of forest practice activities shown on the WAU maps (referenced above on the Department's website) along with observations within the WAUs indicate that the WAUs are intensively managed for timber production, including variable retention harvest, thinning, and partial cuts.

Black River WAU	WAU ACRES	ACRES OF EVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS	ACRES OF UNEVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS	PROPOSED EVEN-AGED HARVEST IN THE FUTURE*	PROPOSED UNEVEN-AGED HARVEST IN THE FUTURE*
DNR MANAGED LAND	4,987	242	47	258(estimated)	0
PRIVATE OWNERSHIP	61,513	1459	722	Unknown	Unknown
TOTAL	66,500	1701	769	258	0

Waddell Creek WAU	WAU ACRES	ACRES OF EVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS	ACRES OF UNEVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS	PROPOSED EVEN-AGED HARVEST IN THE FUTURE*	PROPOSED UNEVEN-AGED HARVEST IN THE FUTURE*
DNR MANAGED LAND	18,643	1,539	176	809(estimated)	227(estimated)
PRIVATE OWNERSHIP	5,679	207	16	Unknown	Unknown
TOTAL	24,322	1,746	192	809	227

*Future is defined as occurring within the next 3-4 years approximately.

The Department of Natural Resources has a multi-species Habitat Conservation Plan (HCP) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service concerning threatened and endangered species and their habitats, which requires the Department to manage landscapes to provide and sustain long-term habitat in exchange for an Incidental Take Permit. This agreement substantially helps the Department to mitigate for cumulative effects related to management

activities. The applicable strategies incorporated into this proposal are as follows:

- **Retaining Riparian Management Zones (RMZ) and Wetland Management Zones (WMZ)**
- **Retaining a minimum of 8 trees per acre (greater than 10 inches Diameter at Breast Height) clumped throughout the units.**
- **Analyzing, designing, and constructing roads, plus maintenance to minimize effects on the environment.**
- **Replanting with native conifer species following harvest.**

B. ENVIRONMENTAL ELEMENTS

1. Earth

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

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

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

The Waddell Creek WAU contains valley bottoms, steep slopes, rolling hills and prominent peaks. It averages 52 inches of precipitation per year. Minimum elevation is 80 feet and rises to a maximum of 2,656 feet. Approximately 5 percent of the slopes in the WAU are over 65 percent. Rain-On-Snow zones are as follows: "Lowland Zone" 14,655 acres (60.3 percent); "Rain-Dominated Zone" 8,416 acres (34.6 percent); "Peak Rain-On-Snow Zone" 1,250 acres (5.1 percent). The Forest Vegetation Zone is western hemlock with the major timber type being Douglas-fir with Western Hemlock and Western Red Cedar. Red Alder and Bigleaf Maple is scattered with the majority found in wetter soils and draws.

The Black River WAU contains valley bottoms, steep slopes, rolling hills and prominent peaks. It averages 47 inches of precipitation per year. Minimum elevation is 48 feet and rises to a maximum of 1,837 feet. Less than 5 percent of the slopes in the WAU are over 65 percent. Rain-On-Snow zones are as follows: "Lowland Zone" 63,565 acres (95.6 percent); "Rain-Dominated Zone" 2,726 acres (4.1 percent); "Peak Rain-On-Snow Zone" 209 acres (0.3 percent). The Forest Vegetation Zone is western hemlock with the major timber type being Douglas-fir with Western Hemlock and Western Red Cedar. Red Alder and Bigleaf Maple is scattered with the majority found in wetter soils and draws.

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

This proposal is in the Lowland Zone, located in the valley bottoms and rolling hills. This proposal is very similar to the above descriptions.

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

The steepest slope is 65 percent

- 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	Mass Wasting Potential	Erosion Potential
8036	GRAVELLY LOAM	INSIGNIFICANT	LOW
6640	SILT LOAM	HIGH	HIGH

The site is currently being managed for forestry and will be replanted with trees after harvest. Soils will be relocated onsite during road and landing construction. Otherwise soils will not be removed for this proposal.

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

No.

1) *Surface indications:*

A DNR State Lands geologist reviewed the sale utilizing historic aerial photographs and digital data. The results of the geologist review, available in the State Lands Geologist Remote Review (SLGRR) tool, indicated the proposal area had a low likelihood of slope instability. During the field forester's reconnaissance of the proposal area, no surface indicators of slope instability were observed within the timber sale area.

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:*
There is evidence of shallow and deep-seated slope failures within the Waddell Creek and Black River WAUs and their associated sub-basins. These are generally associated with slopes greater than 70 percent within convergent landforms such as bedrock hollows and inner gorges. These landforms typically occur within the RMZs, lower slopes of the main draws, and on headwalls at the top of steep draws.

- 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:*

Associated management activity:

There were no shallow slope failures found in the proposal area. However, other areas within the sub-basins have planar slopes greater than 50 percent that experienced shallow rapid slope failures adjacent to streams during the storms of 1996, 2007, and 2009 when southwest Washington experienced high amounts of precipitation.

- 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:*

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

- **Roads will be constructed when soils are not saturated.**
- **Cross-drains and ditch-outs will be placed to minimize the potential for mass wasting and slope failures associated with poor drainage.**
- **Ground-based equipment will be restricted to slopes of 40 percent and less.**
- **Due to the shorelines buffer for Waddell creek, the unit boundary for the proposed harvest is located well above the steep slopes near Waddell Creek.**

- 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.

Approx. acreage new roads: <1 *Approx. acreage new landings:* <1 *Fill Source:*
None

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. **Yes, some erosion could occur as a result of building new roads, installing culverts, and hauling timber.**

- 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):*

1 percent (This includes running surface of gravel roads as well as proposed landings).

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: *(Include protection measures for minimizing compaction or rutting.)*

Erosion control and reduction measures are addressed in the sale layout and harvest system design.

- **The no cut RMZ and WMZ buffers will function to protect streams and forested wetlands from sediment delivery.**

- **Harvested areas will be replanted with coniferous tree species to reestablish root bound soils.**
- **Ground-based harvesting will be limited to slopes less than 40 percent and will be restricted during saturated soil conditions.**
- **Roads will be constructed when soils are not saturated.**
- **Areas of soil exposed through road construction may be grass seeded.**
- **Road surfaces will be crowned and adequate cross drainage will be installed.**
- **There will be periodic inspection and maintenance of the road system to insure proper drainage.**
- **The potential for sediment delivery will be addressed as needed during operations and may include the use of water bars or silt traps.**

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 and road construction equipment and dust from vehicle traffic on roads will be emitted. If landing debris is burned after harvest is completed, smoke will be generated. There will be no emissions once the proposal is complete.
- Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.
None known.
- Proposed measures to reduce or control emissions or other impacts to air, if any:
If landing debris is burned, it will be in accordance with Washington State's Smoke Management Plan. A burn permit will be obtained before burning occurs.

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.
 - Downstream water bodies:*
Waddell Creek, Black River, and the Chehalis 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)
Forested Wetland	Forested	2	171
Waddell Creek	1	1	200
Unnamed Stream	5	1	No RMZ 30 foot ELZ

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

The RMZ for this proposal is designed in accordance with the Department's Trust Forestland HCP Water Typing System, based on physical characteristics and a soils site index buffer of 171 feet on Type 1, 2, and 3 streams, measured from the edge of the 100-year floodplain. Waddell Creek is a Type 1, Shoreline of the State water. The Thurston County Shoreline of the State guidelines require a 200 foot buffer from ordinary high water mark, which exceeded the HCP RMZ buffer and was therefore used.

There are two forested wetlands in the sale that are greater than 1 acre and are protected by a site index buffer of 171 feet.

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):

Trees may be cut in RMZs and WMZs for safety or operational needs, but will be left in place to provide large woody debris functions in the riparian area.

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.

None

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:

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, within the sub-basins, soils and terrain susceptible to surface erosion and/or mass wasting are generally located on slopes of 70 percent or greater and often involve unstable soils and/or steep head walls. Some past failures have entered streams in small amounts. However, this proposal is on slopes less than 70 percent, and the unit boundary along Waddell Creek creates a buffer of 75 feet or more along the slope break.

The potential for eroded material to enter surface water is minimal due to the erosion control measures and operation procedures outlined in B.1.d.5. and B.1.h.

- 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:

During the winters of 1996, 2007 and 2009, 100-year (suspected) precipitation events occurred. The storms set rainfall and flood level records in Southwest Washington and Northwest Oregon. The events caused surface erosion and shallow mass-wasting events, which caused additional erosion and stream channels to change location and/or dimension. The full extent of these storms is not known.

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

No Yes, explain:

This proposal could introduce small amounts of sediment into the streams associated with this proposal during wet weather within or adjacent to the proposal area as a result of road building and harvest activities. The erosion control measures and operation procedures outlined in B.1.d.5. and B.1.h. are expected to minimize sediment delivery.

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

WAU	Road Miles/ Miles ²	Sub-basin	Road Miles/ Miles ²
Waddell Creek	3.3	3	4.1
Black River	2.7	Unknown*	Unknown*

*The 2.7 acres in the Black River WAU is within the low land portion that does not have a designated sub-basin number. The road miles per square mile are unknown in this area. However, the road density in this area is high because it is heavily urbanized.

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?

Not applicable.

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):

Normally, there are few significant changes associated with peak flows in the WAUs and sub-basins. During the winters of 1996, 2007, and 2009, (suspected) 100-year precipitation events occurred. Many channels in the WAUs were altered during these events due to high stream flows. In some cases the channels have been scoured down to bedrock, in others the increase in sediment loads and large woody debris delivery has changed channel locations and increased pool/riffle ratios.

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 current proposal may slightly change the timing, duration, and/or magnitude of peak flows but measurable impacts are not anticipated.

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:

The Department of Ecology lists water rights for an unnamed spring in Section 22, Township 17 North, Range 03 West, WM. This is located approximately 0.5 miles downstream from the unit and is not anticipated to be affected by the proposal.

The Department of Ecology lists water rights for Treasure River, an unnamed spring, and Waddell Creek in Section 34, Township 17 North, Range 03 West, WM. This is located approximately 2,000 feet downstream from the unit and is not anticipated to be affected by the proposal.

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.*

- **Type 1 stream no harvest RMZ to protect stream banks from erosion.**
- **No harvest WMZs.**
- **The proposal's unit is less than a 100 acre maximum.**
- **Allowing green-up (regenerated stands that are either 4 ½ feet tall or 5 years of age) of adjacent stands to minimize impacts to watershed hydrology.**
- **See B.1.d.5. and B.1.h. for further protection measures.**

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.

No.

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, fuel, and other lubricants may inadvertently be discharged to the ground as a result of heavy equipment use or mechanical failure. No lubricants will be disposed of on-site. All spills are required to be contained and cleaned-up. This proposed activity is expected to have no impact on ground water.

- 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:*

The Department of Ecology lists water rights for a well in Section 33, Township 17 North, Range 03 West. This is located in the same section as the unit and is not anticipated to be affected by the proposal.

The Department of Ecology lists water rights for a well in Section 34, Township 17 North, Range 03 West. This is located approximately 500 feet downstream from the unit and is not anticipated to be affected by the proposal.

- a. *Note protection measures, if any.*

No specific protection measures were incorporated into this proposal to protect these resources beyond those described in B.1.d.5 and B.1.h.

- 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.

Stormwater runoff from road surfaces and intercepted subsurface flow will be collected by roadside ditches and diverted onto the forest floor to allow filtration. Ditch-outs and cross drain culverts will be installed and maintained to direct ditch water onto the forest floor.

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

No *Yes, describe:*

Waste materials such as small amounts of lubricants or hydraulic fluid may spill due to equipment accidents.

- a. *Note protection measures, if any.*

All pieces of equipment are required to have a spill kits. No additional protection measures will be incorporated into this proposal to protect these resources beyond those described in B.1.d.5., B.1.h., B.3.a.2., and B.3.a.16.

- 3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

No.

- 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.)

See Surface Water, Ground Water, and Water Runoff sections above, questions B.1.d.5., B.1.h., B.3.a.1.c., and B.3.a.16. and B.3.c.2.a.

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: **Oregon Grape**

grass

pasture

crop or grain

wet soil plants:

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

other:**Sedge**

water plants:

water lily, eelgrass, milfoil, other:

other types of vegetation: **Sword Fern**

plant communities of concern:

b. 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.)

All conifer and hardwood trees, except the leave trees and the vegetation within the RMZ and WMZs will be removed as part of this harvest proposal. Understory vegetation will be disturbed and/or reduced within the proposed harvest area as a result of timber felling, bucking, yarding and site prep operations. Most of the vegetation will re-establish within 2 – 3 years after forestry activities are complete.

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/ResearchScience/sepa/Pages/Home.aspx>

(Click on the DNR region under the Topic "Current SEPA Project Actions - Timber Sales.")

Unit 1: To the north is an 80-year-old mixed Douglas-fir and western hemlock stand and a 19-year-old Douglas-fir plantation. To the east is private land. To the south and west is a 10-year-old mixed Douglas-fir plantation.

2) *Retention tree plan:*

A combination of Douglas-fir, western red cedar, big leaf maple and red alder were left for green tree retention and snag recruitment. Leave tree numbers were based on leaving eight trees per acre. Trees were left in clumps and individually marked trees. These clumps will provide a local seed source for native overstory and understory species. Some natural regeneration of native species will occur on site after harvest. This type of leave tree pattern is conducive to a safe harvest operation and allows the distribution of wildlife trees throughout the proposal. When selecting wildlife trees, the highest preference was given to trees having form defects that may be desirable for birds, the largest trees, and the most wind firm species. Also, non-merchantable cedar will also be retained.

- c. List threatened and endangered *plant* species known to be on or near the site.
None found in database search or observed onsite.
- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:
Native conifer species will be replanted, majority of which will be Western Red Cedar due to the extensive root rot.
- e. List all noxious weeds and invasive species known to be on or near the site.
Invasive plant species that can be found on forest land extensively throughout Thurston Counties and are likely on or near the site include:
- **Tansy ragwort**
 - **St. Johnswort**
 - **Scotch broom**
 - **Reed canary grass**
 - **Himalayan blackberry**
 - **English holly**
- Invasive plant species that can be found in isolated locations throughout forest land in Thurston Counties that may be on or near the site include:**
- **Knotweed (various species)**
 - **Wild chervil**
 - **English ivy**
 - **Knapweed (various species)**

Additional invasive plant species that have a low likelihood of occurring on or near the site are listed on the county noxious weed species list:

- **Thurston County (<http://www.co.thurston.wa.us/tcweeds/weed-list.htm>)**

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:

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

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

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

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

None found in database search or observed onsite.

- c. Is the site part of a migration route? If so, explain.

Pacific flyway Other migration route: *Explain if any boxes checked:*

This proposal is located in the Pacific Flyway. Migratory waterfowl use the Pacific Flyway; however, the area in which this proposal is contained is not generally the type of area used for resting or feeding by migratory waterfowl. While migrating through Pacific Northwest Forests, many Neotropical migratory birds are closely associated with riparian areas, cliffs, snags, and structurally unique trees. Riparian areas and special habitats are protected through implementation of DNR's Habitat Conservation Plan.

Proposed measures to preserve or enhance wildlife, if any:

This proposal conforms to commitments under the 1997 DNR Habitat Conservation Plan (HCP). The HCP includes a number of strategies to enhance and preserve wildlife over time. Specific to this proposal is the riparian strategy to conserve and protect habitat for species that are dependent on aquatic and riparian habitat and quality leave tree retention which may provide critical elements for upland species and preserve long term site productivity through the maintenance of forest processes. Retained trees are wind firm and well-formed dominant and co-dominant trees representing the original diversity of species.

Leave trees within the VRH units are selected from the dominant and co-dominant trees within the proposal area. Some wildlife trees to be retained are those trees that are deformed or damaged. Leave trees and wildlife trees will be well distributed throughout the proposal area. Additionally, those hard snags that are safe to leave standing will be retained. The proposed units have buffers protecting streams adjacent to this proposal. These buffers, while protecting the water quality of the streams, will provide shelter and foraging areas for riparian dependent species that are indigenous to the area. The development of the leave trees along with existing snags will, over time, promote structural

diversity and assure the development of a biological legacy while providing nesting, foraging and roosting habitat for cavity dwellers known to use the area

This proposal is within the DNR's South Coast HCP planning unit, which has a Marbled Murrelet Reclassified Habitat Model. This proposal is not in, nor within 300 feet of, any identified potential or suitable marbled murrelet habitat. Therefore it is in full compliance with PR-14-004-320, Protecting Marbled Murrelet Habitat.

This sale is not located in a landscape managed for Nesting, Roosting, and Foraging or Dispersal Management, does not meet Young Forest Marginal habitat and is not within any Owl Areas. This proposal is available for the full range of DNR silvicultural activities permitted under the Habitat Conservation Plan in compliance with Procedure 14-004-120 Northern Spotted Owl Management (westside).

d.

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

Riparian habitat

- No harvest RMZ on Type 1 stream
- No harvest WMZs on wetlands greater than 1 acre.

Upland habitat

- A minimum of 8 leave trees per acre were left clumped and/or scattered
- Older large down woody debris will be left onsite.

e. List any invasive animal species known to be on or near the site.

Invasive animal species known to be in the geographic area include:

- Starlings
- House sparrows
- Eurasian collared-dove
- Barred owls
- Bullfrogs are found throughout the lowlands of Washington.
- Nutria are found in lakes, wetlands, sloughs, drainage ditches, and irrigation canals along the Columbia River and north to Skagit County.
- There are several exotic leafrollers of concern that are present in Washington. Some of these species include the Apple Tortrix, Apricot Moth (*Ditula angustiorana*), Garden Rose Tortrix (*Acleris variegana*), Green Budworm (*Hedya nubiferana*), Barred Fruit Tree Tortrix (*Pandemis cerasana*), European Fruit Tree Tortrix Moth (*Archips podana*), Dark Fruit Tree Tortrix (*Pandemis heparama*), European Leafroller (*Archips rosanus*), and the Carnation Tortrix (*Cacoecimorpha pronubana*). These species all can be found in Washington.

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.

Not Applicable

- b. Would your project affect the potential use of solar energy by adjacent properties?

If so, generally describe.

Not Applicable

- 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:

Not Applicable

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.

Minimal hazards incidental to operation of heavy machinery such as the risk of fire or spills of small amounts of oil and other lubricants may be accidentally discharged as a result of heavy equipment use.

- 1) Describe any known or possible contamination at the site from present or past uses.
None known and no indications of contaminants observed on 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 known.

- 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.

Petroleum fuel will be used on site for operation of logging equipment. In the event of a lubricant spill the Purchaser will contact the Department of Natural Resources and the Department of Ecology. Quick response spill kits are required to be on site in case of smaller spills, as are larger spill kits if hazardous materials are going to be stored on site during operations. No oil or lubricants will be allowed to be disposed of on site.

Herbicides may be used for site-preparation and vegetation management within the new plantation following harvest. Herbicides will be used in accordance with Washington State Forest Practice and Department of Agriculture regulations.

- 4) Describe special emergency services that might be required.
There are no special emergency services required at this time. In the event of a lubricant spill the Purchaser will contact the Department of Natural Resources and the Department of Ecology. Fire response will be by the Department of Natural Resources.
- 5) Proposed measures to reduce or control environmental health hazards, if any:

The cessation of operations may occur during periods of time when the risk of fire is increased. Fire tools and equipment, including pump trucks and/or pump trailers, will be required on site during fire season. In the event of a lubricant spill the Purchaser will contact the Department of Natural Resources and the Department of Ecology. Quick response spill kits are required to be on site in case of smaller spills, as are larger spill kits if hazardous materials are going to be stored on site during operations. No oil or lubricants will be allowed to be disposed of on site.

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.
Log trucks will use forest roads and county roads. This is normal activity for the area and is consistent with existing traffic conditions. Noise will be increased during daylight hours generated from the operation of machinery, trees falling, and power tools.
- 3) Proposed measures to reduce or control noise impacts, if any:
Operations will be restricted on weekends, holidays, and from 7:00 pm to 7:00 am weekdays.

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.*)
The state land surrounding the unit is managed for timber production and recreation by the DNR. The private property to the east is used for home sites. The proposal will not affect current land uses on nearby or adjacent 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?
The proposal area is currently being managed as forest lands. It will be replanted for continued forest management following harvest.
 - 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:
No. The proposal is consistent with forest land normal business operations.
- c. Describe any structures on the site.

None.

- d. Will any structures be demolished? If so, what?

No.

- e. What is the current zoning classification of the site?

This timber sale is zoned forest land.

- f. What is the current comprehensive plan designation of the site?

The comprehensive plan designation is Long Term Forestry.

- g. If applicable, what is the current shoreline master program designation of the site?

Waddell Creek is a Type 1, shoreline of the State water. The Thurston County Shoreline of the State guidelines require a 200 foot buffer from ordinary high water mark. This no harvest buffer was applied to the proposed harvest.

- h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

No.

- i. Approximately how many people would reside or work in the completed project?

None.

- j. Approximately how many people would the completed project displace?

None.

- k. Proposed measures to avoid or reduce displacement impacts, if any:

None.

- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

This proposal is consistent with the Department's Habitat Conservation Plan and Policy for Sustainable Forests, as well as the county's comprehensive plan designation and zoning classification.

- m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:

Proposed timber harvest is designed to meet Forest Practices Rules, HCP Strategies, and Policies for Sustainable Forests.

9. Housing

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None.

- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

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

None.

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?

Not applicable.

- 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:

The proposal is visible from Waddell Creek Road, Margaret McKenny Campground and scattered houses.

- 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: **Waddell Creek Road (County road, not scenic corridor)**

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

This proposal will resemble previous timber harvests in the area and views will change from a stand of mature timber to a view of a recent harvest with mature trees remaining around forested wetlands and adjacent streams. There will also be clumps and individual trees scattered throughout. This view will change to a young plantation after seedlings are planted and the new trees continue to grow.

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

Leaves trees were clumped and scattered within the unit near the campground to break up the view of the unit from the campground. The WMZ and scattered leave trees will help break up the view of the unit from Waddell Creek Road.

11. Light and glare

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

None.

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

Not applicable.

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

None.

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

None.

12. Recreation

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

A DNR designated campground (Margaret McKenny Campground) is located to the North of Unit 1.

Hunting, hiking, mountain biking, foraging, camping and other informal outdoor recreation activities occur within the vicinity.

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

Yes, portions of the campground will be closed as well as other informal recreation may be displaced during periods of active logging.

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

Operations will be restricted on weekends, holidays, and from 7:00 pm to 7:00 am weekdays.

Leaves trees were clumped and scattered within the unit near the campground to break up the view of the unit from the campground.

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.

No.

- 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.

Cultural Resources were not observed on or next to the site.

- 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.

This proposal was reviewed for archeological/historic resources using DNR's Planning and Tracking database and USGS and GLO maps.

- 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.
In the event that any unknown archeological resources are encountered, ground disturbing activities would be halted and DNR's inadvertent Discovery Plan will be followed.

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?
Waddell Creek Road provides access to the C-9050 forest road, which accesses the harvest unit.
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?
Not Applicable.
- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?
None.
- 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).
Yes, see A.11.c above.
1) *How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?*
There will temporarily be one additional road approach along Waddell Creek County Road.
- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.
No.
- 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?
Approximately five to twenty trips per day during harvesting activities with periodic trips post-harvest to conduct monitoring and timber stand improvements.
- 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:
“Logging Activity” and “Trucks Entering Roadway” signs will be posted along Waddell Creek Rd.

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 _____

- 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:  ~~ST~~

Name of signee: Dave Lorence

Position and Agency/Organization: Assistant Region Manager, WA DNR

Date Submitted: 3/20/2015 AEM 3-17-15