STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decided whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *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.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

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.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered " does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name: **Texas T 2012** *Agreement #:* **30-081653**

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

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

   DNR Northwest Region
   919 North Township Street
   Sedro Woolley, WA 98284
   360-856-3500

   Contact Person: Laurie Bergvall
   Telephone: 360-856-3500

4. Date checklist prepared: **09/10/2012**

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

6. Proposed timing or schedule (including phasing, if applicable):
   a. *Auction Date:* **N/A**
   b. *Planned contract end date (but may be extended):* **9/30/2013**
   c. *Phasing:* **N/A**

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:* **Treatment of openings greater than 1/4 acre will be assessed after operations.**
b. *Regeneration Method:* **Hand plant openings with conifer seedlings, and natural regeneration of western hemlock and red alder.**
c. *Vegetation Management:* **Treatment will be assessed in 3-5 years.**
d. *Thinning:* **Treatment will be assessed in 10-15 years.**

Roads: **The USFS 18 Road will remain open for future management activities. The BO-ML, SG-40, and SG-4001 roads will be used for future management activities.**

Rock Pits and/or Sale: **The Barco Pit and SG-40 Pit will be utilized for future management activities.**

Other: **None.**

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):* **At minimum of 0.5 mile downstream to the North Fork Stillaguamish River**
☐ *Landscape plan:*
☒ *Watershed analysis:* **Hazel Watershed Analysis (1997)**
☐ *Interdisciplinary team (ID Team) report:*
☒ *Road design plan:* **Available at DNR Northwest Region office**
☒ *Wildlife report:* **Available at DNR Northwest Region office**
☐ *Geotechnical report:*
☐ *Other specialist report(s):*
☐ *Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
☒ *Rock pit plan:* **Available at DNR Northwest Region office**
☒ *Other:* **State Soil Survey, 1992; EIS for Policy for Sustainable Forests (2006); Habitat Conservation Plan (HCP) and Environment Impact Statement, September 1997; HCP Riparian Forest Strategy, July 2006; West Side Old Growth Assessment, September 2008; Riparian Variance 2008 (for conducting a riparian forest restoration thinning in stands older than 70 years in Unit #2).**

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.
No.

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

☐ *HPA* ☐ *Burning permit* ☐ *Shoreline permit* ☐ *Incidental take permit* ☒ *FPA #* _____ ☐ *Other:*

11. Give brief, complete description of our 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 specific information on project description.)

a. *Complete proposal description:*

Considered area: This proposal covers approximately 82 acres of 48 to 80-year-old timber in the Upper North Fork Stillaguamish and Hazel WAUs. This proposal is located in the West Cascade western hemlock vegetation zone. There are roughly 15 acres reserved in no-harvest riparian buffers associated with the sale, and several acres of riparian buffers to be thinned.

The proposal is located within land designated as a northern spotted owl Nesting, Roosting, and Foraging (NRF) management area. Therefore, it must comply with DNR's Habitat Conservation Plan (HCP) prescriptions for maintaining and improving habitat for the northern spotted owl. The timber sale area does not currently meet minimum spotted owl NRF habitat conditions to comply with HCP guidelines for WAUs that contain less than 50 percent NRF habitat. The overall objective of this proposal is to accelerate the creation of NRF habitat for the northern spotted owl with a variable density thinning timber harvest. This proposal will remove understory Douglas-fir, western hemlock, red alder, and bigleaf maple.

The Hazel WAU has a Watershed Analysis which was completed in December of 1997 (see question A.13). There are three Areas of Resource Sensitivity (ARS) identified in the Hazel Watershed Analysis and applied to Unit 3. The ARS's include #3, 5, and 14. There is no road building planned for this unit. All of the steep and potentially unstable slopes have been bound out of this unit. This unit is intended to be harvested using ground-based equipment. See Hazel Watershed Analysis for more information.

The harvest unit is surrounded by State trust land and Federal land. Mature stands similar to the harvested stands and 15 to 30-year-old stands are adjacent to the proposal. The considered area contains several type 3, type 4, and type 5 streams. Harvested trees will be yarded by cable and ground-based equipment.

The DNR's Riparian Forest Restoration Strategy (RFRS 2006) will be implemented on this proposal. The proposal area prescription will be applied in the outer 155 feet of the 180-foot type 3 stream buffers, and the prescription will be applied in the outer 75 feet of the 100-foot type 4 stream buffers. Three trees per acre of thinned RMZ will be felled toward the stream and two trees per acre of thinned RMZ will be girdled to enhance the coarse woody debris and snag components of the stands.

<u>Sale Area:</u>
Net Proposal Acres: 82.0

Total # of Units: 3 units
Estimated volume: 925 MBF
Type of harvest: Variable Density Thinning for NRF habitat
Prescription: Remove: red alder, bigleaf maple, and understory conifer. Specific prescriptions vary among different compartments.
Logging system: Cable and ground-based yarding.
Landings: Road surfaces are available for landings.
Rock pits: n/a.
Roads: See Table in A.11.c.

	Prescription	Thinned Riparian acres	Riparian snag/large woody debris characteristics
Unit 1 (Compartment 1) 12 acres	- Remove all alder - Remove hemlock and Douglas-fir between 6 and 16 inches	2.0	10 trees approximately 16 inches in diameter (Majority of area is hardwoods)
Unit 2 (Compartment 2) 22.8 acres	- Remove all alder - Remove bigleaf maple between 6 and 16 inches - Remove hemlock and Douglas-fir between 6 and 16 inches	0.0	No entry in RMZ
Unit 2 (Compartment 5) 12.6 acres	- Remove all alder - Remove bigleaf maple between 6 and 18 inches - Remove hemlock between 6 and 12 inches - Remove Douglas-fir between 6 and 14 inches	4.0	12 trees approximately 14 inches in diameter
Unit 2 (Compartment 6) 21.4 acres	- Remove all alder - Remove bigleaf maple between 6 and 18 inches - Remove hemlock and Douglas-fir between 6 and 12 inches	0.0	No entry in RMZ
Unit 3 (Compartment 7) 13.2 acres	- Remove hemlock between 14 and 18 inches -Remove Douglas-fir between 6 and 16 inches	0.0	No entry in RMZ

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

<u>Pre-Harvest Stand Description:</u>
The stands in this proposal area are between 48 and 80 years old. The stands were naturally regenerated, and they are composed of a mix of western hemlock, western redcedar and Douglas-fir. There are also pockets of hardwood stands dominated by red alder and bigleaf maple. The quadratic mean diameters range from 13 to 19 inches. Basal area ranges from 235 to 430 square feet per acre and Curtis relative density ranges from 64 to 100. Average tree height is between 65 feet and 118 feet. Vegetation includes salal, Oregon grape, sword fern, huckleberry, and salmonberry.

Overall Unit Objectives:

Objectives for this activity include generating revenue for State trusts 01 (State Forest Transfer Lands), 03 (Common School Indemnity), and 10 (Scientific School). Other objectives of this activity include enhancing the existing forest stands, protecting water quality, and promoting characteristics to attain sub-mature or better habitat for the northern spotted owl. This proposal will improve existing stand characteristics by progressing it towards a multi-layered canopy. This proposal meets or exceeds all of the guidelines and prescriptions set forth in the Hazel Watershed Analysis, DNR Habitat Conservation Plan, Policy for Sustainable Forests, and Forest Practices Rules and Regulations.

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		0	0	0
Reconstruction		0		0
Abandonment		16,389	4.5	0
Temporary Construction		0	0	0
Bridge Install/Replace	0			0
Culvert Install/Replace (fish)	0			0
Culvert Install/Replace (no fish)	11			

12. Location of 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. *(See timber sale map available at DNR region office, and/or color landscape/WAU map on the DNR website http://www.dnr.wa.gov under "SEPA Center.")*

a. Legal description: **Sections 3, 4, 5, 6, and 9 Township 32 North, Range 9 East, W.M.**
Section 1, Township 32 North, Range 8 East, W.M.

b. *Distance and direction from nearest town (include road names):* **Units 1 & 2: Travel 26 miles east of Arlington on Hwy 530 to the BO-ML Road. Turn north on the BO-ML Road and drive 1.5 miles to Unit 1. Continue along the BO-ML to Unit 2.**

Unit 3: Travel 24 miles east of Arlington on Hwy 530 to the Swede Heaven Road. Turn north on the Swede Heaven Road and drive 1.5 miles to the USFS 18 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 under " SEPA Center.")*

WAU Name	WAU Acres	Proposal Acres
Upper NF Stillaguamish	**32,758**	**68.8**
HAZEL WAU Sub-basin Segelsen	**24,216**	**13.2**

Proposal is located in Upper NF Stillaguamish Sub-basin 1, 2 and 4, and Hazel WAU Sub-Basin Segelsen.

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.)*

General Watershed Administrative Unit (WAU) information Data from DNR Database – April 2007

Name of WAU	*Acres*	*DNR-managed Acres*	*Non-DNR-managed Acres*	*% DNR-managed Land in WAU*	*% Non-DNR-managed Land in WAU*	*Net Proposal Acres*	*Proposal % of total WAU*	*Proposal % of DNR-managed land*
Upper NF Stillaguamish	**32,758**	**3,656**	**29,102**	**11**	**89**	**68.8**	**0.2**	**1.8%**
Hazel	**24,216**	**8,635**	**15,581**	**36**	**64**	**13.2**	**0.05%**	**0.2%**

The majority of the land in the Upper NF Stillaguamish WAU is designated for timber resource use, and has been so historically. Federal land comprises a majority of the WAU. A small portion of the WAU is managed by private industrial forests. Timber harvest on private and State managed land will be subject to Forest Practices rules.

The majority of the land in the Hazel WAU is designated for timber resource use, and has been so historically. Over half of the land in the WAU is managed by the State. A small portion of the WAU is managed by private industrial forests and Federal land. Timber harvest on private and State managed land will be subject to Forest Practices rules.

Past and Future DNR Activities in WAU

DNR Managed Lands – Past and Future Harvests
(This proposal included as part of the estimated acreage for future harvests.) Data from DNR Database – April 2007

Upper NF Stilly	*Estimated Acreage Harvested in Past 7 Years*	*Est. Acreage for Future Harvests through fiscal year 2009*	*Total Est. Acreage Past and Future*
WAU Acres	**0 even-age; 59 uneven-age**	**0 even-age; 604 uneven-age**	**663**
% of WAU	**0 % even; 0.2 % uneven**	**0 % even; 1.8% uneven**	**2.0 %**
% of DNR Acres in WAU	**0 % even; 1.6 % uneven**	**0 % even; 16.5% uneven**	**18.1 %**

Hazel	*Estimated Acreage Harvested in Past 7 Years*	*Est. Acreage for Future Harvests through fiscal year 2009*	*Total Est. Acreage Past and Future*
WAU Acres	**432 even-age; 335 uneven-age**	**375 even-age; 44 uneven-age**	**1,186**
% of WAU	**1.8 % even; 1.4 % uneven**	**1.5 % even; 0.2% uneven**	**4.9 %**
% of DNR Acres in WAU	**5.0 % even; 3.9 % uneven**	**4.3 % even; 0.5% uneven**	**13.7 %**

Upper NF Stilly WAU & Hazel WAU

DNR-managed land is found in both the Upper NF Stillaguamish WAU and the Hazel WAU. Past activity on DNR-managed lands included timber harvesting and associated activities – e.g. road building and abandonment, rock pit expansion, and silvicultural work. Activities on DNR-managed land will follow Forest Practices Rules, HCP guidelines, and the Policy for Sustainable Forests – policies designed to minimize environmental impacts. Future forest management activities in the WAUs include timber harvesting and associated activities.

According to the Hazel Watershed Analysis, "Landownership includes the U.S. Forest Service (39%), the Department of Natural Resources (36%), Grandy Lakes Forest Associates (5%), and small, non-industrial private landowners (20%)."

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).

Upper North Fork Stillaguamish WAU

The Upper NF Stillaguamish WAU ranges from the alluvial flood plains of the North Fork Stillaguamish River (beginning at approximately 400 feet elevation), north to mountain peaks of up to 5,011 feet elevation. The transition from terrace to foothill to mountains is fairly rapid with a large portion of the WAU being comprised of hilly and mountainous terrain. Ownership is 78% USFS, 11% DNR and 10% private. Rainfall ranges from 60-110 inches per year, averaging 83 inches. Timber types vary from hardwoods on the Stillaguamish flood plain

to second growth mixed conifer throughout the majority of the WAU, to some old-growth conifer in the National Forest portions of the WAU (primarily at higher elevations). Approximately 27% of the WAU is in the rain-on-snow zone, and 47% of the WAU is in the snow-dominated zone.

Hazel WAU

"Elevations in the Hazel WAU range from 200 feet along the Stillaguamish floodplain to 5,200 feet at the summit of Mt. Higgins with an average elevation of 1,835 feet. The upper elevations are comprised of bedded sandstones with smaller exposures of rocks associated with the Helena-Haystack mélange. Glacial deposits, including lacustrine clays, recessional outwash, and till, extend mainly from the Stillaguamish floodplain to 750 feet in elevation, but are also found in the headwaters of the Dicks Creek subwatershed. In general, soils on the steeper slopes are predominantly sandy or sandy loams underlain by sandstone, and are considered well-drained. Floodplain soils and soils formed on glacial terraces vary from poorly drained to moderately well drained silt loams and gravelly loams". (Hazel Watershed Analysis, p.1)

"The WAU has a predominantly maritime-type climate, with cool, dry summers, and mild, wet winters influenced by air currents from the Pacific Ocean. Annual precipitation varies from 80 inches along the Stillaguamish floodplain to over 110 inches near the summit of Mt. Higgins. Average annual precipitation for the WAU is estimated at 100 inches. Most of the precipitation occurs as rain during the months of October through March. Snow persists throughout the winter months above 3,000 feet in elevation. The majority of the WAU is located within the western hemlock zone as defined by Franklin and Dyrness (1988). This zone is dominated by sub-climax Douglas-fir (*Pseudotsuga menziesii)* and climax western hemlock (*Tsuga heterophylla)* and western redcedar (*Thuja plicata*). Elevations above 3,000 feet are typically dominated by Pacific silver fir (*Abies amabilis*) and mountain hemlock (*Tsuga mertensiana*)". (Hazel Watershed Analysis, pp.1-3)

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

The timber harvest proposal is located in the southeast portion of the Hazel WAU and the southwest portion of the NF Stillaguamish WAU. The harvest area contains an elevation range from 500 feet to 2,000 feet. Landforms and timber types are typical for low to mid-elevations of both WAUs.

b. What is the steepest slope on the site (approximate percent slope)?
75%

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 prime farmland. *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	Net Acres	Mass Wasting Potential	Erosion Potential
7585	Gravelly Loam	0-8%	4	Insignificant	Low
8116	Gravelly Loam	25-70%	4	Medium	High
9146	Gravelly Loam	15-30%	4	Insignificant	Medium
1956	Silt Loam	30-65%	20	Medium	Medium
8106	Gravelly Loam	15-25%	20	Insignificant	Low
8113	Gravelly Loam	30-60%	16.8	Medium	Medium
No data			13.2		

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

1) Surface indications:

Surface indications of unstable soils include pistol-butted trees, hummocky topography, and occasional scarps. These surface indications are along Segelsen Creek, but are outside the sale boundary 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 landslides and avalanches on the steep slopes near the summit of Mount Higgins. There are also two large, active, deep-seated landslides along North Fork Stillaguamish River bends, both of which are identified in the Hazel Watershed Analysis.

There is an inactive deep-seated landslide west of Unit 1. Slide and ground water recharge area is bounded out of the sale area.

There are three inactive deep-seated landslides in Unit 3. There is one northwest of the unit that meets the description for ARS #5. This is above Segelsen Creek. As required by the prescription, both the slide and its associated ground water recharge area equal to the area of the slide, have been bounded out of the sale area. The second slide is east of the unit, and meets the description for ARS #3. This is above an unnamed type-3 stream. As called for in the prescription, the slide and its associated ground water recharge area equal to the area of the slide have both been bounded out of the sale area. The third slide is south of the unit, and also meets the description for ARS #5. Both the slide and its associated ground water recharge area equal to the area of the slide have been bounded out of the sale area.

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:

The Watershed Analysis identifies three localized failures that occurred due to road construction across incised stream channels on mid-slopes of Mount Higgins.

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:*

The proposal area is on lower to mid-slope elevations composed of glacial outwash and lacustrine soils. The slopes are generally moderate to steep. There are incised sections of channels along some of the type 3, type 4, and type 5 streams.

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

Hazel Watershed Analysis Prescriptions:
There are three Areas of Resource Sensitivity (ARS) identified in the Hazel Watershed Analysis and applied to Unit 3. The ARS's include #3, 5, and 14. There is no road building planned for this unit. In accordance with the prescriptions in the Watershed Analysis, all potentially unstable slopes and appropriate ground water recharge areas have been bounded out of this unit. This unit is intended to be harvested using ground-based equipment. The prescription for ARS #14 (p. P-19) was exceeded for the CMZ of Segelsen Creek with a 180-foot, no-harvest buffer.

There are three inactive deep-seated landslides in Unit 3. There is one northwest of the unit that meets the description for ARS #5. This is above Segelsen Creek. As required by the prescription, both the slide and its associated ground water recharge area equal to the area of the slide, have been bounded out of the sale area. The second slide is east of the unit, and meets the description for ARS #3. This is above an unnamed type-3 stream. As called for in the prescription, the slide and its associated ground water recharge area equal to the area of the slide have both been bounded out of the sale area. The third slide is south of the unit, and also meets the description for ARS #5. Both the slide and its associated ground water recharge area equal to the area of the slide have been bounded out of the sale area.

The Areas of Resource Sensitivity mapped/described in the Watershed Analysis report were identified/delineated on site. All timber harvest activities were designed to meet or exceed the Watershed Analysis prescriptions.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
Approx. acreage new roads: **0** *Approx. acreage new landings:* **0** *Fill source:* **n/a**

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

Some localized erosion could occur during log transportation activities. However normal maintenance practices will minimize the amount of erosion.

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):*

0

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

In areas adjacent to constructed roads where soil disturbances have occurred, straw mulch, grass seed, or some other appropriate measure will be used to prevent sediments from being transported.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust *from truck traffic, rock mining, crushing or hauling*, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

No emissions are anticipated other than minor amounts of equipment exhaust and road dust created by log hauling activities. If burned, slash will be burned in adherence to WA State's Smoke Management Program.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.
Does not apply.

c. 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 Program.

3. Water

a. Surface:

1) 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.)*

a) Downstream water bodies:
North Fork Stillaguamish River and Segelsen Creek.

b) 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)
NF Stillaguamish	1	1	204
Segelsen Creek	3	1	180
Un-named	3	3	180
Un-named	4	4	100 with a minimum 25-foot no-harvest core zone
Un-named	5	4	30-foot equipment limitation zone

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

Segelsen Creek (a type 3 stream) will be given a 100-year site index buffer of 180 feet from the edge of the CMZ.

The riparian procedure with each compartment prescription will be applied to the outer 75 feet of type 4 streams buffers and the outer 155 feet of type 3 stream buffers. No harvest will occur within the 25-foot core zone of the stream buffer. No wind buffers were applied because the harvest is a thinning. Cable roads will not closely parallel stream channels.

Ditchwater will be diverted through relief culverts prior to stream crossing to keep sediment out of the stream. Exposed soils will be grass seeded.
See A.11.a for prescription information.

2) Will the project require any work over, in, or adjacent to (within 200 feet) to 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.)*

Ditchwater will be diverted through relief culverts prior to stream crossing to keep sediment out of the stream. Exposed soils will be grass seeded.

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:*

All stream flow will be temporarily diverted through bypass culverts or retained behind (or pumped around) coffer dams during culvert removals.

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?

The sub-basin contains soils that are susceptible to surface erosion and/or mass wasting according to the state soil survey data and the Hazel Watershed Analysis report. The soil survey data for soils on the harvest site indicate an insignificant to medium potential for mass wasting and a low to high potential for surface erosion see B.1.c above. The potential exists for eroded material to enter surface water but surface erosion control/prevention measures discussed in B.1.h. minimize or prevent delivery to surface waters.

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:*

The Hazel Watershed Analysis describes numerous types and examples of mass wasting units. The most significant of these are large, active, deep-seated landslides along river bends, which periodically deliver coarse and fine sediment as well as large organic debris, directly into the Stillaguamish River. During peak flow events, river undercutting of steep banks above these river bends has historically resulted in changes to the river channel.

9) Could this proposal affect water quality based on the answers to the questions 1-8 above?
☒*No* ☐*Yes, explain:*

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 Name	Road miles per square mile
Upper NF Stillaguamish	3.0
Hazel	3.2

See A.11.c

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 WAU in significant ROS zone.*
Approximate percent of sub-basin(s):

The DNR manages 5% of the land in Sub-basin 2 of the Upper North Fork Stillaguamish WAU. Since this is less than 33%, the DNR is not required to manage for hydrological maturity.

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 or sub-basin(s)?*
☐*No* ☒*Yes, describe observations:*

There are indications of stream channel changes and it is hard to distinguish between peak flows events and/or other debris flows.

This is a variable density thinning with a small amount of the proposal area being located in the significant rain on snow zone; therefore, it is not anticipated that this proposal will have an impact on peak flows.

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 DNR is not required to manage for hydrological maturity in this sub-basin. Since the proposal is a variable density thinning, the proposal area will remain hydrologically mature.

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 North Fork Stillaguamish River is down slope of the proposal area. Due to the protective measures cited in B.3.a.1.c. and A.11.c. it is highly unlikely this river will be affected by changes in surface water.

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.*

This is a variable density thinning with a small amount of the proposal area located in the significant rain on snow zone; therefore, it is not anticipated that this proposal will have an impact on peak flows.

b. Ground *Water*:

1) Will ground water be withdrawn, or will water be discharged to ground water? 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.
Small amounts of oil and other lubricants could be discharged inadvertently as a result of heavy equipment use. No lubricants will be disposed of onsite.

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.*
Please refer to B.1.h., B.3.a.1.b., and B.3.a.1.c.

c. Water Runoff (including storm water):

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.

Runoff from the road surfaces will be collected in ditches and diverted to stable areas on the forest floor through the use of ditches, culverts, and energy dissipaters.

2) Could waste materials enter ground or surface waters? If so, generally describe.
No.
a) Note protection measures, if any.

d. Proposed measures to reduce or control surface, ground, and runoff water 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.)

On roads: Constructed ditches, cross-drain culverts, drain dips, and water bars will be used to control 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. All activities associated with this proposal will meet or exceed Forest Practices standards and will follow the Habitat Conservation Plan.

4. Plants

a. Check or circle 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:*

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.)*

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: http://www.dnr.wa.gov under "SEPA Center.")

Timber is similar in species and structural diversity adjacent to the proposal on Federal forest land. Young stands on private land and DNR managed land are planted with Douglas-fir with in-growth of western redcedar, western hemlock, red alder and bigleaf maple.

2) Retention tree plan:
Does not apply. This is a variable density thinning. See A.11a.

c. List threatened or endangered *plant* species known to be on or near the site.
None found in database search.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Natural regeneration of western hemlock and red alder are expected. Openings created by the thinning that are greater than 1/4 acre will be planted with Douglas-fir and shade tolerant western redcedar conifer seedlings.
A West Side Old Growth Assessment was conducted in the southeast portion of Unit 2. The assessment concluded that the area does not meet the definition of an 'old growth stand'. However, all of the visually identifiable remnant trees have been marked with blue paint in order to avoid their removal.

5. **Animal**

a. Circle or check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☐heron, ☒eagle, ☒songbirds, ☐*pigeon*, ☒other: **Owl**
mammals: ☒deer, ☒bear, ☐elk, ☐beaver, ☐other:
fish: ☐bass, ☐salmon, ☐trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐*talus slopes*, ☐*caves*, ☐*cliffs*, ☐*oak woodlands*, ☐*balds*, ☐*mineral springs*

A medium-sized brown owl was sighted during sale layout, but could not be identified at the time of sighting. A DNR Biologist conducted surveys in the area, without any detections (but this was late in the breeding season for Strix owls, so it was not unreasonable to not get a response). The following spring, barred owls were heard by another forester and identified by their calls. It is highly likely that the owl that was sighted was one of these barred owls.

There is a rock feature, potential cave area that a DNR Biologist visited the site on 12/05/2007. It has been determined that that the feature in question is <u>not a cave</u>.

No eagle nest or roosts were found on or within 660 feet of the proposal.

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

DNR's TRAX System indicates there was a bald eagle nest near the proposal area. However, the area was surveyed and the bald eagle nest is no longer in use as of 2004.

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 adverse impacts are anticipated as a result of this proposal.

d. Proposed measures to preserve or enhance wildlife, if any:

This proposal will increase the structural complexity of the residual stands. The thinning will create openings in the canopy that will allow more light to reach currently overtopped trees. This will allow many of them to persist despite their canopy position, and thus, help to maintain vertical stratification. Additionally, because this is a variable density thinning, many established seedlings will be released in larger gaps. Some of the gaps will also be large enough to promote successful natural regeneration. All existing down logs will be left and all existing snags will be left wherever safety and legal considerations allow.

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

Species /Habitat: **Marbled Murrelet**	Protection Measures: **All newly identified habitat has been bounded out of the sale area. In addition, the largest newly identified polygon of potential habitat has been buffered with a 100 meter, no-harvest buffer. This buffer is for added protection and left as mitigation, at the request of U.S. Fish and Wildlife Service, for a previous deviation from the current Marbled Murrelet interim strategy. No timing restrictions have been applied to this proposal.**
Species /Habitat: **Nesting, Roosting, Foraging (NRF) Habitat**	Protection Measures: **The proposal is in lands designated as NRF habitat, however the area does not currently meet minimum spotted owl NRF habitat conditions. The overall objective of this proposal is to accelerate the creation of NRF habitat for the northern spotted owl with a variable density thinning timber harvest.**

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 hazard due to heavy equipment operations. There is a potential fire hazard if operating in moderate fire weather conditions during the summer. The timber sale contract contains language that addresses hazardous materials spill prevention; hazardous material spill containment, control and cleanup; hazardous material release reporting.

1) Describe special emergency services that might be required.
Does not apply.

2) 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.

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 long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.

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:

None. 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? *(Site includes the complete proposal, e.g. rock pits and access roads.)*
Forest Management.

b. Has the site been used for agriculture? If so, describe.
Does not apply.

c. Describe any structures on the site.
Does not apply.

d. Will any structures be demolished? If so, what?
Does not apply.

e. What is the current zoning classification of the site?
Commercial Forest Land.

f. What is the current comprehensive plan designation of the site?
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 an "environmentally sensitive" area? If so, specify.
No.

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.

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 principle exterior building material(s) proposed?
Does not apply.

b. What views in the immediate vicinity would be altered or obstructed?
None.

1) Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?
☐*No* ☒*Yes, viewing location:*
The proposal may be visible along the Swede Heaven county road.

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:*
The proposal may be visible along Hwy 530, an unofficial part of the Cascade Loop Scenic Byway of Washington State.

3) How will this proposal affect any views described in 1) or 2) above?
The proposal is a thinning, which will minimally alter original views.

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

Timber harvesting is a normal occurrence in the vicinity of the proposal, and recent timber harvests are visible throughout the area.

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?

No designated recreational opportunities currently exist. Informal use may include horseback riding, bicycling, hiking, hunting, camping, or ATV/motorcycle/off-road use.

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

Informal recreational use 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.

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

None. No permanent displacement of existing use will occur as a result of this proposal.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

TRAX indicates three archaeological points in Section 15, Township 32 North, Range 9 East. There are three archaeological points in Section 16, Township 32 North, Range 9 East. The sale will not affect these archaeological sites, as they are located at least one mile from the proposal area.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.
See B.13.a.

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)
None.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

Swede Heaven Road and Highway 530.

1) Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?

There is no indication that this proposal will contribute to such a problem. As the proposal is located in a rural area, traffic is minimal. Log truck traffic is consistent with the existing transportation patterns.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?
No.

c. How many parking spaces would the completed project have? How many would the project eliminate?
Does not apply.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).
No.

l) *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 no impact on the overall transportation system in the surrounding area.

e. Will the project 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? If known, indicate when peak volumes would occur.
0.01 trips per day (average of four trips a year) for management purposes, for the first 5-10 years after the completion of the proposal.

g. Proposed measures to reduce or control transportation impacts, if any:
Safe vehicle operation will be encouraged.

15. Public Services

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

b. Proposed measures to reduce or control direct impacts on public services, if any.
Access will be restricted as needed during periods of extreme fire danger.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.
Does not apply.

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.
Does not apply.

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.

Completed by: [illegible] Natural Resource Spec Date: 8/24/12
Title