

**FINAL Meeting Notes**  
**Lewis River License Implementation**  
**Terrestrial Coordination Committee (TCC) Meeting**  
**February 12, 2013**  
**Merwin Hydro Control Center**

**TCC Participants Present: (20)**

Bob Nelson, RMEF  
 Ray Crosswell, RMEF  
 Peggy Miller, WDFW  
 Eric Holman, WDFW  
 George Fornes, WDFW  
 Kirk Naylor, PacifiCorp Energy  
 Kimberly McCune, PacifiCorp Energy  
 Kendel Emmerson, PacifiCorp Energy  
 Todd Olson, PacifiCorp Energy  
 Nathan Reynolds, Cowlitz Indian Tribe  
 Diana Gritten-MacDonald, Cowlitz PUD  
 Mitch Wainwright, USDA Forest Service

**Guests**

Holly Harwood, BPA  
 Lou Driessen, BPA  
 Mike Johns, BPA  
 Doug Corkran, BPA  
 Nancy Wittpenn, BPA  
 Mark Korsness, BPA  
 Mike Ritter, WDFW (via conference)  
 George Fornes, WDFW

**Calendar:**

Wednesday - March 21, 2013	TCC Meeting	HCC
Wednesday - April 10, 2013	TCC Meeting	HCC

<b>Assignments from February 12, 2013</b>	<b>Status</b>
Gritten-MacDonald: Devil's Backbone Management Unit Patch Cut; Proposed management for 2013 <ul style="list-style-type: none"> <li>• What is maximum cut over the life of the Biological Opinion</li> <li>• Total cut per year</li> </ul>	<b>Complete</b> <b>2/21/13</b>
Naylor/McCune: Email Mike Ritter/Peggy Miller (WDFW) a copy of the Columbian article.	<b>Complete</b> <b>2/13/13</b>

<b>Assignments from January 9, 2013</b>	<b>Status</b>
Gritten-MacDonald: Investigate an inter-local agreement with Skamania County for 2013 weed control.	<b>Pending as of 3/21/13</b>
Holman/Miller: WDFW to provide written statement to PacifiCorp regarding WDFW policy and definitions on hunting restrictions relating to the Hamm Meadow hunting issues.	<b>Complete 1/14/13</b>

<b>Assignments from December 12, 2012</b>	<b>Status</b>
Peggy Miller/Eric Holman: Research WDFW process for changing hunting regulations (Hamm Meadow Issues). Discuss at the January 2013 TCC meeting.	<b>In Progress as of 2/12/13</b>

<b>Assignments from June 13, 2012</b>	<b>Status</b>
Naylor: Review the SA/WHMP budget(s) as well as determine status and opportunity for coordination with John Cook (NCASI) and Lisa Shipley (Washington State University) doing the blacktail study and report back to the TCC.	<b>In Progress</b>

<b>Parking lot items from April 13, 2011 Meeting</b>	<b>Status</b>
Naylor: Provide TCC with Riparian Management Plan for review.	<b>Pending</b>

<b>Parking lot items from December 12, 2012 Meeting</b>	<b>Status</b>
PacifiCorp: Work with TCC to proceed with second RMEF/PAC Project Proposal.	<b>Pending</b>

<b>Parking lot items from February 12, 2013 Meeting</b>	<b>Status</b>
Cowlitz PUD: Schedule a field tour of the Devil's Backbone management unit	

### **Review of Agenda and Finalize Meeting Notes**

Kirk Naylor (PacifiCorp Energy) called the meeting to order at 9:00 a.m. Naylor reviewed the agenda and asked the TCC if there were any changes/additions. No changes or additions were requested.

Naylor reviewed the January 9, 2013 meeting notes and assignments. Diana Gritten-MacDonald (Cowlitz PUD) requested corrections on page 3 (Cowlitz PUD WHMP Financial Report) to reflect the following:

*Cowlitz PUD – Gritten-MacDonald informed the TCC of the following year-end financial report relating to its WHMP:*

<i>Dec 26, 2012 Annual Payment</i>	<i>\$17,408</i>
<i>2012 Carry Forward</i>	<i>\$13,091</i>
<i>Interest on 2012 Ending Balance</i>	<i>\$ 425</i>
 <i>Total 2013 Budget</i>	 <i>\$30,924</i>

The meeting notes were approved at 9:10 am to include the above-referenced corrections.

### **Cowlitz PUD WHMP 2013 Plan**

Gritten-MacDonald provided a cursory review of its Swift No. 2 Draft WHMP 2013 (Year 5) Annual Plan, dated February 4, 2013 (**Attachment A**) to include the 2013 Budget, Activity and Estimated 2013 Cost. Gritten-MacDonald informed the TCC attendees that the budget for the invasive plant surveys has increased for 2013. She also quickly reviewed *Appendix B – Patch Cut Implementation Plan* in the Devil’s Backbone Management Unit. General discussion took place regarding objectives of the patch cut, schedule, costs (which does not include permit expenses), number and size of patches and removal of wood (logs or firewood). The attendees would like Gritten-MacDonald to review the following and report back to the TCC regarding:

- Maximum cut per year over the life of the Biological Opinion
- Total cut per year

TCC also commented on:

- Consider leaving some brush piles; not burning all slash
- Consider grass seeding in 2014

Gritten-MacDonald will discuss wood removal options with Cowlitz PUD legal counsel to include but not limited to removal of wood in logger contracts, Boy Scout troops, etc. It is the desire of the TCC to remove some of the wood somehow.

Kendel Emmerson (PacifiCorp) suggested to see how the first year goes and how the ground responds to the patch cut(s); then take the next steps.

The TCC recommends one ½ acre cut and two ¼ acre cuts. A variety will help us learn more about the ground response.

The PUD suggested a field tour sometime this year.

### **Review Response Letter with TCC comments to Bonneville Power Administration’s (BPA) Draft Environmental Impact Statement (DEIS)**

**Certain portions of this discussion are considered Confidential**

In response to a question from Peggy Miller (WDFW), Naylor confirmed that the ACC concerns have been addressed in the TCC response letter. Their primary concerns were in regards to both sediment delivery to streams and wood recruitment to tributaries and the Lewis River. The ACC hasn’t provided any written comments but is still considering impacts to hatchery lands.

Todd Olson (PacifiCorp) informed the attendees that he is the lead for PacifiCorp to work with BPA relative to the I-5 Corridor Reinforcement Transmission Project and that all parties are working collectively to keep BPA accountable to impacts on federally protected wildlife lands. PacifiCorp will be very transparent to share all correspondence with the ACC and the TCC.

The TCC was informed that the BPA has already filed for its 404 permit with the Corp of Engineers, which was mentioned in the Columbian article (see link below). Mike Ritter (WDFW) would like a copy of the Columbian article.

<http://olive.columbian.com/Repository/ml.asp?Ref=VENMLzIwMTMvMDIvMTAjQXIwMDEwNg%3D%3D&Mode=HTML&Locale=english-skin-custom>

Naylor also informed the TCC that the BPA comment deadline has been extended to March 25, 2013.

General discussion took place regarding construction concerns (narrow window due to recreation/hunting season, breeding/nesting season, and rainy season), best management practices, vegetation heights on right-of-way (ROW), access roads, BPA maps and FERC approval of access easement.

<Break 10:45am>

<Reconvene 11:00am>

### **Bonneville Power Administration – I-5 Reinforcement Transmission Project**

Naylor asked for an introduction of all attendees for the benefit of the BPA guests. Naylor informed the BPA attendees of the status regarding the DEIS review, that the TCC has addressed WHMP concerns/impacts, license obligations and that the TCC is looking for refinement to their questions so the TCC can respond thoroughly.

Mark Korsness (BPA) informed the attendees that the draft DEIS was released in November 2012. The final comment period will end on March 25, 2013. After all comments are received BPA will continue to work with landowners in the coming months and go back in for any needed corrections/clarifications; consider concerns, look at ideas for proposed changes; improve preferred route and make meaningful changes to minimize impacts.

Korsness anticipates that BPA will be working 12-18 months more on the EIS to determine if BPA builds or not builds the I-5 Corridor Transmission project. The year 2018 is the electrical need date.

Olson inquired how the 404 application to the Corp of Engineers (Corp) fits into the NEPA schedule.

Nancy Wittpenn (BPA) responded that the 404 application is the only permit request made thus far. The BPA has been working with the Corp over the past 18 months and are now starting to talk with other agencies, i.e. Ecology and WDFW. The Corp wants the BPA to synchronize their public meetings with the BPA public process. As design is improved the BPA will begin the wetland delineation. The BPA wants to complete all consultation by sometime in 2014.

Korsness informed the attendees that the following public meetings took place:

- 6 informational meetings - December 2012
- 3 public meetings – January 2013
- 3 public meetings – February 2013

Naylor informed all attendees that the BPA maps ([Attachment B](#)) are relative but the TCC has since refined and added to its GIS maps. PacifiCorp maps include internal access roads not on the BPA maps and refinements to vegetation cover types.

The TCC requested clarification of the easement BPA needs for this project. Korsness replied that the BPA maps reflect a 150' wide easement for the ROW which must be clear of trees and buildings for safety and reliability. If danger trees (DT) are present outside the ROW, trees that have a potential to fall into the transmission line, another 25' on each side is needed. BPA feels that upward of 90% of the danger tree concern would be captured by clearing the additional 25 feet outside the 150 foot ROW.

Lou Driessen (BPA) expressed that this project crosses a lot of timber country. BPA has some flexibility to account for trees on the edge of the ROW and changes in the topography. In the 200' easement scenario (backline; outside of ROW) they could allow trees can grow back if it initially had to be cleared. BPA would work with the individual landowners for specific easement criteria. BPA will conduct annual maintenance to address DT; including backline.

Korsness said that some private timber lands are managed on a 40 year rotation depending on the intent of the landowner. In that period of time, trees outside the ROW wouldn't represent a hazard before they were cleared again.

Nathan Reynolds (Cowlitz Indian Tribe) expressed that WHMP lands are managed for much longer rotations. If the initial easement is only for the 150 feet, with selection and assessment of danger trees later in the process (outside the ROW), this would mean multiple entrees into WHMP lands and the associated disturbance.

Harwood communicated that the BPA's DEIS establishes a worst case scenario of an easement of 200' on each side; this may change once BPA gets out onto the landscape. Korsness said that the BPA needs 150' for a reliable transmission line plus the additional 25 feet in most cases.

Driessen reiterated that BPA needs to get on the ground; decide what a hazard is and what is not. Wittpenn said that BPA did not include DTs in the DEIS. Naylor responded that the TCC understand that it depends on the topography.

The TCC asked if the BPA will need the initial 150' easement and the additional 25' feet. Driessen replied that BPA would likely include the additional 25' in perpetuity to take what trees they determine to be hazardous without requiring additional negotiation for them with the landowner.

Harwood said that the BPA must have 150' total; 25' on each side additional is an option if additional clearing is needed.

Naylor said that this is about the uniqueness of PacifiCorp lands as wildlife habitat; managing for diversity, structure, old growth forest and not about compensating PacifiCorp for the very trees they are trying to develop; the habitat that is affected from danger tree removal could be a larger incremental affect than the removal of the DT. The TCC needs to decide as a team about habitat damage that can occur outside the initial 150' easement.

Reynolds said that PacifiCorp is not like other private landowners; there are land management requirements required under regulatory requirements; portions of the landscape are designed to grow mature trees; snags; late state mature forest components. The removal of these trees does not help the TCC fulfill its Federal Energy Regulatory Commission (FERC) requirements; each DT identification and subsequent removal must be approved by the TCC.

Driessen pointed out areas in the BPA maps whereby no clearing or minimized clearing are options.

Harwood asked how PacifiCorp manages its own DTs. Naylor responded that PacifiCorp manages habitat adjacent to its existing ROWs in a multitude of ways; exceedingly difficult to remove mature trees without disrupting the rest of the habitat. While safety is primary, the TCC would be notified on a case-by-case basis for significant changes.

The BPA designed placement of this route, adjacent to the PacifiCorp transmission line ROW, to minimize additional clearing.

Reynolds said since the BPA annually accesses DTs; what sort of cooperative agreement would be in place with the TCC and how does the course of action occur. Korsness said that these details are defined in the beginning of the process. BPA would work with the TCC to determine how to remove DTs to minimize impacts.

Mitch Wainwright (USDA Forest Service) asked what the vegetation cover height requirement is in the 150' cleared easement area. Korsness said that BPA starts with standard management practices, which does not allow 20' vegetation. BPA works with the landowners to determine what is needed to address vegetation; maintenance; needed equipment; herbicides, etc. The vegetation height limitation is typically 2-4'.

Naylor also asked if the span across the Lewis River will have the same vegetation requirements. Korsness said that options are available for vegetation height there. No more than has already been cleared for the PacifiCorp transmission line.

Driessen said that at this time BPA does not have written permission to enter PacifiCorp property. They would like to enter into an agreement to do more surveying.

Eric Holman (WDFW) would like to know if BPA sees the treatment of the 150' easement as an annual thing; requirements for BPA to come back if the TCC doesn't like what's happening out there.

Korsness said that BPA will work with the TCC for agreement on type of treatment and how often. Driessen said that part of the ROW document would be a maintenance agreement.

Naylor said that the BPA designated access to the L3 & L4 towers crosses riparian areas. There are existing PacifiCorp access roads that reach those same tower locations without needing separate access roads or crossing the riparian areas. The TCC has noted this in the response to the DEIS. Driessen noted that BPA hasn't had a chance to speak with PacifiCorp transmission folks and review existing roads.

Naylor further stated that the TCC would like to know where the staging and pulling areas will be located based on the topography to determine where and how big. The BPA confirmed that they will try to stay within the ROW but will not know until a contractor is on board.

Olson said that the ACC is concerned about any impact under the transmission line that spans the river; wants BPA to stay out of the riparian area due to fish & recreation concerns. Korsness said that BPA may be clearing some; they will time it with PacifiCorp to address minimizing impacts to recreation (fishing activity).

Naylor commented on the proximity of the proposed L4 tower to existing PacifiCorp towers. It was noted by BPA that they knew this tower would likely have to be relocated to the southeast to avoid being between the two PacifiCorp towers. BPA recommended the distance between proposed BPA towers and existing PacifiCorp towers would be 135' center line to center line.

The TCC was instructed to submit questions, if any, to Nancy Wittpenn at BPA.

<Break 12:35pm>

<Reconvene 12:45pm>

### **Post BPA Discussion**

**Certain portions of this discussion are considered Confidential**

### **Other Items**

Washington RMEF Proposed Projects Detail – PacifiCorp was awarded \$15,000 RMEF PAC grant funds for the Swift Creek Seed/Gates/Exclosures project ([see page 2 of Attachment C](#)).

### **Public Comment Opportunity**

No public comment was provided.

*<1:50 p.m. meeting adjourned>*

### **Agenda items for March 21, 2013**

- Review February 12, 2013 Meeting Notes
- ACC/TCC 2012 Draft Annual Report Update
- PacifiCorp WHMP 2012 Report and 2013 Plan
- I-5 Corridor Reinforcement Project Update
- Hamm Meadow Update

### **Next Scheduled Meetings**

March 21, 2013	April 10, 2013
TCC Meeting	TCC Meeting
Merwin Hydro Control Center	Merwin Hydro Control Center
Ariel, WA	Ariel, WA
9:00am – 3:00pm	9:00am – 3:00pm

**Attachments:**

- February 12, 2013 Meeting Agenda
- January 9, 2013 Meeting Notes
- **Attachment A** – Swift No. 2 Draft WHMP 2013 (Year 5) Annual Plan, dated February 4, 2013
- **Attachment B** – BPA Maps
- **Attachment C** – Washington RMEF Proposed Projects Detail – 2013

Swift No. 2 Hydroelectric Project  
FERC No. 2213

February 4, 2013

# **TCC Review DRAFT Wildlife Habitat Management Plan 2013 (Year 5) Annual Plan**

**For The  
Swift No. 2 Wildlife Management Area**



Prepared for  
Public Utility District No. 1 of  
Cowlitz County, Washington

Prepared by  
Meridian Environmental, Inc.  
Seattle, Washington



## Contents

<b>1.0</b>	<b>Introduction.....</b>	<b>1</b>
<b>2.0</b>	<b>2013 (Year 5) Management Activities .....</b>	<b>4</b>
2.1	2013 (Year 5) Annual Plan Budget.....	5
<b>3.0</b>	<b>Site Management Plans .....</b>	<b>7</b>
3.1	Devil’s Backbone Management Unit.....	8
	Site Management Plan: DBMU-1 .....	10
	Site Management Plan: DBMU-2.....	12
	Site Management Plan: DBMU-2, cont. ....	13
	Site Management Plan: DBMU-3 .....	14
	Site Management Plan: DBMU-3, cont. ....	15
	Site Management Plan: DBMU-4 .....	16
	Site Management Plan: DBMU-5 .....	18
	Site Management Plan: DBMU-6.....	19
	Site Management Plan: DBMU-7 .....	20
	Site Management Plan: DBMU-8.....	21
	Site Management Plan: DBMU-9 .....	22
	Site Management Plan: DBMU-10.....	24
	Site Management Plan: DBMU-11 .....	26
	Site Management Plan: DBMU-12.....	28
3.2	PROJECT WORKS MANAGEMENT UNIT .....	29
	Site Management Plan: PWMU-REV .....	31
	Site Management Plan: PWMU-PUB.....	33
	Site Management Plan: PWMU-FOR.....	35
	Site Management Plan: PWMU-ROW .....	36

## List of Figures

Figure 1.0-1	Project area map, project vicinity inset.....	3
Figure 3.1-1.	Devil’s Backbone Management Unit (Google Earth, 2012).....	8
Figure 3.1-2.	Devil’s Backbone Management Unit cover type map. ....	9
Figure 3.2-1	Project Works Management Unit (Google Earth, August, 2012).....	29
Figure 3.2-2.	Project Works Management Unit cover type map.....	30

## List of Tables

Table 2.1-1.	Anticipated 2013 (Year 5) Annual Plan Budget (2013 dollars). ....	6
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## Appendices

- Appendix A. 2013 Washington State and County Weed Lists
- Appendix B. Patch Cut Implementation Plan
- Appendix C. Annual Plan Consultation Record

## Acronyms

BMPs	Best Management Practices
DB	Devil's Backbone
FERC	Federal Regulatory Energy Commission
HEP	Habitat Evaluation Species
HSI	Habitat Suitability Indexes
LWD	Large Woody Debris
MU	Management Unit
PUD	Public Utility District
PW	Project Works
SGD	Standards and Guidelines Document
SOPs	Standard Operating Procedures
TCC	Terrestrial Coordination Committee
WDFW	Washington Department of Fish and Wildlife
WHMP	Wildlife Habitat Management Plan
WMA	Wildlife Management Area

**2013 (YEAR 5) Annual Plan  
For The  
Swift No. 2 Wildlife Management Area**

**1.0 INTRODUCTION**

Public Utility District No. 1 of Cowlitz County, Washington (Cowlitz PUD) owns the Swift No. 2 Hydroelectric Project (FERC No. 2213) on the Lewis River at River Mile 44 in Cowlitz and Skamania counties, Washington (Figure 1.0-1). The Swift No. 2 Project is one of four Lewis River Hydroelectric Projects. In 1999, Cowlitz PUD and PacifiCorp<sup>1</sup> began the Alternative Licensing Procedure (ALP) for the Lewis River Projects. In April of 2004 Cowlitz PUD filed with the Federal Energy Regulatory Commission (FERC) an Application for New License for Swift No. 2. In November 2004, Cowlitz PUD, PacifiCorp and 24 other Parties signed the Lewis River Settlement Agreement (SA) for the purpose of resolving all of the issues between the Licensees and the other Parties regarding the relicensing. The Federal Energy Regulatory Commission (FERC) issued a new 50-year License for Swift No. 2 on June 26, 2008 that incorporates without material modification Cowlitz PUD's obligations under the Settlement Agreement.

In accordance with License Article 403 of the new license, Cowlitz PUD filed a Wildlife Habitat Management Plan (WHMP) with the Commission on December 23, 2008. The WHMP provides long-term guidance for management of 525 acres of Cowlitz PUD lands within the Swift No. 2 Wildlife Management Area (WMA). The WHMP includes the following:

- Section 1 explains development of the WHMP through the relicensing process.
- Section 2 describes the Swift No. 2 WMA, which includes the Devil's Backbone and Project Works management units (MUs). It describes the vegetation cover types and baseline Habitat Suitability Indexes (HSI) for Habitat Evaluation Species (HEP) evaluation species, and provides maps and acreage tables for each MU.
- Section 3 summarizes the habitat-based and program-wide goals and objectives taken from the Standards and Guidelines Document (SGD) that apply to habitat types that occur in the Swift No. 2 WMA.
- Section 4 describes potential management activities designed to meet the SGD goals and objectives and provides a tentative timeframe for implementation.
- Section 5 includes Best Management Practices (BMPs) and Standard Operating Procedures (SOPs) that explain how each of the management prescriptions will be implemented. Section 5 also contains references for specific methods.
- Section 6 contains general references used in development of the WHMP.

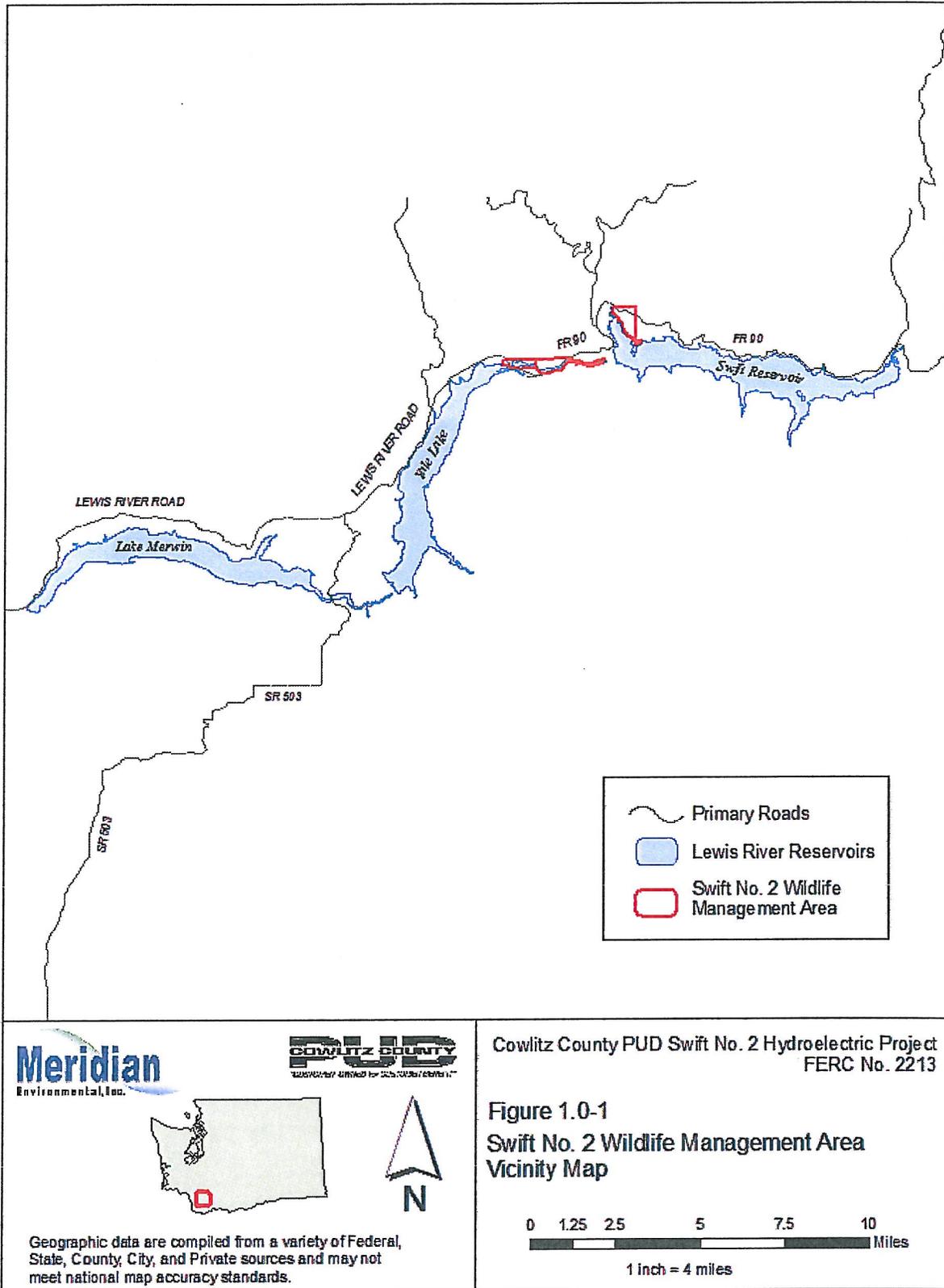
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<sup>1</sup> PacifiCorp owns the Swift No. 1 (P-2111), Yale (P-2071) and Merwin (P-935) projects, also on the Lewis River. PacifiCorp filed the Application for New License for Yale in 1999 and filed Applications for Merwin and Swift No. 1 in April 2004.

Appendices attached to the WHMP include: A) License Articles 403 and 404; B) Standards and Guidelines Document; C) applicable HEP Models; D) Swift No. 2 Revegetation Plan; E) Devil's Backbone Conservation Covenant; and F) the WHMP Consultation Record.

License Article 403 specifies that Cowlitz PUD should file an annual plan for implementation of the WHMP. On March 31, 2009, the Commission issued an order modifying and approving the WHMP, which specifies that Cowlitz PUD should file annual reports and annual plans with the Commission by April 30 of each year. In accordance with that order, this Year 5 Annual Plan outlines proposed wildlife measures and anticipated costs for work to be completed in 2013. The annual report is being filed under separate cover.





**Meridian**  
Environmental, Inc.

**COWLITZ COUNTY PUD**  
UTILITY PROVIDER LIMITED BY 2013/05/16/2013/05/16

Cowlitz County PUD Swift No. 2 Hydroelectric Project  
FERC No. 2213

**Figure 1.0-1**  
**Swift No. 2 Wildlife Management Area**  
**Vicinity Map**

Geographic data are compiled from a variety of Federal, State, County, City, and Private sources and may not meet national map accuracy standards.

C:\04 GISData\ProjectData\CowlitzPUD\Map\Project\Vicinity\_Map.mxd

Published Date 4 / 28 / 2009

**Figure 1.0-1 Project area map, project vicinity inset.**

## 2.0 2013 (YEAR 5) MANAGEMENT ACTIVITIES

Management activities planned for 2013 (Year 5) include the following:

- *Conduct follow-up surveys at sites where weed control efforts have already been implemented.* Meridian Environmental will conduct the weed surveys in conjunction with the public access surveys. The biological goal and objectives for Invasive Plant Species Management are described in Section 3.2.1 of the WHMP. Sections 4.2.8 and 4.3.6 of the WHMP explain their application to the Devil's Backbone and Project Works MUs, while Section 5.8 of the WHMP provides detail about how the activity is to be implemented. For additional background regarding invasive plants, please see Chapter 4.1 of the Standards and Guidelines Document (WHMP Appendix B).

Initial surveys have been completed in all high priority areas in the Devil's Backbone MU. Follow-up surveys in June 2013 will focus on evaluation of Canada thistle in DBMU-11.

Initial surveys have been completed in all high priority areas in the Project Works MU. In June 2013, follow-up surveys will include monitoring of Scotch broom, Himalayan blackberry, and scattered occurrences of Canada thistle that were treated with herbicides or removed using hand tools in 2009, 2010, and 2011.

Updated 2013 Washington State and Cowlitz County weed lists are attached to this Annual Plan as Appendix A. Skamania County follows Washington State, rather than maintaining a separate list.

- *Treat high priority weed infestations.* A licensed Pesticide Applicator may be contracted to remove weeds. Herbicides selected for application must be safe for wetland use and both summer and fall treatment may be considered. Hand-pulling or mechanical removal will be emphasized where possible. Targets for treatment in 2013 include improved control of Canada thistle; re-treatment of Scotch broom, if needed; and re-evaluation of control methods for Himalayan blackberry.

Based on invasive plant surveys to date, most weed occurrences within the Swift No. 2 WMA are located within wetland and/or riparian buffers. For this reason, all areas to be treated for weeds are managed as if they are within buffers, i.e., the weed surveyor flags weed treatment areas, rather than buffer boundaries. Cowlitz PUD will continue to coordinate with the adjacent landowner to evaluate options for treating weeds that occur along the 7902 Road at the east and south entrances to the Devil's Backbone MU outside Cowlitz PUD's property boundary, as needed.

- *Evaluate survival of trees and shrubs that were planted around PWMU-PUB.* Meridian will evaluate overall condition of trees and shrubs planted in 2010, in conjunction with invasive plant surveys. The biological goal and objectives for Wetlands are described in Section 3.1.2 of the WHMP. Sections 4.3.4 and 5.2 of the WHMP explain their application to PWMU-PUB.

- *Inspect all accessible lands in the Project Works and Devil's Backbone MUs to evaluate public access activity and identify any habitat concerns or major changes in habitat conditions.* Meridian Environmental will conduct the public access surveys in conjunction with the weed surveys. The biological goal and objectives for Public Access Management are described in Section 3.2.3 of the WHMP. Sections 4.2.10 and 4.3.8 of the WHMP explain their application to the Devil's Backbone and Project Works MUs. Section 5.10 provides details regarding how the activity is to be implemented. For additional background relating to public access management, please see Chapter 4.3 of the Standards and Guidelines Document (WHMP Appendix B).
- *Complete planning activities, including site lay-out and silvicultural prescriptions, for the creation of four 0.25-acre patch cuts in mid-successional forest in the Devil's Backbone MU in 2014.* Forestland goals and objectives are described in Section 3.1.7 of the WHMP. Section 4.2.4 explains the purpose and approach to creating patch cuts. Patch cuts would be implemented in accordance with Forestland Management Standard Operating Procedures (SOPs) outlined in Section 5.7 of the WHMP, and in accordance with Invasive Plant Management SOPs (Section 5.8) and Raptor Management SOPs (Section 5.9). The two-year, phased approach to planning, implementing, and documenting the patch cuts is provided in Appendix B of this Annual Plan.

## 2.1 2013 (YEAR 5) ANNUAL PLAN BUDGET

Consistent with the SA budget of \$27 per acre per year to manage 525.2 acres, the total WHMP budget is \$14,180 in 2003 dollars. Adjusting that base amount for inflation (using the formula specified in the Definitions section of the SA) yields a 2013 (Year 5) budget of \$17,408.

As provided in Section 10.8.2.3, WHMP funds shall accrue interest from the date the monies are due to be placed in the fund. Funds remaining from previous years (2012), if any, are also added to the fund. The amount carried forward from 2012 is \$13,091. With interest accrual of \$425, the total budget for 2013 is \$30,924.

Consistent with SA Section 10.8.3, the anticipated 2013 starting budget shown in Table 2.1-1 includes an estimate of the costs of Cowlitz PUD employees and contractors to implement all aspects of the WHMP in 2013, including overall management; administrative costs associated with specific management activities; and implementation costs for specific management activities. These budget numbers are very preliminary and the actual costs may be considerably lower or higher than those shown in Table 2.1-1. As mentioned above, monies not spent remain in the WHMP budget, and could be used to implement additional management activities during the current plan year or during following years.

If during the course of implementing this Annual Plan, to the extent known and at such time as Cowlitz PUD identifies significant cost savings or identifies cost overruns, Cowlitz PUD will notify the TCC.

**Table 2.1-1. Anticipated 2013 (Year 5) Annual Plan Budget (2013 dollars).**

<b>2013 Budget</b>		
Dec 26, 2012 Annual Payment	\$17,408	
2012 Carry Forward	\$13,091	
Interest on 2012 Ending Balance	\$425	
Total 2013 Budget	\$30,924	
<b>WHMP Activity</b>	<b>Estimated 2013 Cost</b>	<b>Assumptions</b>
Administration	\$10,260	10% greater than actual 2010 cost. Expected to be significantly greater than 2010 costs because of the planning and logistics associated with patch cuts. Includes general oversight and accounting, preparing Annual Report and Annual Plan, contracting, maintaining project files, participating in TCC meetings related to implementing Cowlitz PUD's WHMP.
Annual inspection to monitor and manage public access	\$0	Included in invasive plant surveys.
Invasive plant surveys at high priority sites	\$3,550	10% increase over 2011 actual cost. Includes labor and mileage.
Invasive Species Control	\$5,900	50% increase over 2011 actual cost. Includes 2 treatments in 2013 and additional funds to cover difficult access on PW-REV Area E.
Evaluate survival of trees and shrubs planted around PWMU-PUB in 2010	\$0	Included in invasive plant surveys.
Planning for four .25 acre patch cuts on the Devil's Backbone	\$7,280	Based on cost estimates in Appendix B.
Estimated cost of management activities	\$26,990	
Estimated amount remaining in 2013 Budget at year end	\$3,934	Any funds not spent may be used for additional activities in 2013. Any funds not spent by year end, plus accrued interest, remain in the WHMP budget to be carried into following year.

### 3.0 SITE MANAGEMENT PLANS

As discussed in sections 4.2 and 4.3 of the WHMP, Cowlitz PUD delineated and mapped 12 management sites within the Devil's Backbone MU and four within the Project Works MU. The site boundaries are based on vegetation cover type mapping, review of aerial photographs and site visits, but also take into account factors such as slope, soils, understory composition, and access, that represent management opportunities and constraints.

Cowlitz PUD has developed a Site Management Plan for each site, as a means of identifying management opportunities and needs and tracking the implementation of management activities through the license period. Each Site Management Plan identifies the SGD goals and objectives, baseline HSI values, and analysis species associated with the cover type; summarizes baseline site conditions, including any apparent management constraints; identifies proposed management actions; and documents the actions that were implemented. The Site Management Plans will also serve as the basis for each Annual Report and the following year's Annual Plan.

Each Site Management Plan is part of a Site File in the Swift No. 2 WMA database. Site Files are the "home" for the documentation associated with each site's management. In addition to the Site Management Plan, each Site File includes a site map and all photos and field forms that record the results of inspections, treatments, and follow-up activities.

### 3.1 DEVIL'S BACKBONE MANAGEMENT UNIT

The following section provides an aerial photo of the Devil's Backbone MU (Figure 3.1-1), cover type map showing management sites (Figures 3.1-2), and Site Management Plans for sites 1 through 12. No management sites were delineated in the Devil's Backbone Conservation Covenant area, because no management activities are planned, other than protection of existing habitat values.



**Figure 3.1-1. Devil's Backbone Management Unit (Google Earth, 2012).**

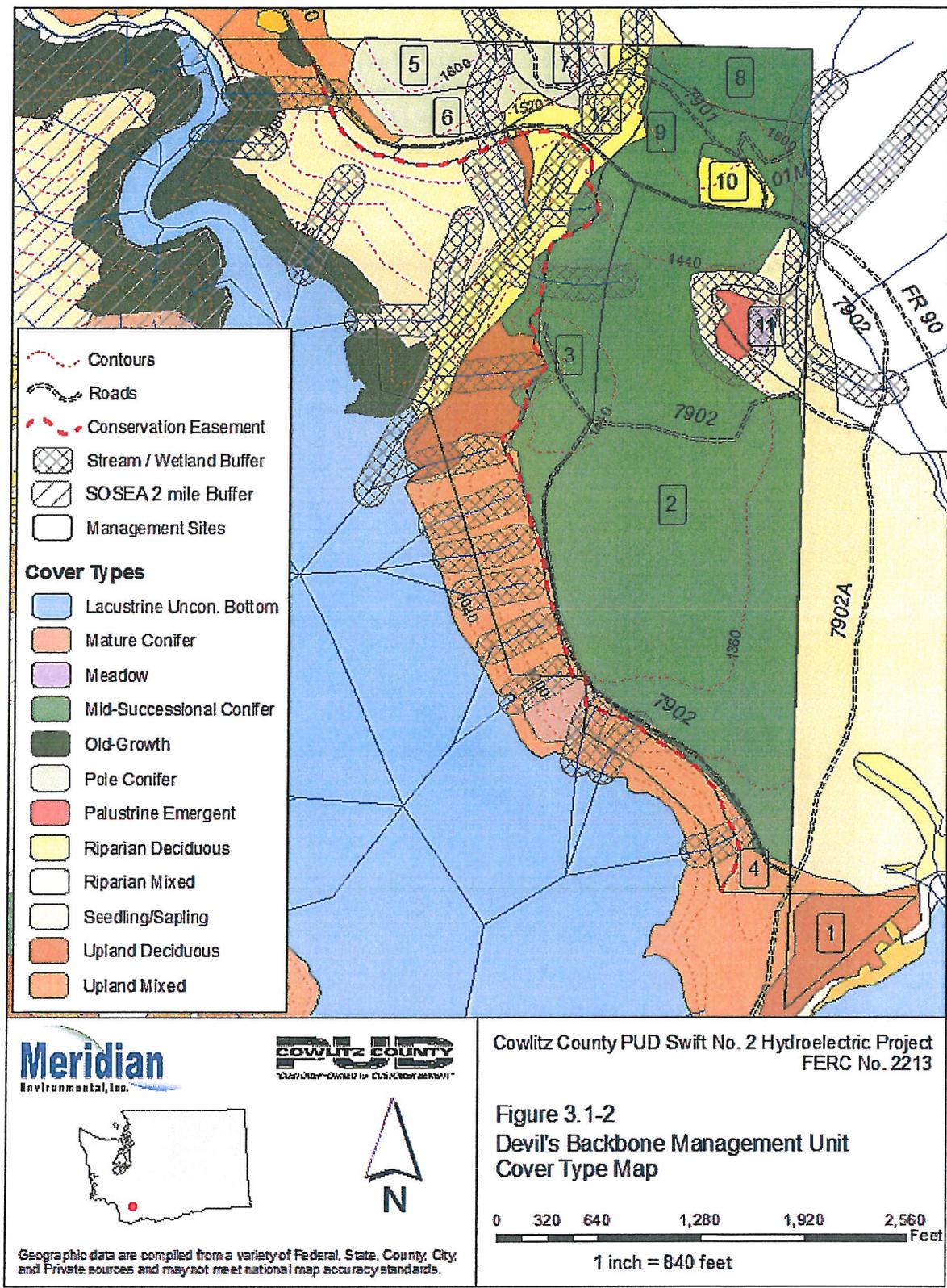


Figure 3.1-2. Devil's Backbone Management Unit cover type map.

<b>Site Management Plan: DBMU-1</b>		
<b>Cover type</b>	Upland deciduous forest	
<b>Acres</b>	6.6	
<b>Review Type</b>	Vegetation cover typing, aerial photo review	
<b>SGD Management Goals</b>	<b>Forestlands:</b> Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
<b>SGD Management Objectives</b>	<b>Forestland-c:</b> At the MU level, promote habitat diversity by increasing or maintaining minor native tree species composition.	
<b>HEP Evaluation Species and Baseline HSIs</b>	Pileated woodpecker: 0.28 Black-capped chickadee : 0.80 Elk: 0.43 in Unit S-1	
<b>Analysis Species</b>	<b>Forestland:</b> Northern flying squirrel, northern spotted owl	
<b>Site Description</b>	Mix of deciduous trees and conifers, including some western red cedars > 24 in. dbh.	
<b>Site Constraints</b>	None	
<b>Access</b>	FR 90 to 7902 Rd (gated near FR 90); 7902A Rd. crosses corner of site. Cowlitz PUD has easement on 7902 Rd.	
<b>Management Strategies</b>	Maintain as mixed stand. Manage for species and habitat diversity. Monitor and manage invasive plants and public access.	
<b>Implementation</b>		
Year	Planned Management Activity	Implemented Management Activity/Documentation
2009	Monitor and manage public access.	Surveys conducted May 13. No access concerns identified.
2009	Conduct invasive plant survey at 7902 Rd./7902A Rd. in May and control invasive plants as needed.	Surveys conducted May 13. No invasive plants observed within the site, but invasive plants were documented along the 7902A Rd. on adjacent property near the entrance to the Devil's Backbone MU
2010	Monitor and manage public access.	Survey conducted May 28. No access concerns identified.
2010	Contact adjacent landowner to evaluate invasive plant treatment options	Survey conducted May 28. Scotch broom documented in 2009 has been effectively treated by adjacent landowner.
2011	Monitor and manage public access.	Survey conducted June 8. No access concerns identified.
2011	Monitor weeds on adjacent property in conjunction with public access surveys.	Survey conducted June 8. No re-growth of Scotch on adjacent ownership was noted.
2012	Monitor and manage public access.	Survey conducted on July 2, 2012. Vehicular access noted on the 7902 Road, likely related to the illegal squatter's cabin on BLM land at the south end of the 7902 Rd. No access concerns noted in DBMU-1.
2012	Monitor weeds on adjacent property in conjunction with public access surveys.	Not done, due to safety concerns related to the illegal squatter's cabin on BLM land at the south end of the 7902 Rd.
2013	Monitor and manage public access.	
2013	Monitor weeds on adjacent property in	

<b>Site Management Plan: DBMU-1</b>	
	conjunction with public access surveys.



7902 Road (2012)

<b>Site Management Plan: DBMU-2</b>		
<b>Cover type</b>	Mid-successional conifer forest	
<b>Acres</b>	104.5	
<b>Review Type</b>	Visual walk-through and 5 stand density quick plots 9/1/05, walk-through 6/14/06	
<b>SGD Management Goals</b>	<b>Old-growth:</b> Promote the development, maintenance, and connectivity of old-growth coniferous forest and/or associated habitat components for wildlife species that use old-growth habitat. <b>Forestlands:</b> Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
<b>SGD Management Objectives</b>	<b>Old-growth-c:</b> Protect and manage forested buffers to promote development of large trees where appropriate. <b>Old-growth-e:</b> Within areas to be thinned to develop old-growth characteristics, leave LWD. <b>Forestland-a:</b> At the MU level, provide a range of alternatives for developing and maintaining a mix of forage and hiding cover for elk. <b>Forestland-b:</b> Maintain or create at least 8 snags, green retention trees, or wildlife reserve trees per acre, if available; retain larger trees and snags, and retain or create 4 logs/acre if possible. <b>Forestland-c:</b> At the MU level, promote habitat diversity by increasing or maintaining minor native tree species composition.	
<b>HEP Evaluation Species and Baseline HSIs</b>	Black-capped chickadee: 0.85 Pileated woodpecker: 0.47 Elk: 0.43 in Unit S-1	
<b>Analysis Species</b>	<b>Old-growth:</b> Northern flying squirrel, marten, Larch Mountain salamander, northern spotted owl, bald eagle <b>Forestland:</b> Northern flying squirrel, northern spotted owl	
<b>Site Description</b>	Flat site dominated by Douglas-fir and western hemlock from 8 to 18 in. dbh, with a quadratic mean diameter of 11.6 in. Stand age = 35 yrs in 2006; crown closure = 100%; canopy height = 80 ft., trees per acre = 266. Few small-diameter snags, no large diameter snags, moderate LWD. Variable understory; dominated by Oregon grape and swordfern. Patchy herbaceous cover includes oxalis, inside-out-flower, bedstraw, vanilla-leaf.	
<b>Site Constraints</b>	None	
<b>Access</b>	Good: FR 90 to 7092 Rd. (gated near FR 90); 7092A Rd. crosses through stand. Cowlitz PUD has easement on 7092 Rd.	
<b>Management Strategies</b>	Consider patch cuts to mimic canopy gaps in old-growth stands and increase number of vegetation layers. Consider thinning to accelerate development of large-diameter live trees and potential snags, and increase shrub and herbaceous cover that will improve elk forage. Seed disturbed soils with elk forage mix. Consider establishing and maintaining elk forage plots. Monitor and manage snags/LWD to meet target densities as trees mature. Monitor and manage invasive plants and public access.	
<b>Implementation</b>		
<b>Year</b>	<b>Planned Management Activity</b>	<b>Implemented Management Activity/Documentation</b>
2009	Monitor and manage public access.	Surveys conducted on May 13. No access concerns identified.
2009	Conduct invasive plant survey at 7902 Rd. in May and control invasive plants as needed.	Surveys conducted on May 13. Invasive plants documented within project boundary along 7902 Rd. were treated with herbicide in July and September. Invasive plants also observed on adjacent property along the MU boundary.

<b>Site Management Plan: DBMU-2, cont.</b>		
2010	Monitor and manage public access.	Survey conducted on May 28. No access concerns identified.
2010	Conduct follow-up invasive plant surveys in May and re-treat as necessary. Contact adjacent landowner to evaluate treatment options.	Survey conducted on May 28. Scattered Canada thistle and common cat's ear remain within previously treated areas. Scotch broom treatment 100 percent effective.
2011	Monitor and manage public access.	Survey conducted on June 8. No access concerns identified.
2011	Conduct follow-up invasive plant survey in May and re-treat as necessary.	Scattered common cat's ear remains; one large, well-established Scotch broom plant observed inside WMA boundary that was overlooked in 2010 survey. Scotch broom re-sprouting vigorously on adjacent ownership, outside WMA boundary.
2012	Monitor and manage public access.	Survey conducted on July 2, 2012. Vehicular access noted on the 7902 Road, likely related to the illegal squatter's cabin on BLM land at the south end of the 7902 Rd. No access concerns noted in DBMU-2.
2012	Conduct follow-up invasive plant survey in conjunction with public access survey; remove Scotch broom inside WMA boundary using hand tools; coordinate with adjacent landowner regarding re-treatment.	Not done, due to safety concerns related to the illegal squatter's cabin on BLM land at the south end of the 7902 Rd.
2013	Monitor and manage public access.	
2013	Conduct follow-up invasive plant survey in conjunction with public access survey; remove Scotch broom inside WMA boundary using hand tools; coordinate with adjacent landowner regarding re-treatment.	
2013	Complete planning for patch cuts, as described in Appendix B (Patch Cut Implementation Plan)	

<b>Site Management Plan: DBMU-3</b>		
<b>Cover type</b>	Mid-successional conifer forest	
<b>Acres</b>	17.2	
<b>Review Type</b>	Vegetation cover typing, aerial photo review	
<b>SGD Management Goals</b>	<b>Old-growth:</b> Promote the development, maintenance, and connectivity of old-growth coniferous forest and/or associated habitat components for wildlife species that use old-growth habitat. <b>Forestlands:</b> Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
<b>SGD Management Objectives</b>	<b>Old growth-c:</b> Protect and manage forested buffers to promote development of large trees where appropriate. <b>Old-growth-e:</b> Within areas to be thinned to develop old-growth characteristics, leave LWD. <b>Forestland-a:</b> At the MU level, provide a range of alternatives for developing and maintaining a mix of forage and hiding cover for elk. <b>Forestland-b:</b> Maintain or create at least 8 snags, green retention trees, or wildlife reserve trees per acre, if available; retain larger trees and snags, and retain or create 4 logs/acre if possible. <b>Forestland-c:</b> At the MU level, promote habitat diversity by increasing or maintaining minor native tree species composition.	
<b>HEP Evaluation Species and Baseline HSIs</b>	Black-capped chickadee: 0.85 Pileated woodpecker: 0.47 Elk: 0.43 in Unit S-1	
<b>Analysis Species</b>	<b>Old-growth:</b> Northern flying squirrel, marten, Larch Mountain salamander, northern spotted owl, bald eagle <b>Forestland:</b> Northern flying squirrel, northern spotted owl	
<b>Site Description</b>	Flat site dominated by Douglas-fir and western hemlock from 8 to 18 in. dbh.	
<b>Site Constraints</b>	None	
<b>Access</b>	Good: FR 90 to 7902 Rd. (gated near FR 90), which crosses through stand. Cowlitz PUD has easement on 7902 Rd.	
<b>Management Strategies</b>	Consider 1) patch cuts to mimic canopy gaps in old-growth stands and increase number of vegetation layers; 2) thinning to accelerate development of large-diameter live trees and potential snags, and increase shrub and herbaceous cover that will improve elk forage, and seed disturbed soils with elk forage mix; and 3) establishing and maintaining elk forage plots. Monitor and manage snags/LWD to meet target densities as trees mature. Monitor and manage invasive plants and public access.	
<b>Implementation</b>		
Year	Planned Management Activity	Implemented Management Activity/Documentation
2009	Monitor and manage public access.	Surveys conducted on May 13. No access concerns identified.
2009	Conduct invasive plant survey at 7902 Rd. in May and control invasive plants as needed.	Surveys conducted on May 13. No invasive plants observed. Low priority for additional weed surveys.
2010	Monitor and manage public access.	Survey conducted on May 28. No access concerns identified.
2011	Monitor and manage public access.	Survey conducted on June 8. No access concerns identified.
2012	Monitor and manage public access.	Survey conducted on July 2, 2012. Vehicular access noted on the 7902 Road, likely related to the illegal squatter's cabin on BLM land at the south end of the 7902 Rd. No access concerns noted in DBMU-3.

<b>Site Management Plan: DBMU-3, cont.</b>		
2013	Monitor and manage public access.	
2013	Complete planning for patch cuts, as described in Appendix B (Patch Cut Implementation Plan)	



7902 Road (2012)

<b>Site Management Plan: DBMU-4</b>		
<b>Cover type</b>	Upland mixed forest	
<b>Acres</b>	4.3	
<b>Site Review Type</b>	Vegetation cover typing, aerial photo review	
<b>SGD Management Goal</b>	<b>Forestlands:</b> Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
<b>SGD Management Objectives</b>	<b>Forestland-a:</b> At the MU level, provide a range of alternatives for developing and maintaining a mix of forage and hiding cover for elk. <b>Forestland-b:</b> Maintain or create at least 8 snags, green retention trees, or wildlife reserve trees per acre, if available; retain larger trees and snags, and retain or create 4 logs/acre if possible. <b>Forestland-c:</b> At the MU level, promote habitat diversity by increasing or maintaining minor native tree species composition.	
<b>HEP Evaluation Species and Baseline HSIs</b>	Black-capped chickadee: 0.71 Pileated woodpecker: 0.19 Elk: 0.43 in Unit S-1	
<b>Analysis Species</b>	Northern flying squirrel, northern spotted owl	
<b>Site Description</b>	Primarily Douglas-fir and hemlock, 8 to 18" dbh, with some big-leaf maple and alder growing on western edge.	
<b>Site Constraints</b>	Narrow, linear configuration between project road and steep slope down to the Conservation Easement boundary. One intermittent stream/stream buffer.	
<b>Access</b>	Good: adjacent to 7902 Rd. (gated near FR 90). Cowlitz PUD has easement on 7902 Rd.	
<b>Management Strategies</b>	Maintain as buffer between road and Conservation Easement. Manage for species and habitat diversity. Monitor and manage invasive plants and public access.	
<b>Implementation</b>		
<b>Year</b>	<b>Planned Management Activity</b>	<b>Implemented Management Activity/Documentation</b>
2009	Monitor and manage public access.	Surveys conducted on May 13. No access concerns identified.
2009	Conduct invasive plant survey at 7902 Rd. in May and control invasive plants as needed.	Surveys conducted May 13. No invasive plants observed within the site boundary, but documented on adjacent property.
2010	Monitor and manage public access.	Survey conducted on May 28. No access concerns identified.
2010	Contact adjacent landowner to evaluate invasive plant treatment options.	Survey conducted on May 28 indicated Scotch broom effectively treated by adjacent landowner.
2011	Monitor and manage public access.	Survey conducted on June 8. No access concerns identified.
2011	Monitor Scotch broom in conjunction with public access surveys.	Survey conducted on June 8 indicated no re-growth of Scotch broom on adjacent land ownership.
2012	Monitor and manage public access.	Survey conducted on July 2, 2012. Vehicular access noted on the 7902 Road, likely related to the illegal squatter's cabin on BLM land at the south end of the 7902 Rd. No access concerns noted in DBMU-4.
2012	Monitor Scotch broom in conjunction with public access surveys.	Not noted during July access survey.
2013	Monitor and manage public access.	

<b>Site Management Plan: DBMU-4</b>		
2013	Monitor Scotch broom in conjunction with public access surveys.	



From the 7902 Rd east of DBMU (2012)

<b>Site Management Plan: DBMU-5</b>		
<b>Cover type</b>	Pole conifer forest	
<b>Acres</b>	8.8	
<b>Site Review Type</b>	Vegetation cover typing, aerial photo review	
<b>SGD Management Goal</b>	<b>Forestlands:</b> Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
<b>SGD Management Objectives</b>	<b>Forestland-b:</b> Maintain or create at least 8 snags, green retention trees, or wildlife reserve trees per acre, if available; retain larger trees and snags, and retain or create 4 logs/acre if possible. <b>Forestland-c:</b> At the MU level, promote habitat diversity by increasing or maintaining minor native tree species composition.	
<b>HEP Evaluation Species and Baseline HSIs</b>	Black-capped chickadee: 0.43 Pileated woodpecker: 0.18 Elk: 0.43 in Unit S-1	
<b>Analysis Species</b>	<b>Forestland:</b> Northern flying squirrel, northern spotted owl	
<b>Site Description</b>	Primarily Douglas-fir and western hemlock	
<b>Site Constraints</b>	Steep slopes, possible wet soils.	
<b>Access</b>	Bordered by FR 90 on the west. 7901 Rd. does not pass through site.	
<b>Management Strategies</b>	Manage for species and habitat diversity. Monitor and manage snags/LWD to meet target densities as trees mature. Monitor and manage invasive plants and public access.	
<b>Implementation</b>		
Year	Planned Management Activity	Implemented Management Activity/Documentation
2009	Monitor and manage public access.	Surveys conducted on May 13. No access concerns identified.
2010	Monitor and manage public access.	No survey conducted; 7901 Rd. does not pass through site and access from FR 90 is difficult. Low priority for additional survey.
2011	No survey planned.	No survey conducted.
2012	No survey planned.	No survey conducted
2013	No survey planned	

<b>Site Management Plan: DBMU-6</b>		
Cover type	Pole conifer forest	
Acres	8.2	
Site Review Type	Vegetation cover typing, aerial photo review	
SGD Management Goal	<b>Forestlands:</b> Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
SGD Management Objectives	<b>Forestland-b:</b> Maintain or create at least 8 snags, green retention trees, or wildlife reserve trees per acre, if available; retain larger trees and snags, and retain or create 4 logs/acre if possible. <b>Forestland-c:</b> At the MU level, promote habitat diversity by increasing or maintaining minor native tree species composition.	
HEP Evaluation Species and Baseline HSIs	Black-capped chickadee: 0.43 Pileated woodpecker: 0.18 Elk: 0.43 in Unit S-1	
Analysis Species	<b>Forestland:</b> Northern flying squirrel, northern spotted owl	
Site Description	Primarily Douglas-fir and western hemlock	
Site Constraints	Steep slopes, possible wet soils.	
Access	Bordered by FR 90 on the west and south. 7901 Rd. does not pass through site.	
Management Strategies	Manage for species and habitat diversity. Monitor and manage snags/LWD to meet target densities as trees mature. Monitor and manage invasive plants and public access.	
<b>Implementation</b>		
Year	Planned Management Activity	Implemented Management Activity/Documentation
2009	Monitor and manage public access.	Survey conducted on May 13. No access concerns identified.
2010	Monitor and manage public access.	No survey conducted; 7901 Rd. does not pass through site and access from FR 90 is difficult. Low priority for additional survey.
2011	No survey planned.	No survey conducted.
2012	No survey planned.	No survey conducted.
2013	No survey planned.	

<b>Site Management Plan: DBMU-7</b>		
Cover type	Pole conifer forest	
Acres	4.3	
Site Review Type	Vegetation cover typing, aerial photo review	
SGD Management Goal	<b>Forestlands:</b> Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
SGD Management Objectives	<b>Forestland-b:</b> Maintain or create at least 8 snags, green retention trees, or wildlife reserve trees per acre, if available; retain larger trees and snags, and retain or create 4 logs/acre if possible. <b>Forestland-c:</b> At the MU level, promote habitat diversity by increasing or maintaining minor native tree species composition.	
HEP Evaluation Species and Baseline HSIs	Black-capped chickadee: 0.43 Pileated woodpecker: 0.18 Elk: 0.43 in Unit S-1	
Analysis Species	<b>Forestland:</b> Northern flying squirrel, northern spotted owl	
Site Description	Primarily Douglas-fir and western hemlock	
Site Constraints	Steep slopes, possible wet soils.	
Access	FR 90 to 7901 Rd.	
Management Strategies	Manage for species and habitat diversity. Monitor and manage snags/LWD to meet target densities as trees mature. Monitor and manage invasive plants, public access, erosion along 7901 Rd.	
<b>Implementation</b>		
Year	Planned Management Activity	Implemented Management Activity/Documentation
2009	Monitor and manage public access.	Survey conducted on May 13. No access concerns identified.
2009	Monitor and manage invasive plant species in conjunction with public access surveys.	No invasive plant species observed during survey along 7901 Rd. Low priority for additional survey.
2010	Monitor and manage public access.	Survey conducted on May 28. No access concerns identified. Low priority for additional survey.
2011	Monitor and manage public access.	Survey conducted on June 8. Kelly humps north of WMA boundary have been repaired, small-diameter trees removed from road margin, and unauthorized access is possible via 4-wheel drive.
2011	Monitor and manage invasive plant species in conjunction with public access surveys.	No invasive plant species observed inside WMA boundary. Scotch broom along both road margins near Kelly hump repair site, outside WMA boundary.
2012	Monitor effectiveness of gate or barricade planned for installation in spring of 2012.	Survey conducted on May 17, 2012. Unauthorized access, dispersed camping and littering continue to occur. Barricade completed in July, 2012.
2012	Monitor and manage invasive plant species in conjunction with public access surveys.	No survey done. Barricade completed in July, 2012.
2013	Monitor and manage invasive plant species in conjunction with public access surveys, including evaluation of barricade effectiveness.	

<b>Site Management Plan: DBMU-8</b>		
<b>Cover type</b>	Mid-successional conifer forest	
<b>Acres</b>	8.6	
<b>Site Review Type</b>	Vegetation cover typing, aerial photo review	
<b>SGD Management Goal</b>	<b>Forestlands:</b> Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
<b>SGD Management Objectives</b>	<b>Forestland-b:</b> Maintain or create at least 8 snags, green retention trees, or wildlife reserve trees per acre, if available; retain larger trees and snags, and retain or create 4 logs/acre if possible. <b>Forestland-c:</b> At the MU level, promote habitat diversity by increasing or maintaining minor native tree species composition.	
<b>HEP Evaluation Species and Baseline HSIs</b>	Black-capped chickadee: 0.85 Pileated woodpecker: 0.47 Elk: 0.43 in Unit S-1	
<b>Analysis Species</b>	<b>Forestland:</b> Northern flying squirrel, northern spotted owl	
<b>Site Description</b>	Primarily Douglas-fir and western hemlock, 8 to 18" dbh.	
<b>Site Constraints</b>	Possible wet soils.	
<b>Access</b>	FR 90 to 7901 Rd. 7901 Rd. does not pass through site.	
<b>Management Strategies</b>	Manage for species and habitat diversity. Monitor and manage snags/LWD to meet target densities as trees mature. Monitor and manage invasive plants and public access.	
<b>Implementation</b>		
Year	Planned Management Activity	Implemented Management Activity/Documentation
2009	Monitor and manage public access.	Surveys conducted on May 13. No access concerns identified.
2009	Conduct invasive plant survey at 7901 Rd. in May and control invasive plants as needed.	7901 Rd. does not pass through DBMU-8, so invasive plant survey did not cover this site.
2010	Monitor and manage public access.	Survey conducted on May 28. No access concerns identified. Low priority for additional survey.
2011	Monitor and manage public access.	Survey conducted on June 8. Kelly humps north of WMA boundary have been repaired, small-diameter trees removed from road margin, and unauthorized access is possible via 4-wheel drive.
2011	Monitor and manage invasive plant species in conjunction with public access surveys.	No invasive plant species observed inside WMA boundary. Scotch broom along both road margins near Kelly hump repair site, outside WMA boundary.
2012	Monitor effectiveness of gate or barricade planned for installation in spring of 2012.	Survey conducted on May 17, 2012. Unauthorized access, dispersed camping and littering continue to occur. Barricade completed in July, 2012.
2012	Monitor and manage invasive plant species in conjunction with public access surveys.	No survey done. Barricade completed in July, 2012.
2013	Monitor and manage invasive plant species in conjunction with public access surveys, including evaluation of barricade effectiveness.	

<b>Site Management Plan: DBMU-9</b>		
Cover type	Mid-successional conifer forest	
Acres	13.2	
Site Review Type	Vegetation cover typing, aerial photo review	
SGD Management Goal	<b>Forestlands:</b> Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
SGD Management Objectives	<b>Forestland-b:</b> Maintain or create at least 8 snags, green retention trees, or wildlife reserve trees per acre, if available; retain larger trees and snags, and retain or create 4 logs/acre if possible. <b>Forestland-c:</b> At the MU level, promote habitat diversity by increasing or maintaining minor native tree species composition.	
HEP Evaluation Species and Baseline HSIs	Black-capped chickadee: 0.85 Pileated woodpecker: 0.47 Elk: 0.43 in Unit S-1	
Analysis Species	<b>Forestland:</b> Northern flying squirrel, northern spotted owl	
Site Description	Primarily Douglas-fir and western hemlock, 8 to 18" dbh.	
Site Constraints	Possible wet soils.	
Access	Bordered by FR 90 on the south; 7901 Rd. and 01M Rd. pass through site.	
Management Strategies	Manage for species and habitat diversity. Monitor and manage snags/LWD to meet target densities as trees mature. Monitor and manage invasive plants, public access, and erosion.	
<b>Implementation</b>		
Year	Planned Management Activity	Implemented Management Activity/Documentation
2009	Monitor and manage public access.	Survey conducted on May 13. No access concerns identified. Erosion in the road cut at intersection of 7901 Rd. and 01M roads, but no soil disturbance or loss of vegetation within the site itself. Erosion within 7901 Rd. roadbed between 01M Rd. and FR 90.
2009	Monitor and manage invasive plant species.	Survey conducted on May 13. No invasive plant species observed. Low priority for future surveys.
2010	Monitor and manage public access; monitor erosion.	Survey conducted on May 28. A few signs of unauthorized (motorized) access (dishwasher dumped over the side of the road, and some litter observed). No change in erosion, no soil disturbance or loss of vegetation within DBMU-9.
2011	Monitor and manage public access; monitor erosion.	Survey conducted on June 8. Kelly humps north of WMA boundary have been repaired, small-diameter trees removed from road margin, and unauthorized access is possible via 4-wheel drive. No change in erosion noted at broken culvert upslope of the 7901 Rd. near the junction with the 01M Rd.; no soil disturbance or loss of vegetation within DBMU-9.
2011	Monitor and manage invasive plant species in conjunction with public access surveys.	No invasive plant species observed inside WMA boundary. Scotch broom along both road margins near Kelly hump repair site, outside WMA boundary.

<b>Site Management Plan: DBMU-9</b>		
2012	Monitor effectiveness of gate or barricade planned for installation in spring of 2012. Continue to monitor erosion.	Survey conducted on May 17, 2012. Unauthorized access, dispersed camping and littering continue to occur. Barricade completed in July, 2012.
2012	Monitor and manage invasive plant species in conjunction with public access surveys.	No survey done. Barricade completed in July, 2012.
2013	Monitor and manage invasive plant species in conjunction with public access surveys, including evaluation of barricade effectiveness.	



Lipstick cladonia, Devil's Backbone MU.

<b>Site Management Plan: DBMU-10</b>		
<b>Cover type</b>	Riparian Deciduous Forest	
<b>Acres</b>	3.1	
<b>Site Review Type</b>	Vegetation cover typing, aerial photo review, visual walk-through 9/1/05 and 6/14/06	
<b>SGD Management Goal</b>	<b>Riparian:</b> Protect, maintain, and/or enhance riparian areas to include a diversity of native plant species and vegetation structures to benefit wildlife species that use riparian habitats.	
<b>SGD Management Objectives</b>	<b>Riparian-a:</b> Identify and establish buffers. <b>Riparian d:</b> Protect existing large snags. <b>Riparian-e:</b> As part of implementation of WHMP, identify riparian sites damaged by anthropogenic processes and prepare restoration plans within 5 yrs., if feasible.	
<b>HEP Evaluation Species and Baseline HSIs</b>	Black-capped chickadee: 0.19 Pileated woodpecker: 0.32 Yellow warbler. 0.65 Elk: 0.43 in Unit S-1	
<b>Analysis Species</b>	Cascade torrent salamander, papillose tail-dropper	
<b>Site Description</b>	Red alder overstory, sparse mid-story shrub and understory forb component, bisected by an unnamed stream. Western Hemlock/Coolwort Foamflower PA, with several old, large-diameter hemlock stumps, but no snags and little LWD.	
<b>Site Constraints</b>	Seasonal flooding, wet soils, stream buffer.	
<b>Access</b>	Bordered by FR 90 on the south; 7901 on the east.	
<b>Management Strategies</b>	Manage for species and habitat diversity. Monitor and manage invasive plants, public access and erosion along 7901/01M Rd.	
<b>Implementation</b>		
Year	Planned Management Activity	Implemented Management Activity/Documentation
2009	Monitor and manage public access.	Survey conducted May 13, 2009. No access concerns identified. Erosion within 7901 Rd. roadbed between intersection with 01M Rd. and FR 90.
2009	Conduct invasive plant survey at 7901 Rd. in May and control invasive plants as needed.	Survey conducted May 13, 2009. Invasive plant species documented at intersection of 7901 Rd. and FR 90.
2010	Monitor and manage public access; monitor erosion.	Survey conducted May 28. A few signs of unauthorized (motorized) access (dishwasher dumped over the side of the road, and some litter observed). No change in erosion, no soil disturbance or loss of vegetation within DBMU-10.
2010	Treat invasive plant species, as needed.	Weeds growing at the intersection of the 7901 Rd. and FR 90 are within the FR 90 right-of-way. Weeds at this site appear to have been sprayed in 2009.
2011	Monitor and manage public access.	Survey conducted on June 8. Kelly humps north of WMA boundary have been repaired, small-diameter trees removed from road margin, and unauthorized access is possible via 4-wheel drive. No change in road-bed erosion near junction with FR 90.
2011	Monitor invasive plants adjacent to project boundary.	No invasive plant species observed inside WMA boundary. Scotch broom along both road margins near Kelly hump repair site, outside WMA boundary.

<b>Site Management Plan: DBMU-10</b>		
2012	Monitor effectiveness of gate or barricade planned for installation in spring of 2012. Continue to monitor erosion.	Survey conducted on May 17, 2012. Unauthorized access, dispersed camping and littering continue to occur. Barricade completed in July, 2012. An increase in public access and littering south of the barricade was observed during fall 2012 site visits.
2012	Monitor and manage invasive plant species in conjunction with public access surveys.	No survey done. Barricade completed in July, 2012.
2013	Monitor and manage invasive plant species in conjunction with public access surveys, including evaluation of barricade effectiveness.	



Woodpecker activity, Project Works MU.

<b>Site Management Plan: DBMU-11</b>		
<b>Cover type</b>	Palustrine Emergent Marsh/Meadow/Riparian Mixed Forest	
<b>Acres</b>	PEM 1.8 ac.; MD 1.0 ac.; RM 3.4 ac.	
<b>Review Type</b>	Vegetation cover typing, aerial photo review, walk-throughs 9/1/05, 6/14/06, 9/9/08, and 4/16/09	
<b>SGD Management Goals</b>	<b>Wetland:</b> Protect, maintain, and/or enhance wetlands to provide a diversity of habitat types for native amphibians, waterfowl, and other wildlife species. <b>Meadow:</b> Perpetuate and enhance to benefit elk and other species that use open habitats. <b>Forestland:</b> Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
<b>SGD Management Objectives</b>	<b>Wetland-e:</b> Identify and establish buffers to maintain and protect wetland habitat and functions. <b>Meadow-c:</b> Manage select meadows and old fields over the license periods to prevent shrub/tree encroachment, and maintain a diverse composition and structure of desirable grasses and forbs for birds and mammals. <b>Forestland-c:</b> At the MU level, promote forest habitat diversity for wildlife by increasing or maintaining minor native tree species composition where appropriate site conditions exist over the life of the licenses.	
<b>HEP Evaluation Species and Baseline HSIs</b>	Black-capped chickadee: 0.58 Pileated woodpecker: 0.46 Elk: 0.43 in Unit S-1 No suitable habitat for yellow warbler (wetland, riparian mixed forest) or Savannah sparrow (meadow)	
<b>Analysis Species</b>	<b>Wetland:</b> No suitable habitat for wetland associated analysis species (beaver, great blue heron (rookeries), wood duck). <b>Meadow:</b> elk (no suitable habitat for Savannah sparrow). <b>Forestland:</b> Northern flying squirrel, northern spotted owl.	
<b>Site Description</b>	Sedge and grass wetland/meadow with 100% herbaceous cover within narrow band of mixed riparian forest. Scattered snowberry and vine maple shrub in meadow shows signs of heavy browsing. Several small-diameter standing snags and small-diameter woody debris. Non-native invasive plants observed, that may provide elk forage (e.g., clovers), but Canada thistle also abundant in 2008.	
<b>Site Constraints</b>	Wetland buffer.	
<b>Access</b>	Good. FR 90 to 7902 (gated) to 7902A. Cowlitz PUD has easement on 7902 Rd.	
<b>Management Strategies</b>	Control conifer encroachment to maintain wetland/meadow characteristics over time. Thin forest edges to promote shrub development to improve elk forage. Monitor and manage invasive plants and public access. Consider establishing elk forage plot(s) near meadow.	
<b>Implementation</b>		
<b>Year</b>	<b>Planned Management Activity</b>	<b>Implemented Management Activity/Documentation</b>
2009	Monitor and manage public access.	Survey conducted on May 13. No access concerns identified.
2009	Flag wetland buffer boundary in May.	Weed treatment areas flagged; all were considered within wetland or riparian boundary, so wetland buffers not flagged.
2009	Conduct invasive plant survey in wetland and meadow in May and control invasive plants as needed.	Survey conducted on May 13. Weed treatments applied in July and September.

<b>Site Management Plan: DBMU-11</b>		
2010	Monitor and manage public access.	Survey conducted on May 28. No public access concerns identified.
2010	Conduct follow-up invasive plant survey of treated areas in May.	Survey conducted on May 28. Canada thistle abundance somewhat reduced.
2010	Mark the perimeter of the meadow.	Perimeter marked with 20 steel tent pegs, points GPS'd and mapped in GIS.
2011	Monitor and manage public access.	Survey conducted on June 8. No public access concerns identified.
2011	Re-treat Canada thistle and conduct follow-up survey.	Survey conducted on June 8. Canada thistle abundance similar to 2010. Herbicide applied on June 15.
2012	Monitor and manage public access.	Survey conducted on July 2, 2012. Vehicular access noted on the 7902 Road, likely related to the illegal squatter's cabin on BLM land at the south end of the 7902 Rd. No access concerns noted in DBMU-11.
2012	Conduct follow-up invasive plant survey in June; consider re-treatment in both summer and fall as budget allows.	No survey done due to safety issues. Solicited bids for weed control twice; first call resulted in 0 bidders, second call resulted in 1 bid that was deemed too costly. In August, Cowlitz PUD employees clipped seed heads off Canada thistle and tansy ragwort.
2013	Monitor and manage public access.	
2013	Conduct follow-up invasive plant survey in June; consider re-treatment in both summer and fall as budget allows.	



Meadow in DBMU-11 (August 2012).

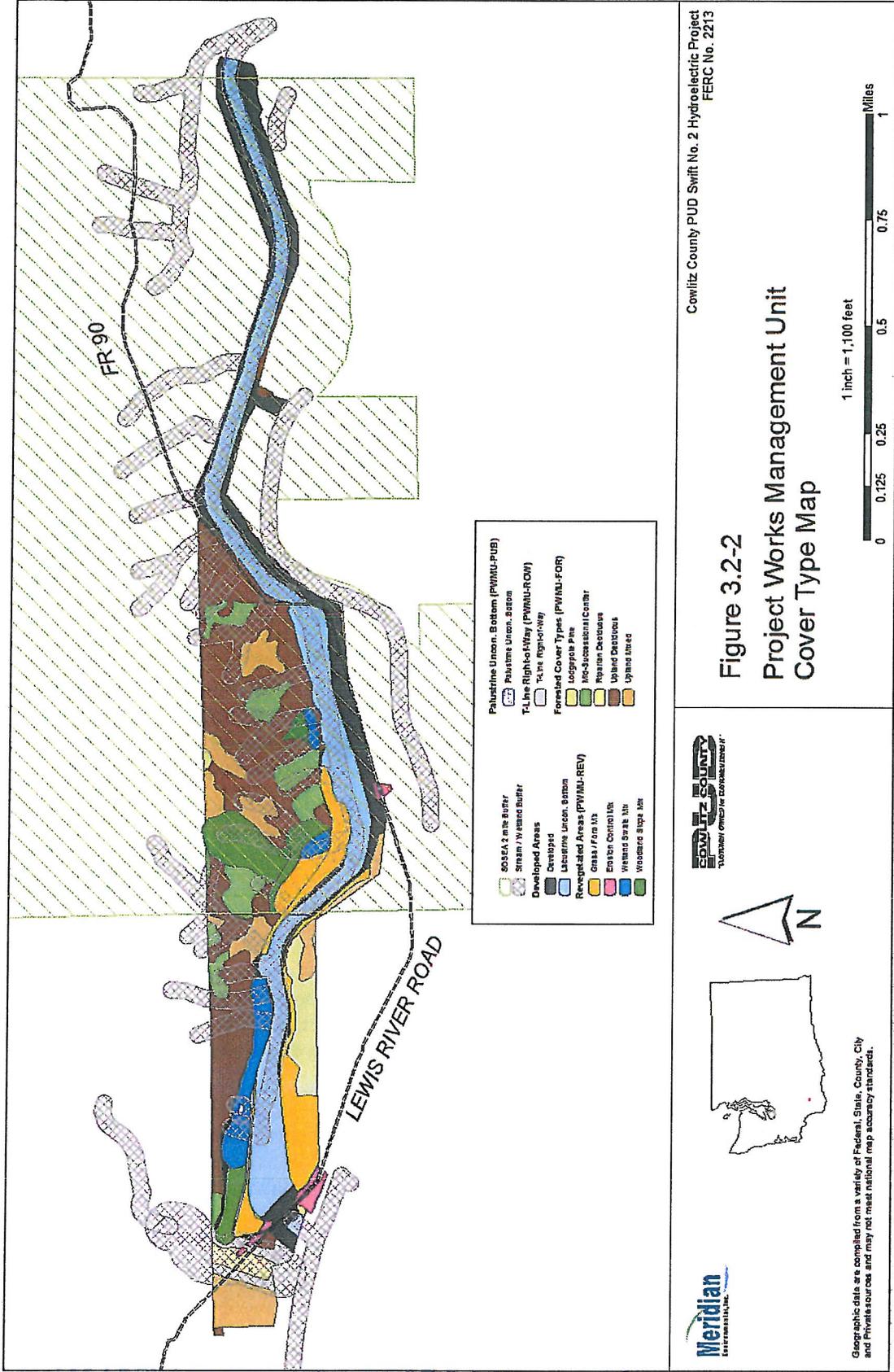
<b>Site Management Plan: DBMU-12</b>		
<b>Cover type</b>	Riparian deciduous forest	
<b>Acres</b>	6.1	
<b>Review Type</b>	Vegetation cover typing, aerial photo review	
<b>SGD Management Goals</b>	<b>Riparian:</b> Protect, maintain, and/or enhance riparian areas to include a diversity of native plant species and vegetation structures to benefit wildlife species that use riparian habitats.	
<b>SGD Management Objectives</b>	<b>Riparian-a:</b> Identify and establish buffers. <b>Riparian d:</b> Protect existing large snags. <b>Riparian-e:</b> As part of implementation of WHMP, identify riparian sites damaged by anthropogenic processes and prepare restoration plans within 5 yrs., if feasible.	
<b>HEP Evaluation Species and Baseline HSIs</b>	Black-capped chickadee: 0.19 Pileated woodpecker: 0.32 Yellow warbler. 0.65 Elk: 0.43 in Unit S-1	
<b>Analysis Species</b>	Cascade torrent salamander, papillose tail-dropper	
<b>Site Description</b>	Red alder overstory. Permanent stream/stream buffer in steep canyon.	
<b>Site Constraints</b>	Steep slopes, stream/stream buffer.	
<b>Access</b>	Bordered by FR 90 on the south; 7901 Rd. crosses north edge.	
<b>Management Strategies</b>	Maintain cover on steep slopes. Manage for species and habitat diversity. Monitor and manage public access, invasive plants, and erosion.	
<b>Implementation</b>		
<b>Year</b>	<b>Planned Management Activity</b>	<b>Implemented Management Activity/Documentation</b>
2009	Monitor and manage public access.	Survey conducted on May 13. No access concerns identified.
2010	Monitor and manage public access.	Survey conducted on May 28. No access concerns identified.
2011	Monitor and manage public access.	Survey conducted on June 8. Kelly humps north of WMA boundary have been repaired, small-diameter trees removed from road margin, and unauthorized access is possible via 4-wheel drive.
2011	Monitor and manage invasive plant species in conjunction with public access surveys.	No invasive plant species observed inside WMA boundary. Scotch broom along both road margins near Kelly hump repair site, outside WMA boundary.
2012	Monitor effectiveness of gate or barricade planned for installation in spring of 2012.	Survey conducted on May 17, 2012. Unauthorized access, dispersed camping and littering continue to occur. Barricade completed in July, 2012.
2012	Monitor and manage invasive plant species in conjunction with public access surveys.	No survey done. Barricade completed in July, 2012.
2013	Monitor and manage invasive plant species in conjunction with public access surveys, including evaluation of barricade effectiveness.	

### 3.2 PROJECT WORKS MANAGEMENT UNIT

The following section provides an aerial photo of the Project Works MU (Figure 3.2-1), a cover type map of the Project Works MU (Figure 3.2-2) and Site Management Plans for four management classifications. These include areas that were revegetated following reconstruction of the canal in 2002 (PWMU-REV); a constructed wetland within the revegetated area (PWMU-PUB); forested areas that were not disturbed during reconstruction activities (PWMU-FOR); and the transmission line right-of-way (PWMU-ROW).



**Figure 3.2-1 Project Works Management Unit (Google Earth, August, 2012).**



Cowitz County PUD Swift No. 2 Hydroelectric Project  
FERC No. 2213

**Figure 3.2-2**  
**Project Works Management Unit**  
**Cover Type Map**

Figure 3.2-2. Project Works Management Unit cover type map.

<b>Site Management Plan: PWMU-REV</b>		
<b>Cover type</b>	Revegetated: wetland swale, woodland, forage, roadside areas	
<b>Acres</b>	61.82 (seeded with following mixes:14.65 wetland; 10.54 woodland; 33.34 forage; 3.29 roadside)	
<b>Review Type</b>	Contract drawings, visual walk-throughs 9/1/05, 9/14/06, 9/9/08, 1/9/09, 4/16/09	
<b>SGD Management Goals</b>	NA	
<b>SGD Management Objectives</b>	NA	
<b>HEP Evaluation Species and Baseline HSIs</b>	NA	
<b>Analysis Species</b>	NA	
<b>Site Description</b>	Areas cleared or exposed during Swift No. 2 reconstruction, revegetated and stabilized. Areas around the wetland (PWMU-PUB) were covered with soil and large woody debris from natural slides on January 8, 2009. As a result, Cowlitz PUD reconfigured site drainage (ditches and culverts) during the summer of 2009 to minimize the risk that future landslides would interfere with project operation.	
<b>Site Constraints</b>	Some accessible flat areas, some very steep inaccessible areas with unstable slopes.	
<b>Access</b>	Good: Gated project maintenance roads.	
<b>Management Strategies</b>	Manage for species and habitat diversity. Monitor and manage invasive plants. <i>Note: public access is not allowed.</i>	
<b>Implementation</b>		
<b>Year</b>	<b>Management Activity Planned</b>	<b>Management Activity Implemented/Documentation</b>
2009	Flag wetland and riparian buffer boundaries in May.	Weed treatment areas flagged; all were considered within wetland or riparian boundary, so buffers not flagged.
2009	Conduct invasive plant survey in May and control invasive plants as needed.	Survey conducted May 13. Some Scotch broom hand-cut in June. Weed treatment applied (herbicides and hand-pulling) in August and September.
2009	Seed exposed soils with pasture mix in April; evaluate management needs and opportunities in May.	Exposed soils seeded in April.
2010		Planted 370 Douglas fir seedlings randomly between the transmission line and the west debris basin. Low survival due to frost damage to the seedlings in the nursery prior to planting.
2010	In May, conduct follow-up invasive plant survey of treated areas and high priority areas not yet surveyed. Control invasive plants as needed.	Follow-up survey on May 28 indicated effective Scotch broom treatment with 2009 herbicide applications. Mixed results where hand tools used for removal in February 2010; these areas re-treated by hand-pulling and digging in November, 2010. Three new areas surveyed, mapped and treated by hand-pulling and digging Himalayan blackberry, Scotch broom, and a few Canada thistle plants in November 2010.

<b>Site Management Plan: PWMU-REV</b>		
2011	Conduct initial invasive plant survey of borrow areas and follow-up invasive plant survey of treated areas in May and control invasive plants as needed.	Survey on June 8 indicated varying levels of success in the five Weed Treatment Areas mapped and surveyed to date, i.e., good control of Scotch broom in PW-A and PW-B; incomplete treatment of Himalayan blackberry in PW-C, with new invasive species appearing; incomplete treatment of Scotch broom in PW-D, and scattered Canada thistle remaining in PW-E. Herbicide applied to Himalayan blackberry and Scotch broom on June 14.
2012	Conduct follow-up invasive plant surveys of all treated areas in June. Re-evaluate treatment approach to manage Himalayan blackberry in PW-C; re-treat Scotch broom in PW-D; use hand tools to remove Canada thistle in PW-E.	Survey not done.
2013	Conduct follow-up invasive plant surveys of all treated areas in June. Re-evaluate treatment approach to manage Himalayan blackberry in PW-C; re-treat Scotch broom in PW-D; use hand tools to remove Canada thistle in PW-E.	



Brush piles in PWMU-REV (Google Earth, 2012).

<b>Site Management Plan: PWMU-PUB</b>		
<b>Cover type</b>	Palustrine unconsolidated bottom (may develop PEM and/or PSS characteristics)	
<b>Acres</b>	0.1 (may be expanding)	
<b>Review Type</b>	Walk-throughs 9/1/05, 9/14/06, 9/9/08, 1/9/09, 4/16/09	
<b>SGD Management Goals</b>	NA	
<b>SGD Management Objectives</b>	NA	
<b>HEP Evaluation Species and Baseline HSIs</b>	NA. In the future, pond-breeding amphibians, yellow warbler, and black-capped chickadee may apply.	
<b>Analysis Species</b>	NA	
<b>Site Description</b>	New open-water wetland developing in regraded, revegetated soils on the north side of the canal. Hydrology supplied by upslope surface flows and subsurface drainage. Wetland was partially covered with soil and large woody debris from slides that occurred following a severe rainstorm on January 8, 2009. As a result, Cowlitz PUD re-configured site drainage (ditches and culverts) during the summer of 2009 to minimize the risk that any future landslides would interfere with project operation.	
<b>Site Constraints</b>	None	
<b>Access</b>	Good: Lewis River Rd., gated project maintenance roads.	
<b>Management Strategies</b>	Manage for species and habitat diversity. Monitor and manage and invasive plants. <i>Note: Public access is not allowed.</i>	
<b>Implementation</b>		
<b>Year</b>	<b>Management Activity Planned</b>	<b>Management Activity Implemented/Documentation</b>
2009	Conduct invasive plant survey in May and control invasive plants as needed.	Survey conducted on May 13. Some Scotch broom removed by hand-cutting in June. Herbicide applied in August and September.
2009	Evaluate enhancement opportunities in May.	TCC developed site design in June. Berm constructed in September, soils re-seeded using a wetland mix and willow stakes planted around the margin of the pond.
2010		Site Inspection in April evaluated survival of willow stakes and effectiveness of Scotch broom removal.
2010	Conduct follow-up survey of weed treatment areas. Control invasive plants as needed.	Survey conducted on May 28 to evaluate the results of Scotch broom removal using hand tools in February 2010. Results were mixed, and WCC crews re-treated Scotch broom around the wetland in November 2010, again by hand-pulling or digging.
2010	Plant approximately 200 shrubs or cuttings.	WCC crews planted 450 shrubs (mix of cuttings and rooted stock of willow, Nootka rose, snowberry, ninebark and dogwood) around the wetland in November,
2011	Conduct invasive plant survey in May.	Survey conducted on June 8. Good control of Scotch broom.
2011	Concurrent with invasive plant survey, evaluate survival of shrubs planted in 2010.	Results of the shrub survey are described in the Annual Report. Overall survival was about 56 percent, but surviving shrubs appeared healthy, with little browse damage.
2012	Evaluate shrub status in conjunction with invasive plant survey.	No survey conducted.

<b>Site Management Plan: PWMU-PUB</b>		
2013	Evaluate shrub status in conjunction with invasive plant survey.	



PWMU-PUB (2012)

<b>Site Management Plan: PWMU-FOR</b>																										
<b>Cover types</b>	Mid-successional conifer (MS), lodgepole pine (LP), riparian deciduous (RD), upland deciduous (UD) , upland mixed (UM)																									
<b>Acres</b>	177.7 (MS 24.5; LP 11.9; RD 4.0; UD105.0; UM 32.3)																									
<b>Review Type</b>	Vegetation cover typing, aerial photo review																									
<b>SGD Management Goals</b>	<b>Forestlands:</b> Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage. <b>Unique Habitats/Areas:</b> Protect unique habitats, including, lava flow, and areas of culturally sensitive plant species identified as important to the Tribes.																									
<b>SGD Management Objectives</b>	<b>Forestland-a:</b> At the MU level, provide a range of alternatives for developing and maintaining a mix of forage and hiding cover for elk. <b>Forestland-c:</b> At the MU level, promote forest habitat diversity for wildlife by increasing or maintaining minor native tree species composition where appropriate site conditions exist over the life of the licenses. <b>Unique Habitat-d:</b> Identify and implement appropriate measures to protect and maintain important areas of ethnobotanically significant plants, as identified by the Tribes, over the life of the licenses.																									
<b>HEP Evaluation Species and Baseline HSIs</b>	<table border="1"> <thead> <tr> <th></th> <th><u>MS</u></th> <th><u>LP</u></th> <th><u>RD</u></th> <th><u>UD</u></th> <th><u>UM</u></th> </tr> </thead> <tbody> <tr> <td>Black-capped chickadee:</td> <td>0.60</td> <td>0.92</td> <td>0.68</td> <td>0.27</td> <td>0.89</td> </tr> <tr> <td>Pileated woodpecker:</td> <td>0.62</td> <td>0.00</td> <td>0.29</td> <td>0.27</td> <td>0.71</td> </tr> <tr> <td>Elk:</td> <td colspan="5">0.43 in Unit S-1.</td> </tr> </tbody> </table>			<u>MS</u>	<u>LP</u>	<u>RD</u>	<u>UD</u>	<u>UM</u>	Black-capped chickadee:	0.60	0.92	0.68	0.27	0.89	Pileated woodpecker:	0.62	0.00	0.29	0.27	0.71	Elk:	0.43 in Unit S-1.				
	<u>MS</u>	<u>LP</u>	<u>RD</u>	<u>UD</u>	<u>UM</u>																					
Black-capped chickadee:	0.60	0.92	0.68	0.27	0.89																					
Pileated woodpecker:	0.62	0.00	0.29	0.27	0.71																					
Elk:	0.43 in Unit S-1.																									
<b>Analysis Species</b>	Forestlands: Northern flying squirrel, northern spotted owl Lodgepole: Pacific western big-eared bat, Larch Mountain salamander, Van Dyke's salamander. Riparian: Cascade torrent salamander, papillose tail-dropper																									
<b>Site Description</b>	Very steep with potentially unstable slopes north of the canal; flat between canal and Lewis River Rd.																									
<b>Site Constraints</b>	Proximity to project facilities																									
<b>Access</b>	Good: Lewis River Rd.; gated project roads. <i>No public access allowed.</i>																									
<b>Management Strategies</b>	Manage for species and habitat diversity. Monitor and manage invasive plants.																									
<b>Implementation</b>																										
Year	Planned Management Activity	Implemented Management Activity/Documentation																								
2009	Monitor and manage invasive plants.	Low-priority (no public access, good ground cover without soil disturbance); not included in invasive plant survey area.																								
2010	Monitor and manage invasive plants as budget allows.	No survey conducted.																								
2011	Monitor and manage invasive plants as budget allows.	No survey conducted.																								
2012	Monitor and manage invasive plants as budget allows.	No survey conducted.																								
2013	Monitor and manage invasive plants as budget allows.																									

<b>Site Management Plan: PWMU-ROW</b>		
<b>Cover type</b>	Transmission line right-of-way	
<b>Acres</b>	3.6	
<b>Review Type</b>	Vegetation cover typing, aerial photo review	
<b>SGD Management Goals</b>	While allowing for safe and reliable transmission, promote establishment and maintenance of desirable vegetation to provide habitat for wintering deer and elk and a diverse mix of shrub and other early-successional vegetation.	
<b>SGD Management Objectives</b>	ROW-c: Identify and provide screening cover for deer and elk, where needed, where public roads cross ROW.	
<b>HEP Evaluation Species and Baseline HSIs</b>	Elk: 0.43 in Unit S-1. No suitable habitat for Savannah sparrow.	
<b>Analysis Species</b>	None identified.	
<b>Site Description</b>	Tall, dense shrub cover.	
<b>Site Constraints</b>	Proximity to traffic on Lewis River Rd. and project facilities	
<b>Access</b>	Good: Lewis River Rd. <i>Note: Public access not allowed.</i>	
<b>Management Strategies</b>	Monitor and manage invasive plants; evaluate need for visual screening. <i>Public access not allowed</i>	
<b>Implementation</b>		
Year	Planned Management Activity	Implemented Management Activity/Documentation
2009	Monitor and manage public access; evaluate need for visual screening.	Public access not allowed. Visual screening at Lewis River Rd. assessed; no concerns identified.
2010	Monitor invasive plant species.	Monitoring deferred to higher priority sites.
2011	Monitor invasive plant species as budget allows.	No survey conducted.
2012	Monitor invasive plant species as budget allows.	No survey conducted.
2013	Monitor and manage invasive plants as budget allows.	



## **Appendix A**

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### *2013 Washington State and County Weed Lists*

*(Lists to be included in final pdf version of the Annual Plan)*



## **Appendix B**

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### *Patch Cut Implementation Plan*

**Swift Wildlife Management Area**  
*Devil's Backbone Management Unit*  
 Patch Cut Implementation Plan

<b>Task Summary</b>	
WHMP Management Goal	Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.
Objectives	Increase understory species and structural diversity in mid-successional forest stands over time by opening the canopy to improve shrub and groundcover; improve HSIs for elk over time.
Silvicultural treatment	Locate patches where canopy gaps will maximize benefits to understory and minimize loss of larger-diameter trees. Fell all trees (primarily Douglas-fir) within each patch directionally, away from patch center, ensuring that felled trees are distributed to ensure slash depths do not exceed 1 foot. Limb trees; pile and burn limbs and fine material. Conduct treatment in accordance with Forestland Standard Operating Procedures (SOPs) found in WHMP Section 5.7; Invasive Plant Management SOPs found in Section 5.8, and Raptor Management SOPs provided in Section 5.9.
Number and size of patches	Four 0.25-acre patches
Cost	\$14,255, including \$7,280 in 2013 and \$6,975 in 2014 (see Task Description, below).
Schedule	Identify and lay out patches in summer, 2013. Fell trees, limb, and pile slash in early fall (October) 2014 to avoid the northern spotted owl and northern goshawk breeding/fledging seasons. Burn slash piles in winter (December) 2014 when fire hazard is low.
Documentation	Conduct site visit within 2 weeks of logging to verify that treatment was completed as prescribed.
Monitoring	Use photo documentation to evaluate vegetation response at 3 years and 6 years following treatment to determine if additional patch cuts would be beneficial and cost-effective.
Maintenance	None

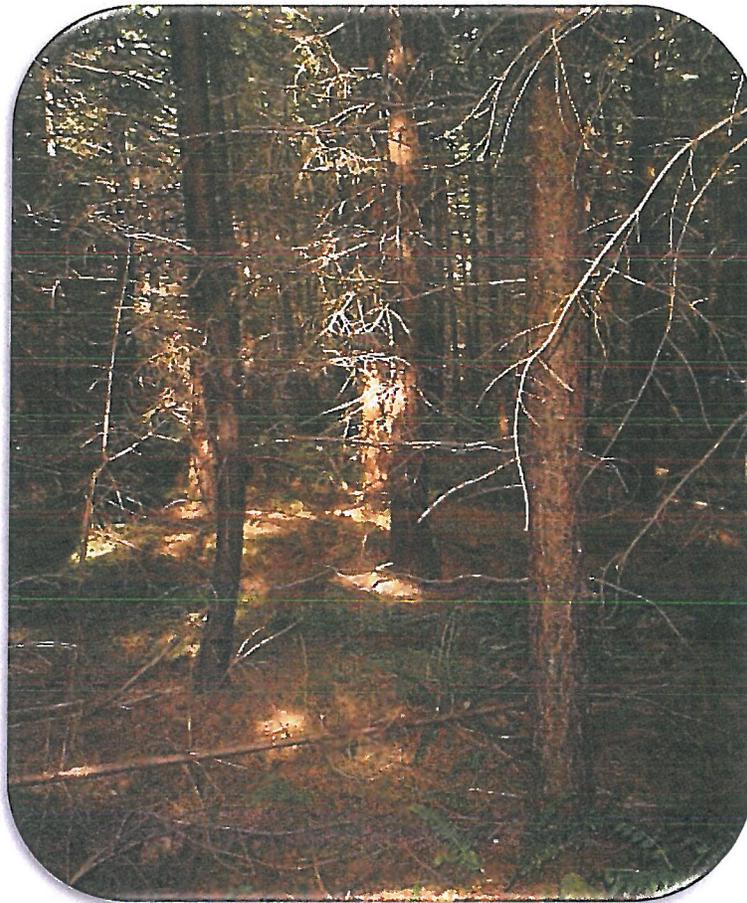
### Task Description

Under existing conditions, DBMU-2 and DBMU-3 are densely forested. Trees range from about 8 inches in diameter at breast height (dbh) to about 18 inches dbh. Table 1 summarizes Quick-plot data collected in September, 2005.

**Table 1. DBMU-2 and DBMU-3 stand attributes.**

Trees per Acre	266
Basal Area per Acre	196
Quadratic Mean Diameter	11.6
Relative Density	58
Bd. Ft. Volume per Acre	27,025

Few snags are present, although coarse woody debris is fairly abundant. The understory supports a patchy distribution of shrubs (primarily Oregon grape), swordfern, and some herbaceous plants, such as oxalis, vanilla leaf, inside-out-flower, and trailplant. Small amounts of vine maple, red huckleberry, and rose are also present, but in many areas, groundcover is very sparse (Figure 1).



**Figure 1. Example of stand conditions in DBMU-2.**

The WHMP goal for Forestland is to promote species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage. Specific objectives are to:

- a. Provide and maintain a mix of forage and hiding cover for elk, considering activities on adjacent lands, over the life of the license.
- b. Over the life of the licenses, maintain or develop at least 2 snags/acre ( $\geq 20$ " dbh), 3 reserve trees/acre ( $\geq 15$  in. dbh) and 2 logs/acre ( $\geq 20$  in. dbh and 20 ft long) in harvest areas, with the intent of meeting PHS snag guidelines for the pileated woodpecker at the management unit level.
- c. Promote habitat diversity by increasing or maintaining native tree species composition where appropriate site conditions exist over the life of the license.

The objective of creating patch cuts is to remove all trees within each patch to produce an opening in the overstory canopy that will allow greater light to the forest floor to promote understory development. The treatment will consist of removing all trees within the interior boundary of four 0.25-acre patch cut sites. The dominant overstory species in DBMU-2 and DBMU-3 is Douglas-fir, with some western hemlock (estimated at less than 10 percent). Trees to be removed will consist primarily of Douglas-fir, but some hemlock and alder may also be removed. Patch cuts will be sited to avoid western redcedar, cottonwood, and big-leaf maple. Trunks will be left on-site, mimicking the natural conditions that occur when root rot or windthrow causes a pocket of tree mortality or an opening in a forest stand and creates a canopy gap in an otherwise closed canopy forest, but limbs will be piled and burned on-site to reduce fire hazard.

Patches will be located in areas with the highest tree densities and smallest tree diameters, but existing understory at each site will also be an important factor in choosing patch cut sites. Sites where removal of the overstory would release desirable elk forage species will be targeted, as well as sites that currently receive very little light and support no ground cover.

Patch cuts will be implemented in accordance with Forestland Standard Operating Procedures (SOPs) found in Section 5.7 of the WHMP for initial inspections (Section 5.7.1); best management practices (Section 5.7.3), and patch cuts (Section 5.7.3.3). Quick-plots conducted in 2005 should provide adequate information to support patch cut silvicultural prescriptions.

Patch cuts will also take into account plan-wide SOPs for Invasive Plant Management (Section 5.8) and Raptor Management (Section 5.9). Patches will be located away from areas where there is a risk of weed establishment or spread from nearby sources. Patches will be located in mid-successional stands to avoid suitable nesting habitat for northern spotted owls or northern goshawks, and treatments will be implemented in early fall to avoid breeding seasons and fledgling dispersal periods for both species.

The basic planning, implementation, and documentation steps outlined in the Forestland SOPs can be broken into the following tasks:

### ***Task 1            Planning (2013)***

#### ***Task 1a.        Site Visit***

The planning step will begin with a site visit to DBMU-2 and DBMU-3 to identify appropriate patch locations. The site visit will be conducted by a forester and a wildlife biologist to locate sites most likely to benefit from the treatment, i.e., where groundcover is minimal or where

existing desirable groundcover could be released and enhanced by overstory removal. During the site visit, the team will:

- identify patch locations and flag patch boundaries with pink flagging
- mark all trees to be removed within each patch with blue tree paint in advance of the crew conducting the treatment
- tally and record all proposed cut trees by species and diameter class
- GPS patch boundaries; and
- photo-document pre-treatment stand conditions.

*Task 1b. Mapping and Silvicultural Prescription*

Following the site visit, the forester will prepare a detailed GIS map and air photo showing location of patches and access to the site, and write a detailed silvicultural treatment prescription. The map and the prescription will be included in the bid package, and the forester will be available to accompany prospective logging contractors during a mandatory on-site pre-bid meeting.

The treatment prescription will include the following:

- Specific management objectives
- Site constraints
- Size of patch cut
- Number of trees to be felled, by size and species
- Anticipated slash accumulation
- Anticipated regeneration
- Estimated costs and benefits

As discussed in Section 5.7.3.3 of the WHMP, woody debris left on-site would add nutrients to the forest floor, provide micro-sites for seedling establishment, and afford cover to small mammals, terrestrial salamanders, and birds that forage on the ground. However, large accumulations of wood may increase the risk of wildfire, inhibit the movement of deer and elk, and create conditions that promote insect infestations that could spread to the live forest. These types of concerns and objectives will be evaluated prior to conducting any patch cuts and addressed in the treatment prescription.

At this time, Cowlitz County PUD is proposing to pile and burn smaller material (limbs) to minimize fire hazard, but if site inspections indicate that slash accumulations would be low, an alternative would be to distribute slash on-site to ensure that depths do not exceed 1 foot (i.e., to ensure slash does not interfere with wildlife movement).

The cost of Tasks 1a and 1b would total approximately \$7,280.

*Task 2 Implementation (2014)*

The prescription to be included in the bid package for logging will specify how trees are to be felled and how slash is to be managed. Logging work will be completed by crews using chain saws and other hand tools to fell trees directionally, away from the center of each patch. No

skidders or other heavy equipment will be used on-site, in order to avoid excessive ground disturbance.

Four logging contractors have been contacted who may be interested in the task, including three who have done good work on the Gifford-Pinchot National Forest and one who has successfully conducted habitat enhancement projects for another hydropower project licensee in the vicinity. Based on rough estimates from three potential bidders, contract logging is expected to cost approximately \$3,165, including directionally felling trees to ensure the patch is clear, ensuring trees are well-distributed on the ground so that slash depths do not exceed 1 foot, limbing the trees, and piling limbs and smaller material for burning in each patch center. Burning, including DNR and Skamania County permits, is anticipated to cost approximately \$2,000, as a firewatch must be maintained during this activity and fire suppression equipment must be available on site. Together, the cost of implementation in 2014 would be \$5,165.

***Task 3 Documentation (2014)***

The forester will conduct a post-harvest site visit within 2 weeks of implementation to document site conditions and confirm that work has been completed as specified in the contract documents. The forester will provide written and photographic documentation to Cowlitz PUD, and any recommendations for follow-up that may be necessary. The estimated cost of Task 3 is \$1,810.

Monitoring of each site's response to the patch cuts will be conducted at 3 years and 6 years post-implementation, primarily through the use of photo comparisons, to determine if additional patch cuts should be implemented. Costs for monitoring would be addressed in 2016 and 2019.

## Appendix C

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### *Annual Plan Consultation Record*

*(Comments and response to be added to the final version of the Annual Plan)*

**2013 ANNUAL PLAN CONSULTATION RECORD**

As required by License Article 403, this section documents Cowlitz PUD’s consultation with the TCC regarding the development of the Annual Plan for the Swift No. 2 Wildlife Management Area. The 30-day Review Draft of the Annual Plan was emailed to the TCC on February 4, 2013 and discussed at the February 12, 2013 TCC meeting. Comments were due on March 8, 2013. \_\_\_\_\_ written comments were received by \_\_\_\_\_, 2013. The table below summarizes the comments the TCC provided at the \_\_\_\_\_, 2013 meeting, and provides Cowlitz PUD’s responses.

**Cowlitz PUD’s Response to TCC Comments on the Draft 2013 WHMP Annual Plan**

Comment	Cowlitz PUD Response

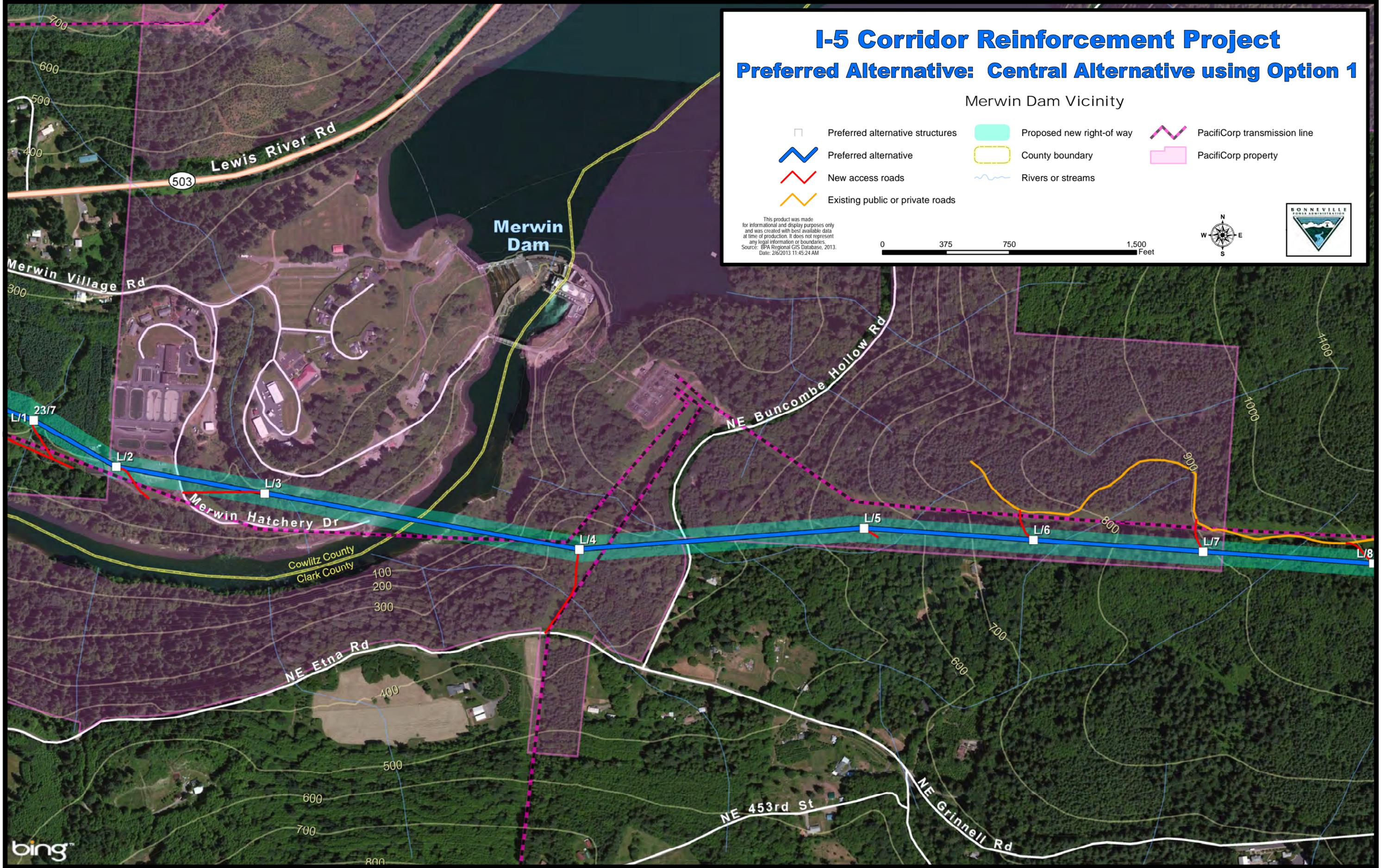
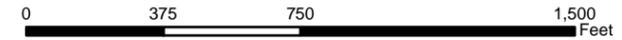
# I-5 Corridor Reinforcement Project

## Preferred Alternative: Central Alternative using Option 1

Merwin Dam Vicinity

-  Preferred alternative structures
-  Preferred alternative
-  New access roads
-  Existing public or private roads
-  Proposed new right-of-way
-  County boundary
-  Rivers or streams
-  PacifiCorp transmission line
-  PacifiCorp property

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# I-5 Corridor Reinforcement Project

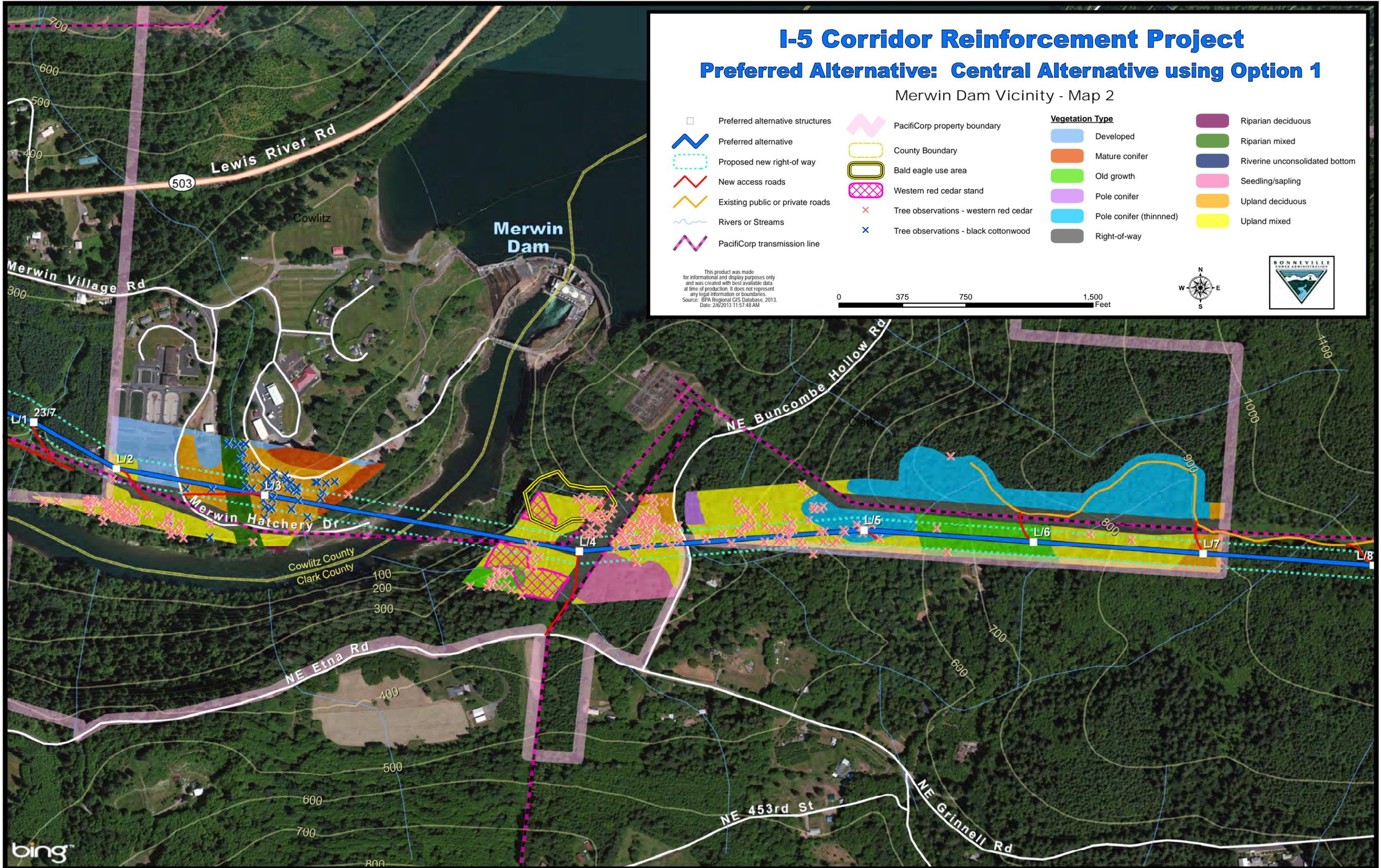
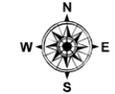
## Preferred Alternative: Central Alternative using Option 1

Merwin Dam Vicinity - Map 2

- |  |                                  |  |                                       |                        |                        |                    |                                |
|--|----------------------------------|--|---------------------------------------|------------------------|------------------------|--------------------|--------------------------------|
|  | Preferred alternative structures |  | PacifiCorp property boundary          | <b>Vegetation Type</b> |                        | Riparian deciduous |                                |
|  | Preferred alternative            |  | County Boundary                       |                        | Developed              |                    | Riparian mixed                 |
|  | Proposed new right-of-way        |  | Bald eagle use area                   |                        | Mature conifer         |                    | Riverine unconsolidated bottom |
|  | New access roads                 |  | Western red cedar stand               |                        | Old growth             |                    | Seedling/sapling               |
|  | Existing public or private roads |  | Tree observations - western red cedar |                        | Pole conifer           |                    | Upland deciduous               |
|  | Rivers or Streams                |  | Tree observations - black cottonwood  |                        | Pole conifer (thinned) |                    | Upland mixed                   |
|  | PacifiCorp transmission line     |  |                                       |                        | Right-of-way           |                    |                                |

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0 375 750 1,500 Feet



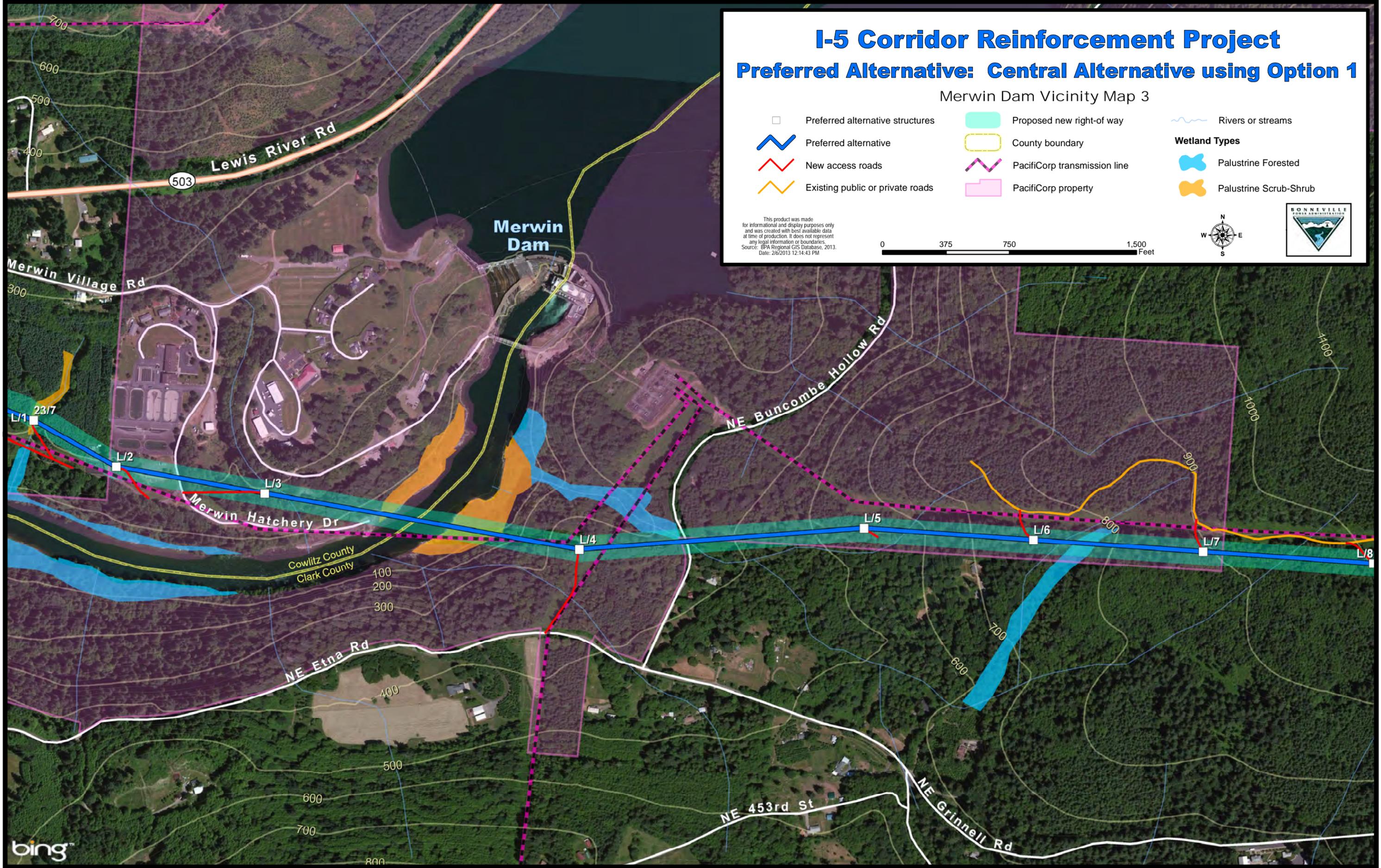
# I-5 Corridor Reinforcement Project

## Preferred Alternative: Central Alternative using Option 1

Merwin Dam Vicinity Map 3

- |   |                                  |   |                              |   |                        |
|---|----------------------------------|---|------------------------------|---|------------------------|
|  | Preferred alternative structures |  | Proposed new right-of-way    |  | Rivers or streams      |
|  | Preferred alternative            |  | County boundary              | <b>Wetland Types</b>  |                        |
|  | New access roads                 |  | PacifiCorp transmission line |  | Palustrine Forested    |
|  | Existing public or private roads |  | PacifiCorp property          |  | Palustrine Scrub-Shrub |

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## Washington RMEF PROPOSED PROJECTS DETAIL

2013 Proposed Projects

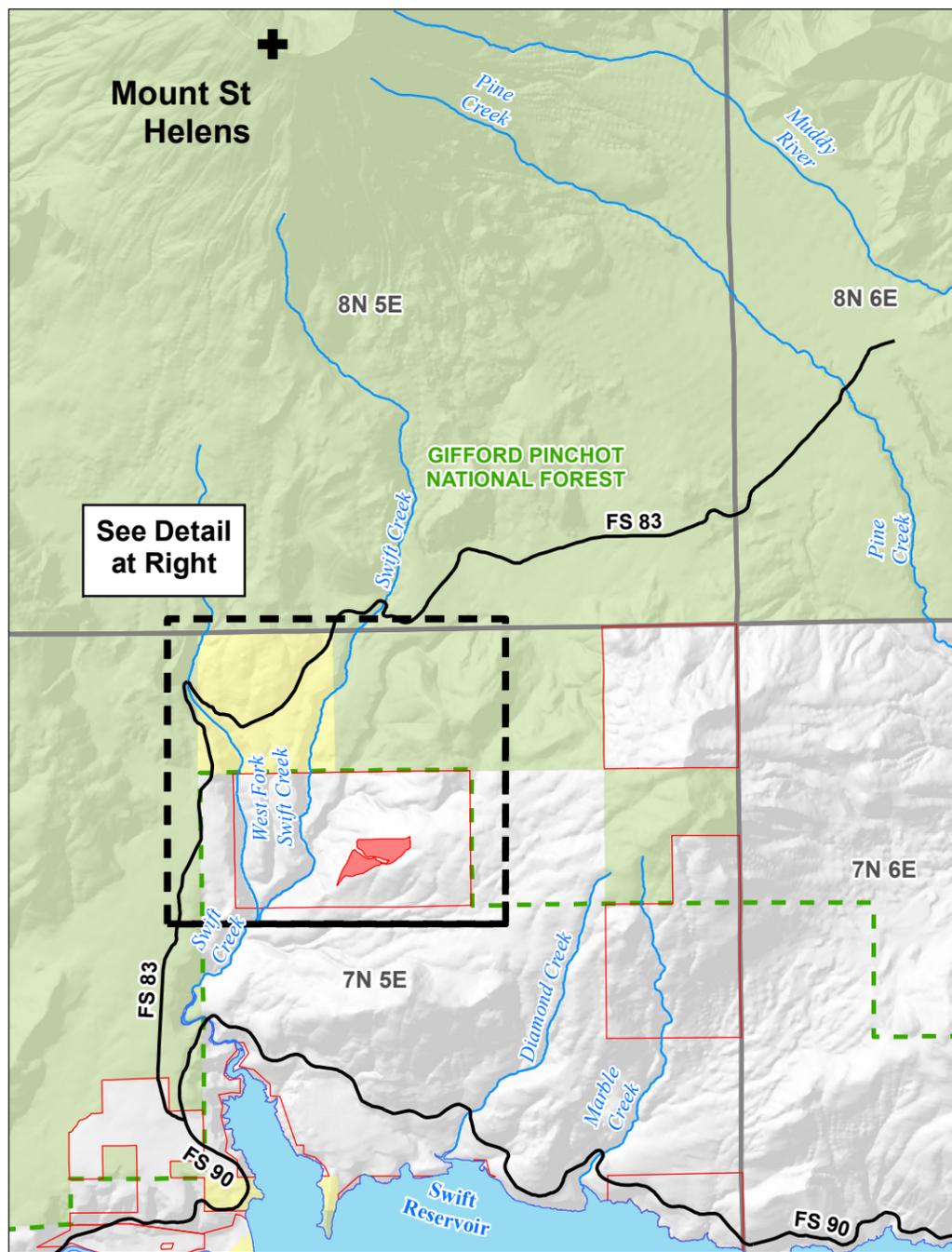
PAC Allocation (preliminary)	\$204,400
PAC recommendation - 1/15/2013	-\$191,726
Balance	\$12,674

National Project Review Committee	
Date - Feb. 4, 2013	
Blake Henning	<u>                    </u>
Steve Decker	<u>                    </u>
Kirk Murphy	<u>                    </u>
Ralph Cinfio III	<u>                    </u>
Christine Hastings	<u>                    </u>

<u>Project and Description</u>	<u>RMEF \$ Requested</u>	<u>RMEF \$ PAC REC</u>	<u>Match \$</u>	<u>Cooperator</u>	<u>Total \$</u>
Table Mountain Seeding  Seed 210 acres of alpine forest and elk summer range burned in the 40,000 Table Mountain wildfire in Sept./Oct. 2012 with a native grass seed mix.	\$10,000	\$10,000	\$10,000	WDFW	\$20,000
Blue Mtns. WA Pasture seeding  Treat 34 acres (two sites) with Roundup to remove woody vegetation, disk and drill seed with red clover to help keep elk on Wildlife Areas rather than private property.	\$3,726	\$3,726	\$7,500	WDFW	\$11,226
Mt. St. Helens WA Habitat Enhancement  Fertilize and lime 150 acres to improve winter range forage and plant trees and shrub on 5,000 acres to improve stream bank stabilization.	\$10,000	\$10,000	\$10,000	WDFW	\$20,000
Government Meadows Thin  Thin and pile slash on 47 acres to increase huckleberry growth and create forage openings for elk and other wildlife.	\$14,100	\$14,100	\$14,100	Mt. Baker-Snoqualmie NF Muckleshoot Indian Tribe Univ. of Washington WA Native Plant Society	\$28,200
Chief Joseph Pond  Clean out 11 small ponds of no more than 1 acre each that were used for livestock watering sites when the ranch was in private ownership that have silted in and are now needed for wildlife.	\$7,000	\$7,000	\$7,000	WDFW	\$14,000
Rainwater WA Seeding  Use native seed on 300 acres of previously treated weed area (yellow starthistle) to restore grassland, seed 15 acres of forest skid trails (forest thinning project) and utilize targeted goat grazing on 1,000 acres of yellow starthistle to improve crucial elk winter range for elk, deer and moose.	\$20,500	\$5,000	\$65,000	Confederated Tribes of the Umatilla Indian Reservation	\$85,500
			\$15,500	TBD	

<u>Project and Description</u>	<u>RMEF \$</u> <u>Requested</u>	<u>RMEF \$</u> <u>PAC REC</u>	<u>Match \$</u>	<u>Cooperator</u>	<u>Total \$</u>
Little Butte Burn Burn 1,200 acres of summer and crucial summer range to reduce decadent grass and shrubs for elk and other wildlife.	\$18,000	\$18,000	\$18,000	Umatilla NF	\$36,000
Paradise 10 Burn Burn 865 acres to improve big game forage and overstory cover by increasing grass and forbs while killing competing conifers and enhancing decadent browse.	\$5,000	\$5,000	\$28,000	Colville NF	\$33,000
July Mill Weed & Burn Burn 200 acres of shrubfield and Douglas fir park, burn 17 acres of homestead meadow and treat 4 acres of noxious weeds on yearlong elk range.	\$6,900	\$6,900	\$8,570	Colville NF	\$15,470
Malo Eastlake Unit 1 Burn Burn 75 acres of whipfelled treatment to return the area to its more open historic condition while improving crucial elk winter range.	\$3,000	\$3,000	\$8,000	Colville NF	\$11,000
Oak Creek WA Weeds Treat 300 acres of the Wildlife Area of knapweeds and thistles to improve elk winter range condition.	\$12,000	\$12,000	\$12,822	WDFW	\$24,822
<b>Swift Creek Seed and Gates</b> <b>Seed 53 acres with grass/legume forage mix, add 2 gates to close roads that currently allow unrestricted motorized access to approximately 450 acres of elk summer range, establish 8 exclosures to monitor forage seeding on recently purchased 2,600 acres.</b>	<b>\$15,000</b>	<b>\$15,000</b>	<b>\$61,400</b>	<b>PacifiCorp</b>	<b>\$76,400</b>
Pomeroy Road Decommissioning Decommission 2 miles of road that are currently closed to motorized access but are still being used illegally to improve elk security habitat within crucial summer range.	\$10,000	\$10,000	\$4,000 \$10,000	Umatilla NF BMEI	\$24,000
Pomeroy Gate Replacement Improve elk security habitat by replacing old ineffective gates with newer style that withstands snowloads and will require less maintenance.	\$8,000	\$8,000	\$16,000 \$8,000	Umatilla NF BMEI	\$32,000

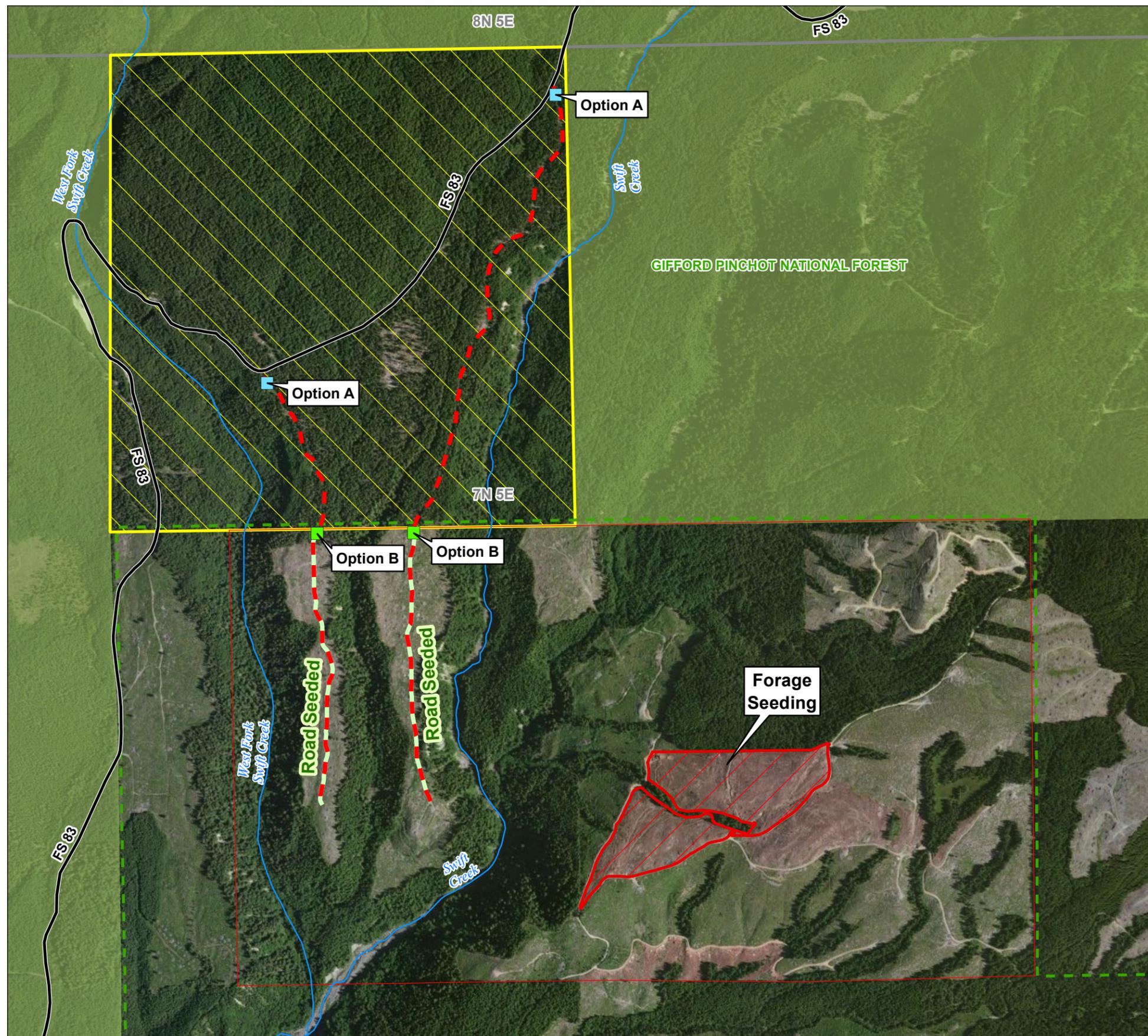
<u>Project and Description</u>	<u>RMEF \$</u> <u>Requested</u>	<u>RMEF \$</u> <u>PAC REC</u>	<u>Match \$</u>	<u>Cooperator</u>	<u>Total \$</u>
Cowlitz Valley Gate  Replace existing gate that is under sized and easily pulled out by poachers and others with a heavy duty gate on winter range closure road.	\$7,000	\$7,000	\$10,967	Gifford Pinchot NF	\$17,967
Blue Mtns. WA Weeds Treat 20,204 acres of the WA for noxious weeds (yellow starthistle, rush skeletonweed, houndstongue, thistle, knapweed, Mediterranean sage, sulfur cinquefoil, leafy spurge, white bryony, Tree of Heaven, field bindweed and Dalmatian toadflax on yearlong habitat that supports about 1,900 elk.	\$20,000	\$20,000	\$25,000 WDFW \$30,000 BPA		\$75,000
Wind River Nursery Weeds Treat 90 acres of noxious weeds (Canada thistle, scotch broom) to maintain the forage openings for Roosevelt elk.	\$14,000	\$14,000	\$14,072		\$28,072
Mt. St. Helens WA & Volcanic Monument Weeds Treat 100 acres of mouseear hawkweed and other noxious weeds on elk winter range on both federal and state lands to reduce this new invasive that has very aggressive expansion potential.	\$13,000	\$13,000	\$22,800 Gifford Pinchot NF \$11,200 WDFW \$6,225 Cowlitz Co. Weed		\$53,225
Asotin County Early Detection Treat 325 acres of noxious weeds on a mixed ownership of lands to continue program to control invasives in an area that supports approximately 4,000 elk.	\$7,500	\$7,500	\$5,000 Asotin Co. Weed Board \$6,500 Asotin Co. Cons. District \$5,000 Private landowners \$3,000 WDFW \$7,500 Umatilla NF \$6,500 WA Dept. of Ag.		\$41,000
Mediterranean Sage Treatment Treat 140 acres of Mediterranean sage on elk transitional range on state (95%) and private land.	\$2,500	\$2,500	\$2,500 Asotin Co. Weed Board \$7,300 WDFW \$3,000 WA State Weed Board		\$15,300
	<u>\$207,226</u>	<u>\$191,726</u>	<u>\$470,456</u>		<u>\$662,182</u>



1:80,000  
0 1 2 Miles

Optional Closure Sites/Gates		Main Access Road	
	Option A		Main Access Road
	Option B		Gifford Pinchot National Forest
	Cooperative Road Closures		Township
	Road Seeded		PacifiCorp Ownership
	Forage Seeding		State Land
			Federal Land

# Proposed RMEF PAC Grant with PacifiCorp



1:15,000  
0 0.25 0.5 Miles  
0 1,000 2,000 Feet