

## *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:* **Flower Potts**

*Agreement #* **92915**

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

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

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

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

4. Date checklist prepared: **12/21/2015**

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

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

- a. *Auction Date:* **10/26/16**
- b. *Planned contract end date (but may be extended):* **3/31/2018**
- 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.

**Timber Sale:**

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

**Roads:**

**The DL-1019, DL-4323, and a portion of the DL-10 will be used for this proposal and abandoned upon completion of this proposal. DL-ML, DL-43, DL-10 will be used for this proposal, and remain open for future management activities.**

**Rock Pits and/or Sale:**

**The DL-4317 hardrock pit will be used for future management activities. Onsite rock may be used for road construction, if rock sources are discovered along haul routes or within the sale area.**

**Other:**

**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):*
- Landscape plan:*
- Watershed analysis:*
- Interdisciplinary team (ID Team) report:*
- Road design plan:* **Available at Northwest Region Office**

- Wildlife report:** Memo - Wildlife Review of the Proposed Flower Potts Timber Sale, dated April 14, 2016; Memo – Proposed Implementation of the Draft Cave Procedure for the Flower Potts Timber Sale, February 29, 2016; Memo - Marbled Murrelet Interim Strategy for the North Puget Planning Unit: Operational Access through Criteria 2 Newly-Identified Habitat in Association with the Proposed Flower Potts Timber Sale, March 21, 2016.
- Geotechnical report:** Discussion of Landslides and Slope Stability; Flower Potts Timber Sale, dated March 28, 2016.
- Other specialist report(s):**
- Memorandum of understanding (sportsmen 's groups, neighborhood associations, tribes, etc.):*
- Rock pit plan:** Available at Northwest Region Office
- Other:** State Soil Survey, 1992; Policy for Sustainable Forests, December 2006; Final Habitat Conservation Plan (HCP) & Environment Impact Statement, September 1997.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None known.

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

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

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

a. *Complete proposal description:*

The proposal is a variable retention harvest with an estimated harvest volume of 1,829 MBF of timber, on State managed trust lands. The harvest removals will occur via both ground-based and cable yarding systems. The proposal is surrounded by State managed land and private industrial forestland.

Approximately 110 acres were considered for this proposal; this has been reduced to 53.4 gross activity acres due to operational feasibility, wildlife habitat, and stream buffers. After deducting 2.1 acres of leave tree areas, the resulting timber sale area consists of 2 units totaling approximately 48.1 net acres of variable retention harvest and 3.2 acres of external road right-of way, for a total of 51.3 net harvest acres.

Rock pits will be utilized with this proposal. Rock pit names are listed in A.7.

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

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

Pre-Harvest Stand Description:

- o The units are composed primarily of Douglas-fir, with some western hemlock, western redcedar, red alder, and bigleaf maple. Stands originated around 1918 and are approximately 90-150 feet tall.

Type of Harvest:

- o Variable Retention Harvest (VRH), even-aged, with a leave tree retention component.

Overall Unit Objectives:

- o Generate revenue for the State trust beneficiaries.
- o Protect water quality, maintain site productivity, and maintain wildlife habitat through a leave tree retention strategy.
- o This proposal meets or exceeds all guidelines set forth in the DNR *Habitat Conservation Plan (HCP)*, 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
Temporary Construction**		3224	1.2	0
Pre-haul Maintenance		11,886		0
Reconstruction		0	0	0
Abandonment		0	0	0
Bridge Install/Replace	0			0
Culvert Install/Replace (fish)	0			0
Culvert Install/Replace (no fish)*	0			

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

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

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

a. Legal description:

Harvest Units and Rock Pit: Section 32 of Township 35 North, Range 6 East and Section 4 of Township 34 North, Range 6 East, Willamette Meridian.

Pre-haul Road Maintenance: Sections 4 and 5 of Township 34 North, Range 6 East and Sections 32 and 33 of Township 35 North, Range 6 East, Willamette Meridian.

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

Proposal is located 15 miles southeast of Sedro-Woolley. From Sedro-Woolley heading south on Highway 9 continue until right turn onto South Skagit Highway headed east. Continue on South Skagit Highway, turning right onto Potts Road. Continue until Potts Road becomes the DL-ML. DL-ML to DL-10 Road, turning right on DL-10 Road and following to the northern boundary of Unit 1.

c. Identify the names of all watershed administrative units (WAU). 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
DAY CREEK	23,756
GILLIGAN	17,383

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.")

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

Day Creek WAU		
Land Manager	Acres	% of WAU
DNR	1,920	8.1
Federal	2,259	9.5
Other State (Non-DNR)	0	0
Other Land (Private & Other Public Land)	19,577	82.4
As of 2/3/2016 there are not planned future activities in this WAU		

Gilligan WAU		
Land Manager	Acres	% of WAU
DNR	3,223	18.5
Federal	539	3.1
Other State (Non-DNR)	226	1.3
Other Land (Private & Other Public Land)	13,395	77.1
As of 2/3/2016 there are not planned future activities in this WAU		

The following table reports timber harvest activity in the WAUs within the past seven years on both DNR managed lands and non-DNR lands. The data was compiled from the Department's Forest Practices' Geographical Information System (GIS) database. This information is derived from activity locations collected by varying methods ranging from hand drawn maps to precise GPS collection. No verification of map accuracy or activity completion is conducted. Totals may not be the sum of all harvest types due to overlapping activities. The same land may be counted more than once if, in the past seven years, more than one Forest Practice application has been approved for different harvests (salvage and even-age for example). This information is based on the best available information as of February 3, 2016.

WAU	DNR harvest acres: Even-aged	DNR harvest acres: Uneven-aged	Non-DNR harvest acres: Even-aged	Non-DNR harvest acres: Uneven-aged
Day Creek	128	3	1,174	89
Gilligan	243	0	970	77

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

Under the Interim Strategy for the Marbled Murrelet in the North Puget Planning Unit under the Department's HCP, several stands in this WAU have been deferred from timber harvest to protect known murrelet nesting sites and to provide potential additional nesting habitat. This Interim Strategy also requires Department field staff to search for and delineate any "newly identified" marbled murrelet habitat in the vicinity of any proposed timber harvest. These stands may be deferred from timber harvest throughout the remainder of the Interim Strategy (with occasional exceptions made to allow road and/or yarding access into non-habitat areas.) Field staff have determined that "newly identified" marbled murrelet habitat is near the proposal, but has been bound out of the proposal area. Access to Unit 2 will be achieved by road construction through the adjacent "newly identified" habitat. A protocol survey has been conducted per the Interim Strategy, see B.5.a for details. All activity has been reviewed and verified by a region biologist. Therefore, the proposal meets all requirements of the Interim Strategy.

## B. ENVIRONMENTAL ELEMENTS

### 1. Earth

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

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

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

Day Creek WAU:

The Day Creek WAU, which lies east of the Gilligan WAU, drains northward into the Skagit River. The WAU is dominated by steep, mountainous topography throughout most of its area, except where Day Creek flows into the Skagit River. Elevations within the WAU range from 55 to 4,331 feet, while the mean elevation is 2,138 feet. Climate is typical for western Washington with mild, maritime temperatures, and mean precipitation levels of 50-80 inches per year. Although due to its location and topography, roughly 85% of the WAU has mean annual precipitation levels between 70 and 80 inches.

The influence of the Cascade Mountain range is felt, as approximately 80% of the total WAU acreage is within the significant rain on snow zone (SROS). Conifers dominate forest stands in this region and are composed primarily of western hemlock with western redcedar in lower, wetter areas and Douglas-fir in higher, drier sites. This WAU is part of the Westside western hemlock vegetation zone. Red alder, black cottonwood and bigleaf maple can also be found scattered and in smaller stands throughout the WAU.

Gilligan WAU:

The entire Gilligan WAU is within the Westside western hemlock forest zone, and contains several coniferous species including Douglas-fir, western redcedar, western hemlock and Pacific silver fir. Red alder, bigleaf maple and black

cottonwood also occur intermixed with the conifers, typically in more disturbed or wetter sites. Landforms within this WAU range from steep, rocky slopes to gently sloping lowlands. The majority of the WAU is in the lowland zone and receives 40-80 inches of rain in an average year. The elevation ranges from 36 to 4,099 feet, and the upper elevations contain the area within the WAU that is in the rain on snow and snow dominated zones.

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

The proposal area is consistent with the WAU descriptions above.

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

80%, not including rock outcroppings.

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

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

State Soil Survey #	Soil Texture	% Slope	Mass Wasting Potential	Erosion Potential
7439	V.GRAVELLY SILT LOAM	30-65	MEDIUM	MEDIUM
2875	GRAVELLY SILT LOAM	30-65	MEDIUM	MEDIUM
0141	ANDIC XEROCHREPTS-ROCK OUTCROP-COMPLEX	65-90	No Data	No Data

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

1) Surface indications:

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

GIS data layers show LSI polygons #16320 and #16319, both identified as Unknown Level of Certainty. According to the Northwest Region Licensed Engineering Geologist and Qualified Expert per Forest Practice Standards Unit 2 resides within the boundaries of a bedrock deep-seated landslide area (16320). Field reconnaissance did not reveal evidence of current, recent, or historic movement. There were no presence of ground cracks, disturbed stumps, or jackstrawed trees.

To the west of Unit 2, outside the unit boundary there is an inner gorge. A bedrock hollow was identified along the east bank of the inner gorge. During field review, the State Lands Geologist recommended bounding this bedrock hollow out of the proposal area. It was also noted that the adjacent slope, to the northeast of the bedrock hollow was not considered part of the rule-identified feature, as its topography is mostly planar if not broadly convergent.

Polygon #16319 was also screened and field reviewed by a Northwest Region Licensed Engineering Geologist and Qualified Expert. This area was determined to be composed of two smaller landslide areas of separate origin events. First, the main body of 16319 is separated from the proposed harvest area by an unnamed stream. It was determined based on this separation and from previous management activity, as well as field reconnaissance that did not reveal the presence of ground cracks, disturbed stumps, or jackstrawed trees, that management activity is unlikely to adversely impact this area and this area is unlikely to adversely impact

management activities.

Second, a separate landslide that shares some area with the western edge of LIS polygon #16319 was identified by the same Qualified Expert. This landslide area is northeast and down slope of Unit 1 and was determined to be from a separate event. This area has been assigned the name "Landslide B". Review of Landslide B did not reveal evidence of current, recent, or historic movement. Adverse impacts to and from all landslide areas associated with the proposal area was judged to be low by a Qualified Expert. For a more in-depth account of nearby slope stability concerns, see Geologist Memo – *Discussion of Landslides and Slope Stability; Flower Potts Timber Sale*, March 28, 2016.

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 slope failures in the WAU. These failures are predominately on the steepest slopes. Most are narrow and elongated, forming where frequent avalanches and landslides initiate along incised stream channels. There are also slides along stream channels where migrating streams undercut the bank.

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:* Specific areas are not known, but due to terrain and landforms in the vicinity it is likely landslides have occurred. It is possible that some of these shallow failures were triggered by historic timber harvests and road construction activity.

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:*

Some of the streams within and adjacent to this proposal have similar topography to streams that have experienced slope failures in the past.

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

No timber harvest will occur on unstable slopes identified by a Northwest Region Licensed Engineering Geologist and Qualified Expert. See B.I.d.1. above.

No road work will occur on potentially unstable slopes with the potential to deliver debris to surface waters or other public resources. Roads were designed to minimize ground-based yarding distances to an average of 400 feet or less and to access cable landing locations for areas requiring cable yarding. There are no rule identified features within the proposal boundaries.

c. 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: 1.2    Approx. acreage new landings: 0.75    Fill Source: Native fill or rock*

Native material and rock from existing and proposed rock pits described in A.7. Road construction will utilize standard cut and fill methodology to obtain grade and alignment. Native soil and rock will be excavated from the road prism and used for fill in the sub-grade and over cross drains.

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

Minor erosion may occur from freshly exposed soils along road cut slopes and embankment slopes. Erosion could result from road and landing construction during periods of heavy rainfall or as a result of yarding during periods of saturation. Additionally, erosion could result if ditches and culverts are not properly installed and maintained during and after the harvest operation. Road use during unfavorable weather conditions may

contribute to an increased potential for surface 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):*

**Less than 1% of this site will be covered with semi-impervious surfaces (forest gravel roads) after project construction.**

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

**Contractual measures are in place to help reduce and control erosion. Riparian (RMZ) buffers as described in B.3.a.1.b and c. will be retained.**

**For harvest activities, ground-based operations will be limited to sustained slopes generally 35% or less. The lead end of the logs will be suspended during yarding to reduce soil disturbance. Equipment trails will be water-barred as necessary.**

**For road work, rock haul and log haul, appropriate drainage devices including proper culvert size and placement, drain dips, water bars, and ditching will be used as necessary to reduce surface erosion on roads. Energy dissipaters will be installed with culverts to reduce erosion. Relief pipes will be strategically placed to minimize the amount of road ditch water that enters surface waters. Slopes that are exposed of vegetative cover during road work activities will be revegetated to reduce erosion and sediment-laden runoff. Storm patrols may be conducted on roads to identify and address potential erosion problems.**

## 2. Air

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

**Minor amounts of engine exhaust from logging equipment and dust from vehicle traffic and logging equipment are expected while the project is active. Following harvest, logging slash debris may be reduced by accumulating it into piles and then burned.**

- 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 Plan.**

## 3. Water

- a. Surface Water:

**I) 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: Morgan Creek, Skagit River**

**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)
Unnamed stream	4	2	100 feet
Unnamed stream	5	3	30-foot equipment limitation zone

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

RMZ buffers as listed in B.3.a.1.b. as well as the proposed measures to reduce or control erosion described in B.1.h provide protection measures for the surface waters in the vicinity of the proposal area.

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

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):

Timber will be felled immediately adjacent to the RMZs described in the table in B.3.a.1.b. Timber will be felled away from the RMZs where practical in order to avoid damage to trees within the RMZs. No stream channels will be crossed with new road construction. Logs may be placed in stream crossings to facilitate yarding and removed upon completion of yarding. Where yarding over type 5 streams is necessary, the leading edge of logs will be suspended to avoid disturbing the stream banks.

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:

No culvert installations are planned at typed water crossings. However, typed waters may be temporarily diverted, if culvert replacement is deemed necessary, through the course of operations, on typed water crossing on existing roads.

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

No  Yes, describe location:

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

No  Yes, type and volume:

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

Yes. The following data was reported in the Department's GIS database in February 3, 2016. This data is not available by sub-basin.

Day Creek WAU:

Erosion Table

Erosion Potential	Acres	% in WAU
High	1087.5	4.6
Medium	11220.0	47.2
Low	8327.6	35.1
Variable	117.0	0.5
No Data	829.0	3.5

N/A	188.8	0.8
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**Mass Wasting Table**

Mass Wasting Potential	Acres	% in WAU
High	1148.2	4.8
Medium	10762.0	45.3
Low	1408.4	5.9
Insignificant	7505.3	31.6
No Data	829.0	3.5

**Gilligan WAU:**

**Erosion Table**

Erosion Potential	Acres	% in WAU
High	1293.8	7.4
Medium	7286.0	41.9
Low	6954.4	40.0
Variable	36.3	0.2
No Data	942.1	5.4
N/A	307.4	1.8

**Mass Wasting Table**

Mass Wasting Potential	Acres	% in WAU
High	877.4	5.0
Medium	7196.1	41.4
Low	840.2	4.8
Insignificant	6927.8	39.9
No Data	942.1	5.4

Soils information may not be available for 100% of these WAU areas.

- 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:

At the WAU level there is evidence of aggradation in low-gradient channel reaches and channel scouring in the upper reaches. These changes are associated with mass wasting and channelized debris flows. There is no evidence of significant channel movement.

There has been some stream channel widening from flooding and landslide events. During extreme flooding, the Large Organic Debris (LOD) has been decreased in some stream channels. These events are both natural and could be caused from historic logging and road construction activities.

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

No       Yes, explain:

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

Based on prior harvest history and the proposed harvest unit locations, the impacts of the sale and associated ground water delivery will likely be very small, especially compared to the size of the historic unstable slopes (identified in B.1.d.1.) and their associated watersheds. RMZ buffers (see B.3.a.1.b) and other operation control measures (see B.1.h) ensure that any overland flow from disturbed soil areas will filter through

substantial amounts of forest-floor vegetation before entering any perennial stream channels.

Road work disturbs surface soils where some temporary surface erosion is likely to occur, especially following the first winter rains and road abandonment activities. These activities will follow Forest Practices Rules, Best Management Practices and RMAP requirements to minimize any erosion-related water quality impacts. See question B.1.h, B.3.a.1.c, and B.3.d. for a partial listing of some of the specific erosion protection measures.

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

Based on GIS report generated February 3, 2016: Day Creek WAU has 3.6 road miles per square mile, and Gilligan WAU has 4.0 road miles per square mile. Data was not available for sub-basins.

- 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:

Based on GIS data: Unit 1 is located in a ROS zone. See B.3.a.12 below for percentage of sub-basin(s) in significant ROS zone

- 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?

Based on a GIS report generated in February 3, 2016:

WAU or sub-basin(s)	ROS acres:	% sub-basin in significant ROS zone	DNR hcp-managed forest land acres in ROS:	% DNR hcp-managed forest lands in ROS:	% DNR managed lands rated hydrologically mature
Day Creek sub-basin 1	1500	39.07	343	22.86	30.17
Gilligan sub-basin 1	719	26.31	302	42.05	39.43

It is not readily known what the hydrologic maturity is on other ownerships. These sub-basins are not managed for ROS under the Department's Habitat Conservation Plan because in the Day Creek sub-basin 1 the DNR manages less than half of the ROS acres, and in the Gilligan sub-basin 1 less the one third of the sub-basin is in the ROS zone.

- 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):

Channel changes have occurred at the WAU level. It is difficult to separate the effects of peak stream flow increases from the effects of mass wasting in stream channels. The effects are interrelated and often occur during the same storm events (see B.3.a.8).

- 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 scientific data used to develop the Department's HCP policy on rain-on-snow suggests the following: Measurable damage to salmonid fish habitat (i.e. destabilization and transport of coarse woody debris,

excessive sedimentation that fills in pools, and destruction of salmon redds) occurs when peak flows are increased by an amount equivalent to what would be generated by increasing the 10-year 24-hour storm by 1 inch.

This threshold is believed to be exceeded in sub-basins that have at least 1/3 of their area in the significant rain-on-snow zone, and less than 2/3 of the forest in the rain-on-snow zone is in a hydrologically mature state.

This proposal is not anticipated to negatively contribute to a peak flow impact.

**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:

While there are areas of slope instability downslope of the proposed activity, changes in surface water as a result of the proposed activity is not likely to significantly impact the amount, quality, or movement of water downstream. Additionally, there is little expectation of increased peak flows as a result of proposed activities, see B.3.a.14.

**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.*

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

b. Ground Water:

**1)** *Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.*

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

**2)** *Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.*

Minor amounts of oil and lubricants could be inadvertently spilled as a result of heavy equipment use. No lubricants will be disposed of on site. See also B.7.a.

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

No             Yes, describe:

As previously discussed (B.1.d.1), there are areas of slope instability downstream and downslope of the proposed activity that could be affected. However, the proposed activity is not likely to impact water supply quantity or quality because there is little expectation of increased peak flows, see B.3.a.14. Additionally, as stated in B.3.a.9 any impact to water resource will likely be very small, especially in the context of historic harvest activities and the comparative size of the historic unstable slopes (identified in B.1.d.1.) and their associated watersheds.

a. *Note protection measures, if any.*

No protection measures required.

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                       Yes, describe:

**No waste material is anticipated to enter any water as a result of this proposal.**

a. Note protection measures, if any.

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

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

**This proposal should not alter drainage patterns in the vicinity of the site.**

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

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

*(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.)*

#### 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:

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: sword fern, vine maple, creeping Oregon grape.

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.)

As described in A.11, the overstory vegetation will be removed, with the exception of an average of eight trees per acre of 10 inches dbh or greater, and riparian buffers. This will ensure that a portion of the live trees that are best suited to the site, and/or exhibits desirable wildlife habitat characteristics will be left on site. Most of the current shrubs and herbaceous plants will be disturbed to varying degrees during the timber removal process of this proposal.

- 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."))

The adjacent areas' timber types range from young, uniform conifer stands, approximately 5 to 10 years of age to mature timber similar to the proposed removal area as described in A.11.b.

- 2) Retention tree plan:

No less than an average of 8 trees per acre will be left in scattered leave trees and in clumps that are distributed across the proposal area. These clumps include all tree species currently found in the proposal area. The clumps were located around features that will contribute to the maintenance of biological diversity such as snags, down logs, areas with extensive understory development, and large wind firm conifer trees.

- c. List threatened and endangered plant species known to be on or near the site.

DNR's TRAX system indicates no known threatened, endangered, or special concern species on or near the sale area.

TSU Number	FMU ID	Common Name	Federal Listing Status	WA State Listing Status
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:

The site will be planted with conifer seedlings after harvest. See green tree retention plan in B.4.b.2.

- e. List all noxious weeds and invasive species known to be on or near the site.

The DNR TRAX indicates no known noxious weeds or invasive species. However, it is likely that Himalayan blackberry, bull thistle, Canadian thistle, or Scot's broom may be found on or near the site.

## 5. Animals

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

birds:  hawk,  heron,  eagle,  songbirds,  pigeon,  other: marbled murrelet habitat, bats

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

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

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

An area of newly-identified (Criteria 2) suitable marbled murrelet habitat has been identified adjacent to both units.

A known high-value cave is located within the vicinity of the proposal, but is over 250 feet from the proposal area. This cave was assessed by a Wildlife Biologist in 2011. During the assessment the cave was in use by a roosting Townsend's big-eared bat. (See Memo; Proposed Implementation of the Draft Cave Procedure for the Flower Potts Timber Sale, February 29, 2016)

Additionally, a cliff area is located in the vicinity of the proposal. This landform has been field evaluated by a region Wildlife Biologist.

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

DNR's TRAX system indicates no known threatened, endangered, or special concern species on or near the sale area.

TSU Number	FMU ID	Common Name	Federal Listing Status	WA State Listing Status
None Found in Database Search				

- c. Is the site part of a migration route? If so, explain.  
 Pacific flyway     Other migration route:    Explain if any boxes checked:

Washington State is considered part of the Pacific Flyway. No impacts are anticipated as a result of this proposal.

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

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

**Species /Habitat: Marbled Murrelet**

**Protection Measures:** Previous to proposal consideration audio-visual surveys were conducted according to the Pacific Seabird Group Inland Survey Protocol, in an attempt to detect the presence of marbled murrelet. No detections were made at that time, resulting in a determination of "not occupied" for this habitat. During the proposal layout process habitat delineation was performed within the proposal area, resulting in minor adjustments to the habitat polygon (still with full survey coverage). Ultimately the entirety of the contiguous suitable habitat has been excluded from proposal area, with the exception of road construction to allow access. Removal of platform trees for road construction has been minimized to the greatest extent possible. Road construction activities have been approved by representatives of the U.S. Fish and Wildlife Service through consultation. For more information see memo; *Marbled Murrelet Interim Strategy for the North Puget Planning Unit: Operational Access through Criteria 2 Newly-Identified Habitat in Association with the Proposed Flower Potts Timber Sale*, March 21, 2016.

Also, on portions of the DL-10 and DL-1019 roads, any road work, right-of-way timber falling and yarding, rock pit operation, or heavy equipment operation is not allowed from one hour before official sunrise to two hours after official sunrise, and from one hour before official sunset to one hour after official sunset from April 1 through August 31. This restriction does not apply to hauling timber, rock, or equipment.

Additionally a number of individual trees within the proposal area were identified as having suitable platforms for nesting. These trees did not qualify as contiguous habitat and were evaluated individually for retention based on operational feasibility. The majority of these solitary platform trees were marked for retention. Finally, a single platform tree is linked to the adjacent habitat polygon via a linear connection. This tree was marked as non-tradeable due to the nature of its association with the adjacent habitat.

**Species /Habitat: Cave**

**Protection Measures:** As mentioned in B.5.a. above, the known cave is located more than 250 feet from the proposal area. However due to new temporary road construction within 0.25 miles of the cave entrance, protection and mitigation measures are required according to Draft Cave Procedure. In short, the protection measures include maintaining a 250-foot buffer during proposed activities. Additionally, the new road and landing within 0.25 miles are temporary construction and will not remain open for use. Lastly, due to the location of the cave the surrounding mature forest, and marbled murrelet habitat, is expected to provide some audio and visual obstruction to help minimize disturbance. A more complete account of the approved protection measures can be found in the memo; *Proposed Implementation of the Draft Cave Procedure for the Flower Potts Timber Sale*, February 26, 2016.

**Species /Habitat: Cliff**

**Protection Measures:** There is a rock cliff adjacent to, but excluded from the proposal area near Unit 1. Because the cliff is greater than 25 feet tall and below 5,000 feet in elevation, a consultation and field review with a region biologist was conducted. No raptor or bat nesting sites were identified. During field review the cliff was determined to be in excess of 80 feet in height and was further evaluated specifically for peregrine falcon use according to PF14-004-340. No active nest site was found, but the cliff was determined to have potential suitable habitat characteristics.

In light of possible use by peregrine falcon the cliff was protected by retaining trees on, above, and below the area of the cliff judged suitable for nesting raptors. This protection included potential perch trees along the top of the cliff. These measures are consistent with DNR's *Habitat Conservation Plan* and PR 14-004-190.

Species /Habitat: Mature Forest Components  
Protection Measures: Retention tree plan described B.4.b.2

- e. List any invasive animal species known to be on or near the site.  
No invasive animal species are known to be on or near the site.

#### 6. Energy and natural resources

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

**Does not apply.**

- b. Would your project affect the potential use of solar energy by adjacent properties?  
If so, generally describe.

**Does not apply.**

- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

**Does not apply.**

#### 7. Environmental health

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

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

- 1) Describe any known or possible contamination at the site from present or past uses.

**No site contamination is known presently or from past uses.**

- 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.

**No existing hazardous conditions are present in the vicinity.**

- 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.

**Other than equipment oil and fuel, there will be no hazardous chemicals associated with the project.**

- 4) Describe special emergency services that might be required.

- Firefighting by the Department of Natural Resources, possibly supported by local fire districts.
- Emergency medical and/or ambulance service for personal injuries.
- Responses by the Department of Ecology if a spill were to occur.

5) Proposed measures to reduce or control environmental health hazards, if any:

**Safe operation of all equipment will be encouraged. Industrial restrictions and precaution levels regarding forest fire protection will be enforced. The timber purchaser will be required to have fire suppression equipment on site during the restricted fire season while harvest activity is ongoing and operations will cease if relative humidity falls below 30%.**

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

**None.**

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

**Noise from rock drilling/crushing machinery, rock blasting, road building, and logging equipment such as chain saws, yarding whistles, and log/dump trucks will increase noise levels during periods of operation, typically occurring between 4 a.m. and 5 p.m. on weekdays, on a short-term basis. Noise from road construction and harvest activity will be present in the immediate vicinity of this proposal during operations. Noise from log hauling will be present along the haul routes during operations.**

3) Proposed measures to reduce or control noise impacts, if any:

**Noise associated with harvest and road construction activity will be minimal anywhere but in the immediate vicinity of the proposal. Harvest activity and log hauling are historic activities in the area and noise should not be present above customary levels.**

8. Land and shoreline use

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. (*Site includes the complete proposal, e.g. rock pits and access roads.*)

**The entire area is designated for timber production, which will not be affected.**

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 forest land. No conversion is planned.**

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

**No.**

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? **Industrial Forestry.**

f. What is the current comprehensive plan designation of the site? **Industrial Forestry.**

g. If applicable, what is the current shoreline master program designation of the site?  
**Does not apply.**

h. Has any part of the site been classified as a critical area by the city or county? If so, specify. **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? **None.**
- k. Proposed measures to avoid or reduce displacement impacts, if any: **Does not apply.**
- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:  
**This project is consistent with current comprehensive plans and zoning regulations.**
- m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:  
**Does not apply.**

**9. Housing**

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.  
**Does not apply.**
- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.  
**Does not apply.**
- c. Proposed measures to reduce or control housing impacts, if any:  
**Does not apply.**

**10. Aesthetics**

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?  
**Does not apply.**
- b. What views in the immediate vicinity would be altered or obstructed?
  - 1) *Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?*  
 No     Yes, viewing location: **Portions of this proposal may be visible from the Day Creek community. Leave tree patterns and Riparian Management Zones will help mitigate any visual impacts.**
  - 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: **Portions may be visible from State Route 20 and the South Skagit Highway.**
  - 3) *How will this proposal affect any views described in 1) or 2) above?*  
**Although this proposal will be visible to the public, the majority of the landscape where this proposal will occur is managed as commercial forest land, and as such consists of forest stands with a wide range of age classes, including recently harvested areas.**
- 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. Within and around the proposal area, un-harvested stands, stream buffers, and leave tree clumps will remain to reduce the visual impact. These residual stands will break up the view of the harvested area considerably, and will help maintain the aesthetic quality of the area. Additionally, the proposal area will be planted with conifer trees within two years of completion of harvest activities.**

**11. Light and glare**

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur? **Does not apply.**
- b. Could light or glare from the finished project be a safety hazard or interfere with views? **Does not apply.**
- c. What existing off-site sources of light or glare may affect your proposal? **Does not apply.**

- d. Proposed measures to reduce or control light and glare impacts, if any: **Does not apply.**

**12. Recreation**

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

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

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

**Temporary displacement of recreational activities could occur during periods of active harvest operations. These are expected to be short duration and should not have a substantial impact with recreation users.**

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

**None.**

**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.  
**None known.**

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.  
**None known.**

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

**No cultural resource conflict was identified using the Forest Practice Risk Assessment screening tool on December 22, 2015. Additionally, John Meyer and Guy Mora of the Colville Confrence Tribes, Al Johnnie and James Hillaire of the Lummi Indian Nation, Mike Olis, Curt Veldhuisen, and Anna Mostovetsky of the Skagit River System Cooperative, Steven Mullen-Moses and Adam Osbekoff of the Snoqualmie Indian Tribe, Larry Campbell of the Swinomish Indian Tribal Community, and Doug Couvelier of the Upper Skagit Indian Tribe were notified of proposed activity.**

- 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.

**Forest Practices and DNR TRAX runs indicates no known historical or archeological sites within the proposal. Any cultural resources identified during operations will be protected. Should archaeological materials or cultural items be discovered during the course of operations, all work in the vicinity will be stopped and associated tribes and Department of Archaeological and Historic Preservation (DAHP) will be contacted.**

**14. Transportation**

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.

**Please see WAU and adjacency maps on the DNR website under "SEPA CENTER". There are no public streets or highways that serve the site. There will be no addition of public roads to access the site as a result of this proposal.**

- 1) *Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?* **Minor amounts of dust as a result of logging operations and vehicle traffic are possible. As a mitigation technique, the purchaser shall use water for dust abatement on the following roads from May 31 to October 1 as directed by the Contract Administrator.**

Road	Stations
DL-ML	0+00 to 221+48

- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop? **No.**
- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?  
**Does not apply.**
- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

**New forest roads will be constructed as part of this proposal. See A.11.c.**

- 1) *How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?*

**Apart from log hauling traffic during the course of operations, this proposal will have minimal impact on the overall transportation system in the surrounding area.**

- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.  
**Does not apply.**
- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and non-passenger vehicles). What data or transportation models were used to make these estimates?  
**The completed project will generate approximately 1-2 trips per year for management purposes, for the first 5-10 years after the completion of the proposal. Up to 25 vehicular trips per day could occur during peak harvest activities. These trips would occur primarily between the hours of 4 a.m. and 5 p.m. on weekdays.**
- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.  
**No.**
- h. Proposed measures to reduce or control transportation impacts, if any:  
**None.**

**15. Public services**

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.  
**No.**
- b. Proposed measures to reduce or control direct impacts on public services, if any.  
**None.**

**16. Utilities**

- a. Check utilities currently available at the site: electricity natural gas water refuse service telephone  
sanitary sewer septic system other:
- 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**

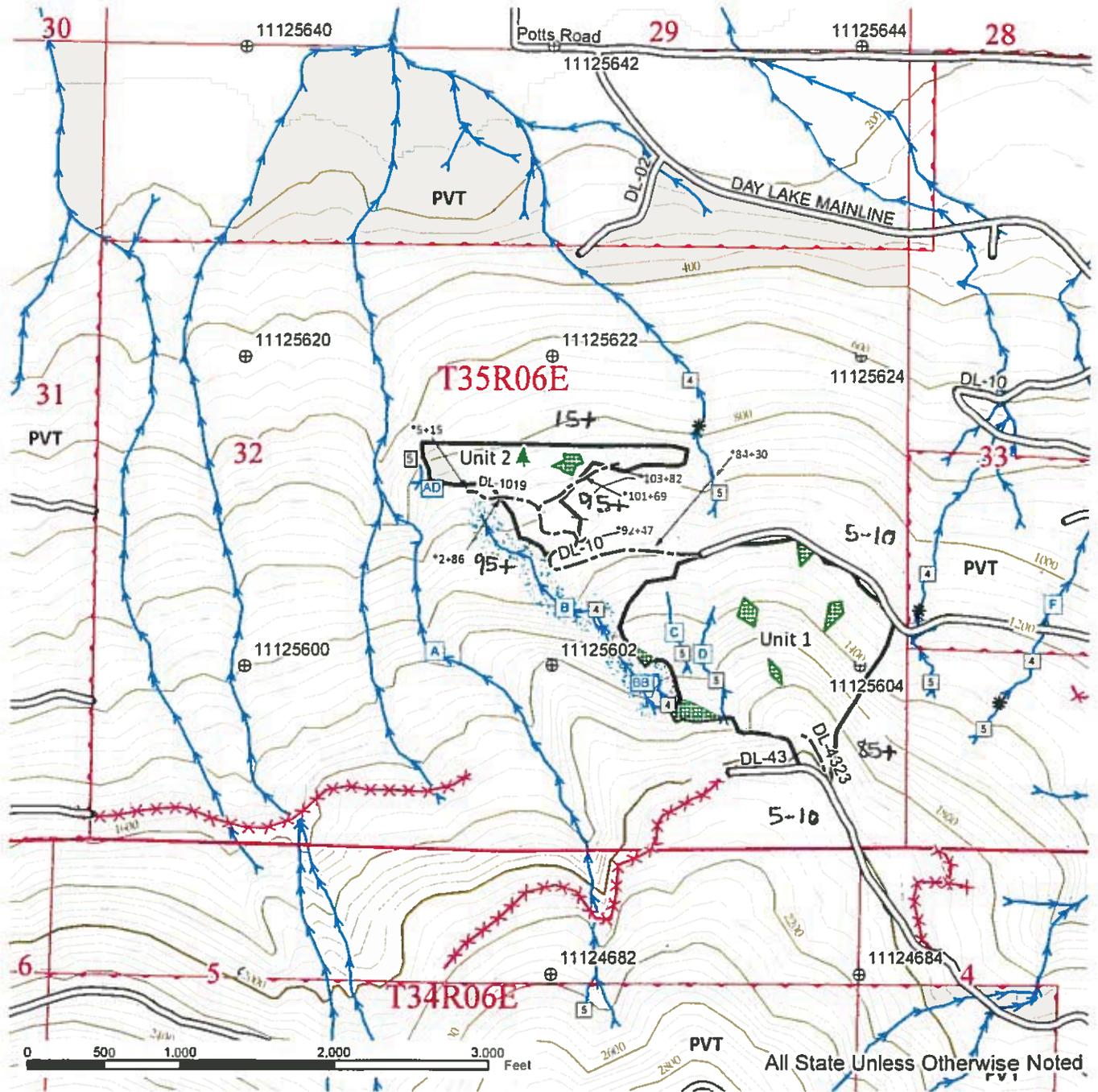
The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature:  Name of signee Joseph Magnuson  
Position and Agency/Organization Cavanaugh Unit Date Submitted: 7/29/16  
Forester

# FOREST PRACTICES ACTIVITY MAP

SALE NAME: FLOWER POTTS  
APPLICATION #:

COUNTY(S): SKAGIT  
TOWNSHIP(S): T35R06E



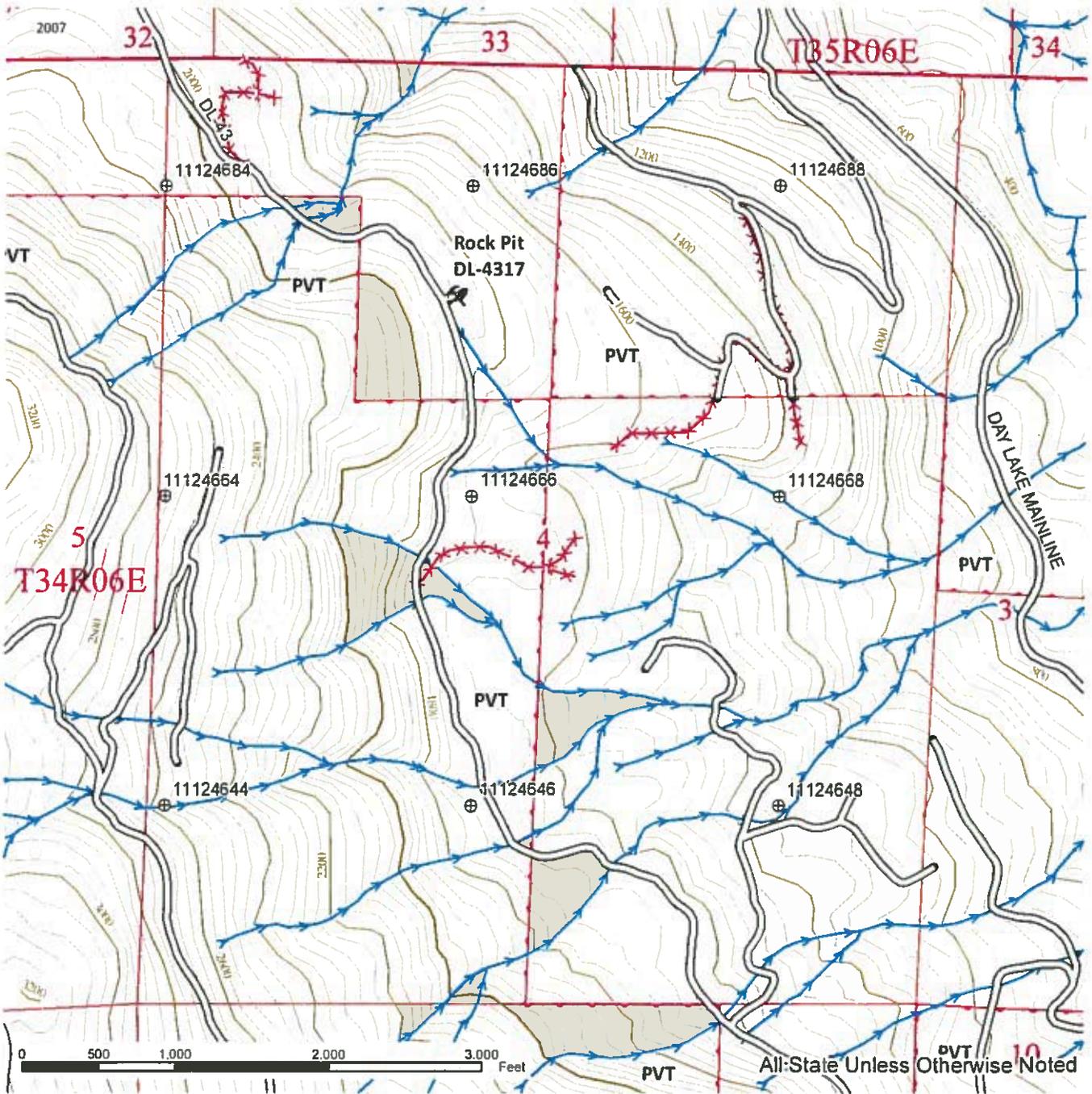
Timber Sale Unit	Existing Roads	Streams
Riparian Mgt Zone	Temporary Construction	Stream Type
Leave Tree Area	Existing Abandon/Orphan Road	Stream Type Break
Public Land Survey Sections		Non-Tradeable Leave Trees
Public Land Survey Townships		Tics - 2000' Interval
DNR Managed Lands		

\*Timing restrictions apply between stations 84+30 and 92+47 and between stations 101+69 and 103+82 on the DL-10 road; as well as between stations 2+86 and 5+15 on the DL-1019 road.

# FOREST PRACTICES ACTIVITY MAP

SALE NAME: FLOWER POTTS  
APPLICATION #:

COUNTY(S): SKAGIT  
TOWNSHIP(S): T34R06E



Public Land Survey Sections	Existing Roads	Streams
Public Land Survey Townships	Existing Abandon/Orphan Road	Stream Type
DNR Managed Lands	Existing Rock Pit	Stream Type Break
	Tics - 2000' Interval	

\*Timing restrictions apply between stations 84+30 and 92+47 and between stations 101+69 and 103+82 on the DL-10 road, as well as between stations 2+86 and 5+15 on the DL-1019 road.

February 29, 2016

**TO:** Allen Estep, Assistant Division Manager, Forest Resources Division  
**THROUGH:** Laurie Bergvall, State Lands Assistant, NW Region  
**FROM:** Lisa Egtvedt, Wildlife Biologist, NW Region  
**RE:** Proposed Implementation of the Draft Cave Procedure for the Flower Potts Timber Sale

**SUMMARY:**

There is a high-value cave located to the west-northwest of Unit 2 of the proposed Flower Potts Timber Sale, in section 32 of T35N, R06E. It is approximately 295 feet (at its closest point) from the proposed unit boundary, which meets the recommendation of at least 250 feet for “high value” caves in the Draft Cave Procedure (2010). However, a proposed temporary road and landing will be located within 0.14 mile of the cave, which is closer than the minimum distance of 0.25 mile that is recommended for road building per the procedure. As a result, Region Manager approval is required for this road building. Such approval has been granted (see attached email, below). Therefore, this request to implement the Draft Cave Procedure - with a slight variance - is submitted to Forest Resources Division for approval.

**INTRODUCTION:**

During an office review of the proposed Flower Potts Timber Sale, a high-value cave was identified in ArcGIS to the west-northwest of Unit 2. This cave was originally detected and assessed by Peter McBride in May of 2011, and found to contain a roosting Townsend’s big-eared bat (*Corynorhinus townsendii*).

**ON-SITE OBSERVATIONS / SPECIFIC DETAILS and ALTERNATIVES CONSIDERED:**

On May 13, 2011, Peter McBride found a cave opening in a rock outcrop located near Morgan Creek (see Figure 1). His assessment determined it to be approximately 800 cubic feet in volume, which would classify it as a medium-value cave based solely on physical characteristics (according to the Draft Cave Procedure). However, he detected a single roosting Townsend’s big-eared bat in the cave, which elevated it to a high-value cave per the cave procedure.

Under the Draft Cave Procedure, a minimum 250-foot buffer from harvest units would be required for the cave entrance. Such a buffer will be maintained with this proposal. Current guidance in this procedure also recommends avoiding road construction within 0.25 mile of the entrance to a high-value cave. In this case, new (temporary) road construction and a landing are proposed within approximately 0.14 mile of the cave.

It has been determined that there are no practical alternative locations for road placement on this landscape. According to the forest engineer, any alternatives would require full bench construction, and potentially result in negative impacts to other resources. Although the proposed new road construction could result in some level of (primarily noise) disturbance to bats using the cave, it is likely that the retention of a riparian buffer and some suitable marbled murrelet habitat – located between the cave and the unit – should maintain some level of visual and audio screening, and provide a dampening effect on potential noise disturbance. Please note that this temporary road is planned to be abandoned following the harvest of this proposal.

Based on all of the above information, Region Manager approval has been granted to vary from the recommended minimum distance of 0.25 mile from a cave entrance for road construction. This approval was provided via email, which is included below.

**CONCLUSION:**

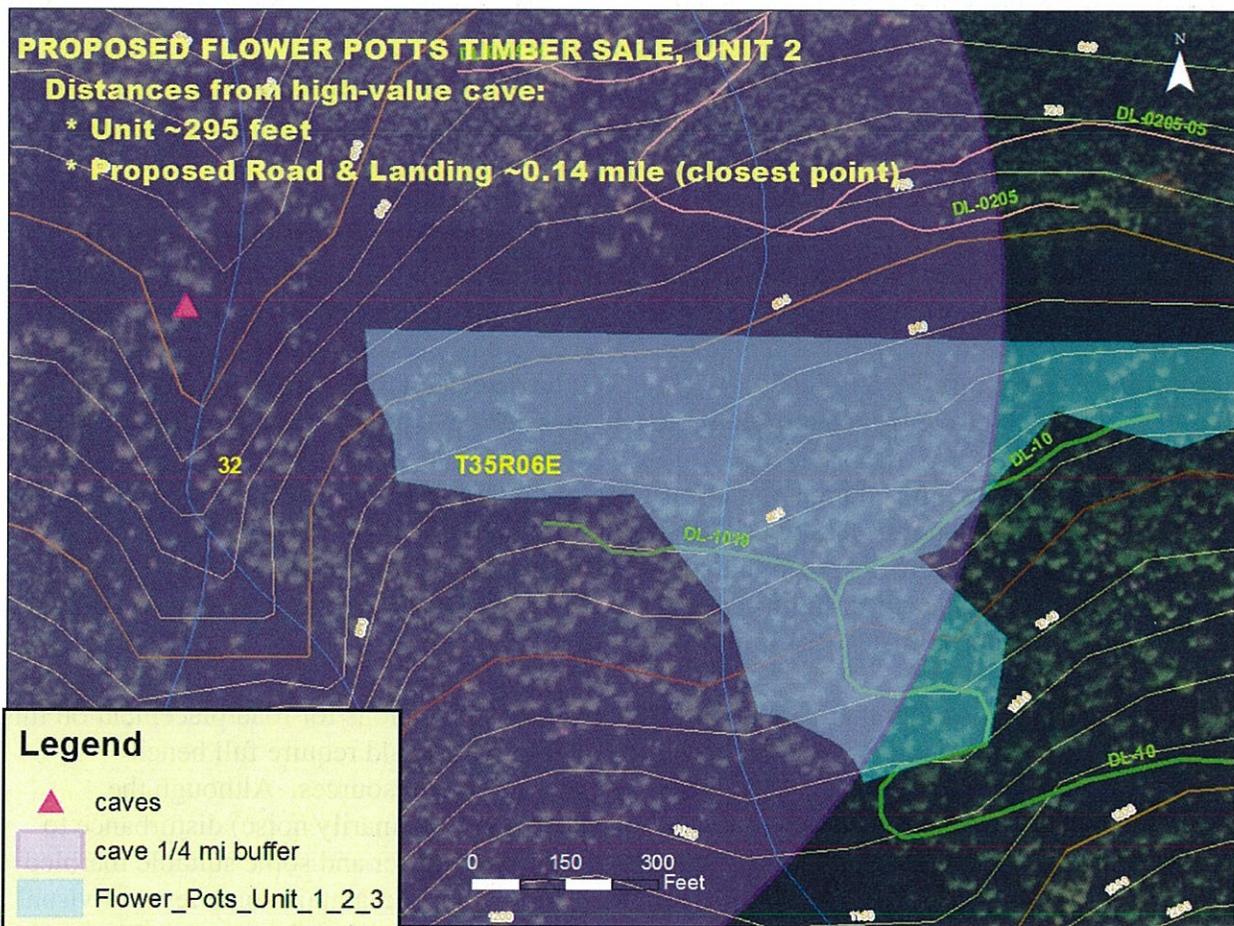
It is my recommendation that we implement the Draft Cave Procedure (2010) for the proposed Flower Potts Timber Sale, Unit 2, with the Region Manager-approved variance re: road distance. If you concur with this recommendation, please sign below.

  
Allen Estep  
Assistant Division Manager, HCP & Scientific Consulting Section  
Forest Resources Division

3-1-2018  
Date

Attachment: Region Manager Email

**Figure 1.** Map of the proposed Flower Potts Timber Sale, Unit 2, with associated cave.



From: Fike, Jean (DNR)  
Sent: Friday, February 26, 2016 2:03 PM  
To: EGTVEDT, LISA (DNR) <LISA.EGTVEDT@dnr.wa.gov>  
Subject: RE: Region Manager Approval for Cave Procedure Variance

Ah, thank you. I approve the plan proposed.

From: EGTVEDT, LISA (DNR)  
Sent: Friday, February 26, 2016 1:56 PM  
0.14 mile

**Lisa Egtvedt**  
Washington Department of Natural Resources

From: Fike, Jean (DNR)  
Sent: Friday, February 26, 2016 1:42 PM  
To: EGTVEDT, LISA (DNR) <LISA.EGTVEDT@dnr.wa.gov>  
Cc: Johnson, Andrew (DNR) <Andrew.Johnson@dnr.wa.gov>; Westra, Jeremy (DNR) <Jeremy.Westra@dnr.wa.gov>; STEELE, JESSE (DNR) <JESSE.STEELE@dnr.wa.gov>  
Subject: RE: Region Manager Approval for Cave Procedure Variance

Thank you Lisa. Approximately how close to the cave would the temporary road be?

From: EGTVEDT, LISA (DNR)  
Sent: Friday, February 26, 2016 1:05 PM  
To: Fike, Jean (DNR) <Jean.Fike@dnr.wa.gov>  
Cc: Johnson, Andrew (DNR) <Andrew.Johnson@dnr.wa.gov>; Westra, Jeremy (DNR) <Jeremy.Westra@dnr.wa.gov>; STEELE, JESSE (DNR) <JESSE.STEELE@dnr.wa.gov>  
Subject: Region Manager Approval for Cave Procedure Variance

Hi, Jean,

As I have communicated with you previously, Region Manager approval is required by the cave procedure if "road construction... cannot be routed around a cave or cave passage in a practical manner". In the context of the proposed Flower Potts timber sale, "around" refers to being within 0.25 mile of a high-value cave.

Unit 2 of the proposed Flower Potts timber sale currently includes planned new (though temporary) road construction and a landing that will come within approximately 0.14 mile of a high-value cave. Please see the attached map for your reference; this cave is depicted by a small red dot to the WNW of the unit, near the stream. If you would like a different map, please let me know. The map that is attached is one that I received from the presales forester and forest engineer, and I will not be able to create a different map that accurately depicts the proposed road location (with a more easily-viewed representation of the cave) until

I receive the pathway to the proposed road shapefile. I just requested this pathway via email today, so I hope to obtain it by early next week.

Although this cave would be considered to be of medium value based on physical parameters (it is approximately 800 square feet in volume), it was determined to be of high value based on biological characteristics observed by Peter McBride in May 2011. At that time, he observed a roosting Townsend's big-eared bat in the cave, which automatically elevated its habitat value to "high".

It should be noted that the unit boundary itself is located beyond the minimum recommended buffer for a high-value cave (250 feet). The proposed road construction could result in some level of (primarily noise) disturbance to this feature, but it is likely that the retention of a riparian buffer and some additional suitable marbled murrelet habitat -- located between the stream and the unit -- should maintain some level of visual and audio screening, and provide a dampening effect on potential noise disturbance.

It has been determined by the forest engineer for this proposal (Jeremy Westra) that there are not really any practical alternatives for road locations, at least which would not require full bench construction, or cause potential negative impacts to other resources. Following is a quote from Jeremy: "Since the ¼ mile circle covers more than half of the unit, building road within the circle is unavoidable. The proposed road locations represent the best locations possible to meet harvest objectives and resource protection requirements from Forest Practice rules." Please note that this temporary road is expected to be abandoned following the harvest of this proposal.

With this email, I am requesting your approval for the road location of the Flower Potts timber sale proposal as currently planned by the presales forester and forest engineer. Upon your approval, I will add a note about this to the memo that I will be submitting to Allen Estep through Laurie Bergvall, as currently required in order to implement the "Draft Cave Procedure".

If you have any need for additional information, or questions or concerns about this, please let me or Andrew Johnson (presales forester) know.

Thank you,

**Lisa Egtvedt**

Fish and Wildlife Biologist

Northwest Region

Washington Department of Natural Resources (DNR)

360-333-5769

[lisa.egtvedt@dnr.wa.gov](mailto:lisa.egtvedt@dnr.wa.gov)

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