

**Lewis River Hydroelectric Projects Settlement Agreement
Terrestrial Coordination Committee (TCC)
Meeting Agenda**

Date & Time: **Wednesday, February 11, 2015
9:00 a.m. –12:45 p.m.**

Place: **Merwin Hydro Control Center
105 Merwin Village Court
Ariel, WA 98603**

Contacts: **Kirk Naylor: (503) 813-6619; cell (503) 866-8750**

Time	Discussion Item
9:00 a.m.	Welcome <ul style="list-style-type: none">➤ Review Agenda & 12/10/14 Meeting Notes➤ Comment & accept Agenda & 12/10/14 Meeting Notes
9:15 a.m.	Preview Cowlitz PUD WHMP 2015 Plan
10:15 a.m.	Break
10:30 a.m.	Preview PacifiCorp WHMP 2015 Plan
11:30 a.m.	PacifiCorp – Review Eagle Plan
12:00 p.m.	BiOp vs Settlement Agreement Language for Cresap
12:15 p.m.	PacifiCorp 2014 Year-end Financial Reporting
12:30 p.m.	<ul style="list-style-type: none">➤ Next Meeting’s Agenda➤ Public Comment Opportunity Note: all meeting notes and the meeting schedule can be located at: http://www.pacificorp.com/es/hydro/hl/lr.html#
12:45 p.m.	Adjourn

PLEASE BRING YOUR LUNCH

Join by Phone

+1 (503) 813-5252 [Portland, Ore.]

+1 (855) 499-5252 [Toll Free]

Conference ID: 35490138

FINAL Meeting Notes
Lewis River License Implementation
Terrestrial Coordination Committee (TCC) Meeting
February 11, 2015
Merwin Hydro Control Center
Ariel, WA

TCC Participants Present: (9)

Ray Crosswell, RMEF
 Bill Richardson, RMEF (via conference)
 Peggy Miller, WDFW (via conference)
 Eric Holman, WDFW
 Diana Gritten-MacDonald, Cowlitz PUD
 Kimberly McCune, PacifiCorp Energy
 Kirk Naylor, PacifiCorp Energy
 Kendel Emmerson, PacifiCorp Energy
 Nathan Reynolds, Cowlitz Indian Tribe

Calendar:

March 19, 2015	TCC Meeting	Conference Call
<i>April 8, 2015</i>	<i>TCC Meeting</i>	<i>Cancelled</i>
May 13, 2015	TCC Meeting	HCC & Field Tour

Assignments from February 11, 2015	Status
Gritten-MacDonald: Mail a hard copy of the Cowlitz PUD WHMP to Bill Richardson (RMEF).	

Assignments from December 10, 2014	Status
Gritten-MacDonald: Add TCC approved language in the Cowlitz PUD 2015 WHMP Plan regarding accrual of funds for certain Devil's Backbone WHMP actions.	Complete – 2/11/15

Assignments from June 13, 2012	Status
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 black-tail study and report back to the TCC.	In Progress

Review of Agenda and Finalize Meeting Notes

Kirk Naylor (PacifiCorp Energy) called the meeting to order at 9:10 a.m. Naylor reviewed the agenda and asked the TCC if there were any changes/additions. Eric Holman (WDFW) will provide an update on SW Washington Elk hoof disease.

Naylor reviewed the December 10, 2014 meeting notes and assignments. The meeting notes were approved at 9:15 a.m. without change.

Bacterial Hoof Disease in Southwest Washington Elk

Holman provided a comprehensive status update of the growing number of reports of elk hobbled by missing or misshapen hooves in southwest Washington. Holman discussed the efforts WDFW is implementing now and their plans for the near future such as volunteer opportunities to help conduct a survey in March and April designed to determine the extent of elk in southwest Washington with hoof disease. He also discussed the potential treatments, monitoring efforts and study goals. Further detail is provided by WDFW at the following website:

http://wdfw.wa.gov/conservation/health/hoof_disease/

Preview Cowlitz PUD WHMP 2015 Plan

Diana Gritten-MacDonald (Cowlitz PUD) informed the attendees that the *Cowlitz PUD Wildlife Habitat Management Plan (WHMP) 2015 Annual Plan (Attachment A)* was emailed to the TCC on February 6, 2015 for a 30-day review and comment period. Hard copies were also provided at today's meeting. Comments are due on or before March 6, 2015.

Bill Richardson (RMEF) did not receive an electronic copy so Gritten-MacDonald will mail a hard copy to his attention.

Gritten-MacDonald provided a cursory review of the anticipated 2015 budget as indicated below:

Table 2.1-1. Anticipated 2015 (Year 7) Annual Plan Budget (2015 dollars).

2015 Budget		
Dec 26, 2014 Annual Payment	\$ 17,971	
2014 Carry Forward	\$ 3,185	
Interest on 2014 Ending Balance	\$ 103	
Total 2015 Budget	\$ 21,259	
WHMP Activity	Estimated 2015 Cost	Assumptions
Administration	\$6,000	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	\$3,500	Includes labor and mileage.
Invasive plant species control	\$3,000	Includes 2 herbicide applications in 2015.
Timber Management Fund	\$7,441	Defer at least 35% of the annual budget.
Estimated cost of management activities	\$19,941	
Estimated amount remaining in 2015 budget at year end	\$1,318	Any funds not spent by year end, plus accrued interest; remain in the WHMP budget to be carried into the following year.

Gritten-MacDonald also confirmed that the following requested TCC language was also included in their WHMP Plan.

Throughout 2014, TCC and Cowlitz PUD have cooperatively developed ideas for accomplishing the Wildlife Habitat Management Plan (WHMP) enhancement forestry actions on Cowlitz PUD's Devil's Backbone site. Initial budget estimates for these proposed actions reveal they are more costly than can be accomplished with one year's allocation of Cowlitz PUD annual WHMP funding.

TCC members desire that Cowlitz PUD accrue funds in order to accomplish these WHMP actions. TCC members therefore request Cowlitz PUD defer 35% of Annual Plan spending, starting in 2015 and continuing in subsequent years, until the TCC agrees on the allocation of these accrued funds toward a WHMP action. During preparation of each year's Annual Plan by Cowlitz PUD, TCC may request more or less than a 35% deferral, based on expected needs of the next project year and changing circumstances. Cowlitz PUD shall manage these deferred funds in accordance with Section 10.8.2.3 of the Lewis River Settlement Agreement.

Comments on the Cowlitz PUD WHMP 2015 Plan are due on or before March 6, 2015.

Preview PacifiCorp WHMP 2015 Plan

Kendel Emmerson (PacifiCorp)

PacifiCorp 2014 WHMP Budget

Kendel Emmerson (PacifiCorp) informed the TCC that PacifiCorp's *Lewis River 2015 Wildlife Habitat Management Plan* (WHMP) 30-day review draft was provided via email on February 9, 2015 for review and comment. **Comments are due on or before March 11, 2015.**

Emmerson provided a cursory review to include but not limited to the following. For further detail the 2015 WHMP Annual Plan can be located at the following link:

<http://www.pacificorp.com/es/hydro/hl/lr.html#>

- License Implementation
- Annual Reports
- 2014

Section 6.0 Wetland Habitat Management - Emmerson noted that one objective is to learn more about the population and development of bullfrog larva in these ponds to insure that draining the wetlands is not selecting for a rapidly developing genotype (very warm water system; how are they surviving).

Section 9.0 Farmland, Idle Areas, and Meadows Habitat Management – Most of the actively managed fields will be surveyed for Savannah Sparrow between April 15 and May 31 to determine occupancy and gain more insight on nest phenology. Fields will be surveyed using the Area Search method.

Emmerson also noted that she wants to invest additional funds for addressing noxious weeds (see Section 9.2) in order of list of priority. **Emmerson requested TCC approval for a screen to be planted along the northern border of the Leach field meadow to screen the meadow from the**

adjacent homes to prevent all-terrain vehicle (ATV) trespass. The expense is approximately \$3,000.

The TCC attendees approved the expenditure for the screen as described and requested a mix of trees and shrubs such as hazel and elderberry.

Section 11.0 Transmission Line right-of-Way Habitat Management – Emmerson noted the Speelyai line is expected to need post treatment inspections at the sites that have hazard tree removal. Some visual screens will be lost. Each visual screen will be evaluated to determine what, if any, replanting can occur to reestablish a visual screen that at maturity would remain within the clearing limits. PacifiCorp biologists will continue to work closely with Vegetation Management Service to insure that the tree removal will be in accordance with the WHMP standards.

Section 15.0 Raptor Site Management – Emmerson noted that the Bald Eagle Management Plan will be revised to include new nest and territories for 2015.

Section 16.0 Public Access Management - the Site Creep Evaluation is to occur every 4 years and was scheduled to occur in 2014. Because PacifiCorp was without a recreation manager for most of 2014 the evaluation did not occur. It is scheduled and budgeted to occur in 2015 and will meet the criteria described in Final Recreation Resource Management Plan and will meet the monitoring standards provided in Appendix G.

Emmerson reviewed a draft of the 2015 Overall WHMP budget as fully detailed in the *Lewis River 2015 Wildlife Habitat Management Plan* located at:

<http://www.pacificorp.com/es/hydro/hl/lr.html#> to include a comparison to the 2014 proposed and actual budget. WHMP funds available for 2015 are \$468,817.68. The additional HEP funding and Rocky Mountain Elk Foundation (RMEF) funding was only available through 2014. In addition, an escalation error was discovered in 2014 in the amount of \$5,771.29 which has been carried over into 2015.

License Year 7
Calendar Year 2015
Annual WHMP Budget

Total Available Funds		2014 Funds	2015 Funds
Fee Simple Lands	Acres	13,134	13,134
	Cost Per Acre	\$33.30	\$33.76
	2014 Escalation Correction	\$0.00	\$5,771.29
	SubTotal	\$437,392.41	\$449,166.93
Interests in Lands	Acres	16	16
	Cost Per Acre	\$16.85	\$16.88
	SubTotal	\$269.63	\$270.08
Other Additional Funds	Remaining Funds from	\$14,216.11	\$4,310.29
	Additional HEP Funding	\$20,000.00	\$0.00
	RMEF	\$11,281.71	\$0.00
	Interest	\$13,532.38	\$15,070.38
	SubTotal	\$59,030.20	\$19,380.67
Total		\$496,692.24	\$468,817.68

Section 13.0 Forestland Habitat Management – Naylor provided a cursory review of this section to include but not limited to the following:

Management Unit 17 - Naylor informed the TCC attendees that in 2013 the TCC was shown an area in Management Unit 17 near Speelyai Canal where trees had become a hazard to adjacent homes and a PacifiCorp access road due to advanced decay in the alder. The area was not harvested as planned in 2014 so it will be added to the 2015 plan. The area encompasses approximately 9.0 acres. PacifiCorp conducted goshawk surveys in this area in 2013 and 2014 without receiving any response calls. PacifiCorp will conduct another survey in 2015 prior to any harvest. The proposal is to remove all hardwoods or other hazard trees while retaining conifer and shrubs as much as practical and replant the area with conifer in 2016. The area is entirely within a riparian buffer for Speelyai Canal despite the presence of a road between the proposed harvest area and the canal. This will establish a permanent conifer buffer along the canal.

Management Unit 5 - Approximately 20.00 acres has been proposed for even aged harvest to maintain forage in an area favored by elk over the past 25 years. Additionally, an adjacent 29 year-old stand is proposed for a commercial thin. The commercial thin will be on approximately 20 acres of a 1986 harvest area to provide better tree spacing (release for larger trees) and temporary forage. The current tree density is approximately 203 trees per acre (TPA) with little understory shrub or forage species. The average tree diameter at breast height is 12.9 inches. Thinning is proposed at a spacing of approximately 14 feet to encourage understory development of early seral vegetation and to improve forest health and stand longevity. Some clearing will have to be done to reestablish landings to sort and load the harvested trees.

Management Unit 35 - This unit is comprised of approximately 791 acres of 37 to 45 year-old timber stands. The TCC reviewed the proposed harvest area (approximately 50.0 acre commercial thin) in 2014 when it was initially proposed but was deferred until 2015. Access roads were completely over-grown with alder but have been re-opened with new culverts and gate closures over the past two years. In 2015 PacifiCorp is proposing an extension of 0.39 miles of new road to connect existing roads (previously reviewed with the TCC in 2014). The road would be part of a planned timber harvest and allow access to an existing rock pit in Management Unit 35.

Management Unit 10 - One of the permanent meadows developed in Management Unit 10 last year will be reassessed in 2015 for follow-up stump removal, grading and re-seeding. Because this meadow was a stand-alone timber harvest, there was a limited area for slash management. The number of stumps and the amount of slash piles that were burned in the new 3.3 acre meadow may limit the potential of this site from producing the desired forage. With additional tractor work, grading and soil amendments, this meadow may be improved.

Naylor noted that PacifiCorp continues to update the Geographic Information System and corresponding spreadsheets depicting vegetation cover types and tracking cover/forage (C:F) ratios by management unit to comply with established WHMP plans and to develop plans for newly acquired properties. Eleven management units are currently being prioritized for further planning based on their C:F ratios as indicated below:

Table 1: Management unit priorities based on Cover and Forage

Management Unit	Total Acres	C:F Ratio	C:F Ratio Objective based on WHMP	Meets 5% permanent forage (Y/N)	Priority ¹ based on C:F Ratio
1	131.2	74:26	50:50	Y	1
5	360.5	73:27	60:40	N	1
7	526.5	72:28	50:50	N	1
8	278.8	82:18	55:45	Y	1
14	123.9	77:26	TBD ²	Y	2
16	386.7	85:15	70:30	Y	2
20	938.7	93:07	60:40	Y	2
19	163.5	66:34	60:40	N	1 ³
27	255.2	88:12	TBD ²	N	2
34	676.2	99:01	TBD ²	N	1
35	799.0	100:0	TBD ²	N	1

1: Priority is relatively based on 1 = 1-3 years; 2 = 3-5 year planning.

2: TBD: To be determined; C:F objective wasn't assigned in WHMP or represent new lands

3: Root-rot area and permanent forage are drivers for management.

Naylor also reviewed regeneration practices that include management actions that promote tree regeneration following timber harvests and maintaining or establishing big game forage and cover. The 2015 timber harvest areas will be site prepped for forage seeding and tree planting by piling residual slash and site-prepping soils with a tractor-mounted brush blade.

<Break 11:15 a.m.>

<Reconvene 11:25 a.m.>

PacifiCorp – Review Eagle Plan

In accordance with Chapter 14, Raptor Site Management - Objective B (outlined below) PacifiCorp has updated the Bald Eagle Management Plan.

- *Objective b: Develop a management plan for nesting bald eagles, considering site-specific requirements, within 3 years of WHMP implementation, and revise upon discovery of a new active nest site.*

Emmerson provided a cursory review of the *Lewis River Bald Eagle Management Plan*, 30-day review draft. The Bald Eagle Plan was distributed to the TCC for review and comment on February 9, 2015. *Note: This document is confidential and not intended for general public viewing. **Comments are due on or before March 11, 2015.***

Emmerson informed the TCC attendees that the 2015 version has been updated to current nest site data, revised regulations, a recreation layer has been added and it includes better imagery than the 2010 version.

As of today's date one comment has been received from the following TCC participant:

From: Wainwright, Mitch -FS [<mailto:mwainwright@fs.fed.us>]
Sent: Tuesday, February 10, 2015 1:28 PM
To: Emmerson, Kendel
Subject: RE: Bald Eagle Management Plan - February 2015; 30-day Review and Comment Period
Sensitivity: Confidential

Kendel, I think the plan looks good, and I don't have any suggested changes. I think the format is good since it will be easy to add new sites if any are found during the aerial surveys or pre-project surveys for communal roosts.



Mitch Wainwright
Wildlife Biologist
Forest Service
Gifford Pinchot National Forest, South Zone
p: 360-449-7857
f: 360-449-7801
mwainwright@fs.fed.us

BiOp vs Settlement Agreement Language – Cresap Bay Recreation Area

In accordance with the Lewis River Biological Opinion (BiOp) and the Settlement Agreement, PacifiCorp's Cresap Bay Recreation Area is to be managed for both wildlife and recreation. However, PacifiCorp may need periodic access to Cresap Bay for scheduled maintenance but these activities will be timed to minimize disturbance to wildlife and will be discussed with the TCC on an annual basis.

PacifiCorp recently informed the TCC of a siren construction project at Cresap and received their approval. Emmerson noted that PacifiCorp will continue to keep the TCC aware of any unexpected needs regarding periodic access to Cresap Bay Recreation Area. Coordinating on an annual basis has not been feasible, so we have been coordinating with the TCC on as needed basis instead.

PacifiCorp 2014 Year-end Financial Reporting

Kim McCune (PacifiCorp) informed the TCC of the following year-end financial report (see **Attachment B** for more detail):

10.8.2 - WHMP Fee Simple Lands

12/31/2014 Balance	\$464,065.35*
*includes 2015 contribution of	\$443,395.64

10.8.2 - WHMP Conservation Easement Lands

12/31/2014 Balance \$270.08*

*includes 2015 contribution of \$270.08

10.2 - Swift No. 1 and Swift No. 2 Land and Habitat Protection

12/31/2014 Balance \$1,950,455.35

*includes 2015 contribution of \$ 625,173.63

10.3 - Lewis River Land Acquisition and Habitat Funds

12/31/2014 Balance \$ 1,009,307.61

7.1.1 – Lewis River LWD Fund

12/31/2014 Balance \$52,500.00

Public Comment Opportunity

No public comment was provided.

<12:00 p.m. meeting adjourned>

Agenda items for March 19, 2015

- Review February 11, 2015 Meeting Notes
- Review and Discuss WHMP 2014 Annual Report & 2015 Plan Comments

Next Scheduled Meetings

March 19, 2015	April 8, 2015
Conference Call	Cancelled – Reconvene in May
Merwin Hydro Control Center	
Ariel, WA	
9:00am – 12:00pm	

Attachments:

- February 11, 2015 Meeting Agenda
- **Attachment A** - Cowlitz PUD Wildlife Habitat Management Plan (WHMP) 2015 Annual Plan
- **Attachment B** - Lewis River TCC year-end reporting, dated 12/31/2014

Swift No. 2 Hydroelectric Project
FERC No. 2213

TCC Review DRAFT February 6, 2015

Wildlife Habitat Management Plan 2015 (Year 7) 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



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Appendix A. 2014 Washington State and County Weed Lists

Appendix B. 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

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**2015 (YEAR 7) 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 PacifiCorp¹ 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 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.

¹ 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 7 Annual Plan outlines proposed wildlife measures and anticipated costs for work to be completed in 2015. The annual report is being filed under separate cover.

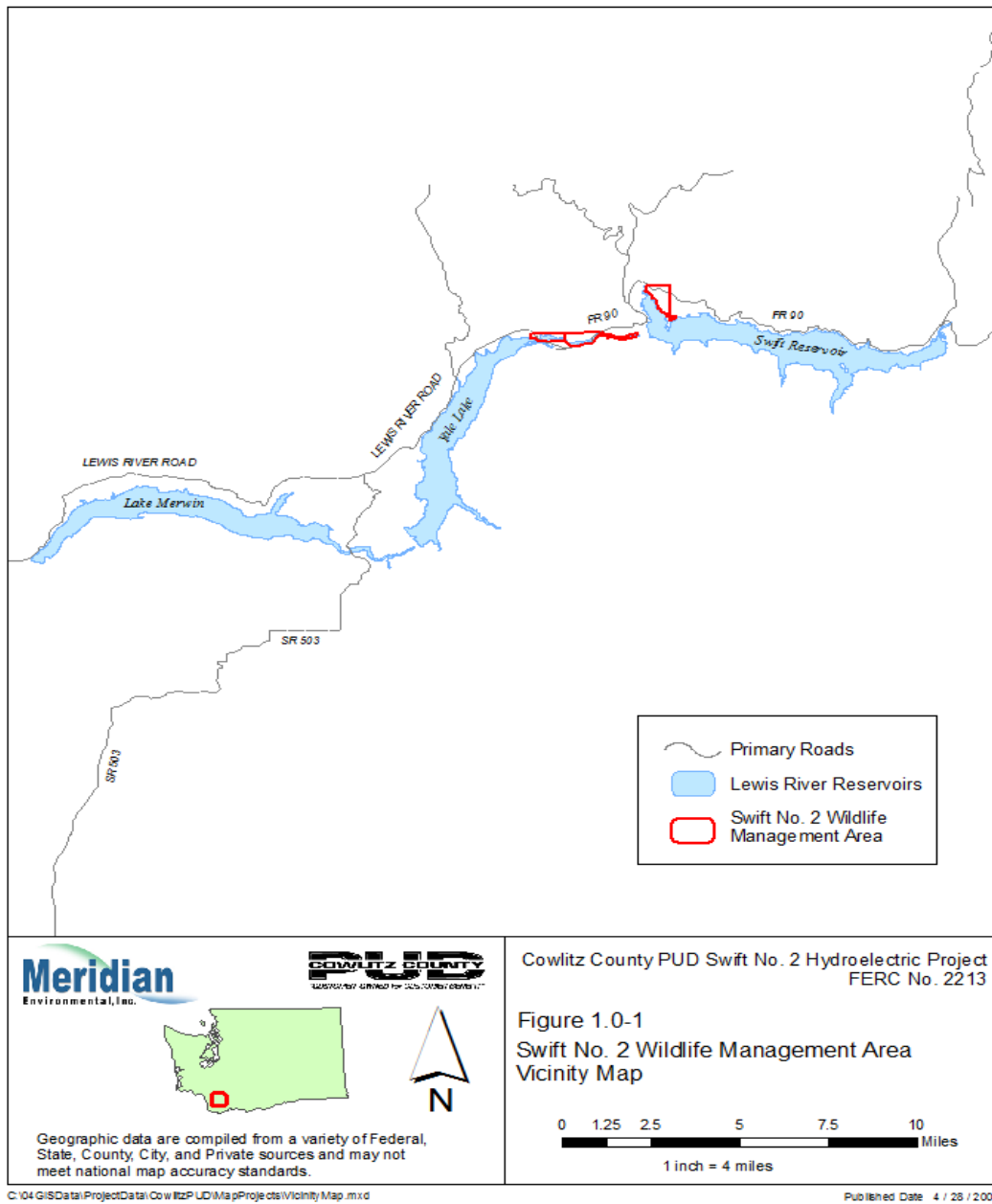


Figure 1.0-1 Project area map, project vicinity inset.

2.0 2015 (YEAR 7) MANAGEMENT ACTIVITIES

Management activities planned for 2015 (Year 7) include the following:

- *Conduct follow-up surveys at sites where weed control efforts have already been implemented.* Meridian Environmental will conduct the invasive plant 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 2015 will focus on evaluation of Canada thistle and tansy ragwort control efforts in DBMU-11 and coordination with the adjacent landowner regarding Scotch broom management.

Initial surveys have been completed in all high priority areas in the Project Works MU. In June 2015, 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 previous years, and an infestation of Robert's geranium that was documented in 2014.

Updated 2015 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.* Cowlitz PUD plans to extend its interlocal agreement with Skamania County (signed in May 2013) to perform weed control in the WMA. Based on invasive plant surveys to date, most weed occurrences within the Swift No. 2 WMA are located within wetland and/or riparian buffers. Herbicides selected for application in these areas will be safe for wetland use. Herbicides will be applied in both summer and fall for maximum control. Hand-pulling and mechanical methods may also be implemented at sites where these approaches are likely to be effective. Targets for 2015 include retreatment of existing Canada thistle, tansy ragwort, and Scotch broom infestations, and may also include Robert's geranium. 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.
- *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 invasive plant species 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).

- *Adaptively Manage this 2015 WHMP Annual Plan.* At the December 10, 2014 meeting, The TCC agreed to the following language regarding management of the WHMP funds:

Throughout 2014, TCC and Cowlitz PUD have cooperatively developed ideas for accomplishing the Wildlife Habitat Management Plan (WHMP) enhancement forestry actions on Cowlitz PUD's Devil's Backbone site. Initial budget estimates for these proposed actions reveal they are more costly than can be accomplished with one year's allocation of Cowlitz PUD annual WHMP funding.

TCC members desire that Cowlitz PUD accrue funds in order to accomplish these WHMP actions. TCC members therefore request Cowlitz PUD defer 35% of Annual Plan spending, starting in 2015 and continuing in subsequent years, until the TCC agrees on the allocation of these accrued funds toward a WHMP action. During preparation of each year's Annual Plan by Cowlitz PUD, TCC may request more or less than a 35% deferral, based on expected needs of the next project year and changing circumstances. Cowlitz PUD shall manage these deferred funds in accordance with Section 10.8.2.3 of the Lewis River Settlement Agreement.

2.1 2015 (YEAR 7) 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 2015 (Year 7) budget of \$17,971.

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 (2014), if any, are also added to the fund. At year end, \$3,185 remained in the WHMP fund and was carried forward from 2014, along with the \$103 interest accrued. For these reasons, the total budget for 2015 is \$21,259.

Consistent with SA Section 10.8.3, the anticipated 2015 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 2015, 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 2015 (Year 7) Annual Plan Budget (2015 dollars).

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WHMP Activity	Estimated 2015 Cost	Assumptions
Administration	\$6,000	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	\$3,500	Includes labor and mileage.
Invasive plant species control	\$3,000	Includes 2 herbicide applications in 2015.
Timber Management Fund	\$7,441	Defer at least 35% of the annual budget.
Estimated cost of management activities	\$19,941	
Estimated amount remaining in 2015 budget at year end	\$1,318	Any funds not spent by year end, plus accrued interest, remain in the WHMP budget to be carried into the 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).

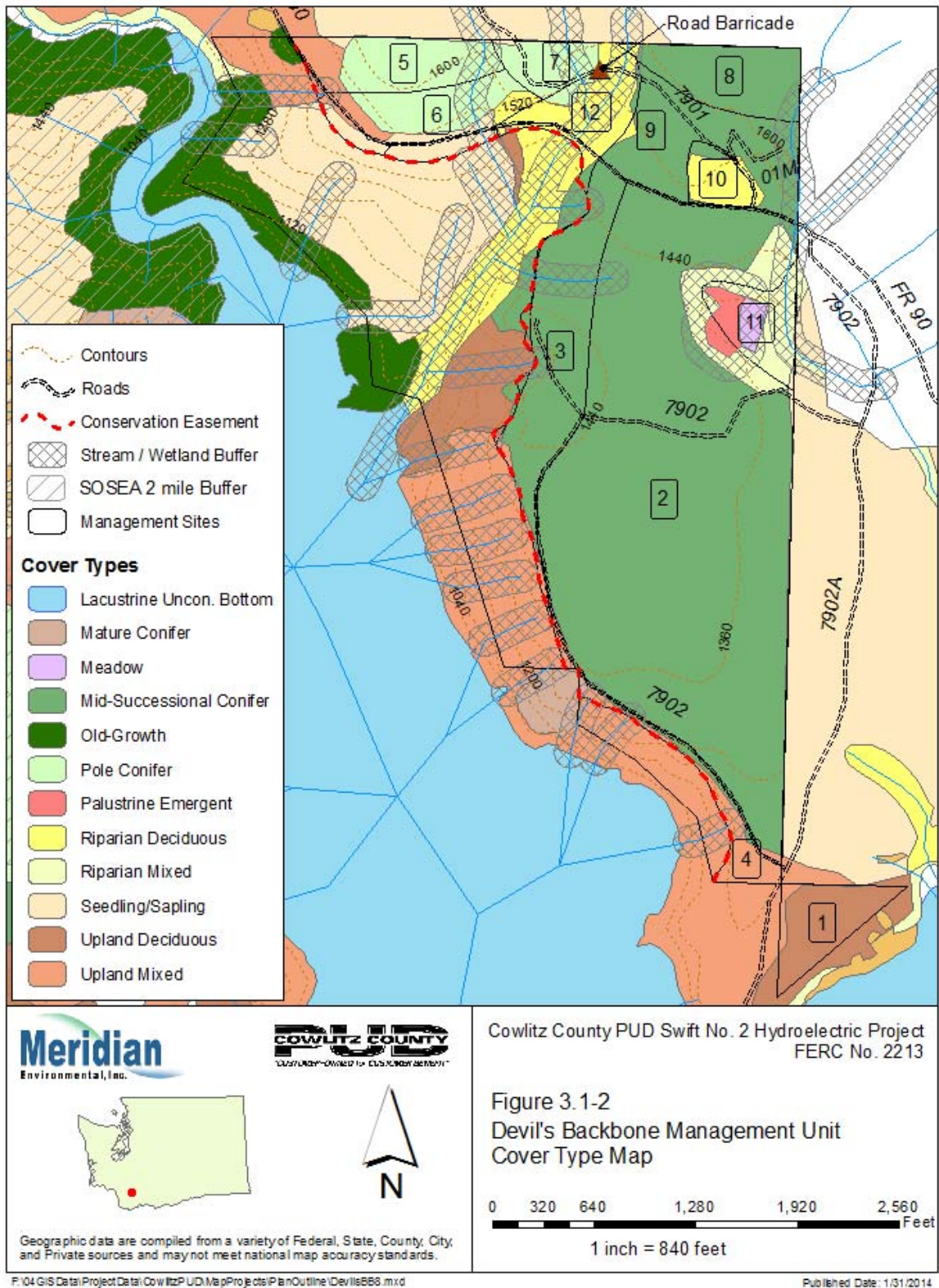


Figure 3.1-2. Devil's Backbone Management Unit cover type map.

Site Management Plan: DBMU-1		
Cover type	Upland deciduous forest	
Acres	6.6	
SGD Management Goals	Forestlands: Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
SGD Management Objectives	Forestland-c: At the MU level, promote habitat diversity by increasing or maintaining minor native tree species composition.	
HEP Evaluation Species and Baseline HSIs	Pileated woodpecker: 0.28 Black-capped chickadee : 0.80 Elk: 0.43 in Unit S-1	
Analysis Species	Forestland: Northern flying squirrel, northern spotted owl	
Site Description	Mix of deciduous trees and conifers, including some western red cedars > 24 in. dbh.	
Site Constraints	None	
Access	FR 90 to 7902 Rd (gated near FR 90); 7902A Rd. crosses corner of site. Cowlitz PUD has easement on 7902 Rd.	
Management Strategies	Maintain as mixed stand. Manage for species and habitat diversity. Monitor and manage invasive plants and public access.	
Implementation		
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 invasive plants 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 invasive plants 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.	Survey conducted on June 28, 2013. No evidence of motorized access or other access concerns noted.
2013	Monitor invasive plants on adjacent property in conjunction with public access surveys.	Survey conducted on June 28, 2013. No re-growth of Scotch broom noted on property adjacent to DBMU-1.

Site Management Plan: DBMU-1		
2014	Monitor and manage public access.	Survey conducted on June 30, 2014. No evidence of motorized access or other access concerns noted.
2014	Monitor invasive plants on adjacent property in conjunction with public access surveys.	Survey conducted on June 30, 2014. No re-growth of Scotch broom noted on property adjacent to DBMU-1.
2015	Monitor and manage public access.	
2015	Monitor invasive plants on adjacent property in conjunction with public access surveys.	



Swift No. 2 WMA wildlife tree, June 2013

Site Management Plan: DBMU-2		
Cover type	Mid-successional conifer forest	
Acres	104.5	
SGD Management Goals	Old-growth: Promote the development, maintenance, and connectivity of old-growth coniferous forest and/or associated habitat components for wildlife species that use old-growth habitat. Forestlands: Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
SGD Management Objectives	Old-growth-c: Protect and manage forested buffers to promote development of large trees where appropriate. Old-growth-e: Within areas to be thinned to develop old-growth characteristics, leave LWD. Forestland-a: At the MU level, provide a range of alternatives for developing and maintaining a mix of forage and hiding cover for elk. Forestland-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. Forestland-c: 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	Old-growth: Northern flying squirrel, marten, Larch Mountain salamander, northern spotted owl, bald eagle Forestland: Northern flying squirrel, northern spotted owl	
Site Description	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.	
Site Constraints	None	
Access	Good: FR 90 to 7092 Rd. (gated near FR 90); 7092A Rd. crosses through stand. Cowlitz PUD has easement on 7092 Rd.	
Management Strategies	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.	
Implementation		
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. 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.

Site Management Plan: DBMU-2, cont.		
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.	Survey conducted on June 28, 2013. No evidence of non-motorized access or other access concerns noted.
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.	Survey conducted on June 28, 2013. Scattered Scotch broom plants observed within the WMA boundary were sprayed in conjunction with herbicide application in DBMU-11 (DB-A) in July and September, 2013. Dense patches of Scotch broom and scattered individual plants were observed along the 7902 Road outside the WMA boundary; coordination with the adjacent landowner has been deferred until plans for forest management activities in DBMU-1 are finalized and needs for road improvements, if any, are identified..
2013	Complete planning for patch cuts, as described in Appendix B (Patch Cut Implementation Plan)	Patch cuts laid out as planned on June 20-21, 2013, and site visit with the TCC conducted on September 11, 2013. Based on TCC recommendations, the PUD requested non-binding quotes for three different forest management alternatives (patch cuts, thinning, and a combination of the two) from 12 logging firms. No firms provided quotes.
2014	Monitor and manage public access.	Survey conducted on June 30, 2013. No evidence of motorized access or other access concerns noted.
2014	Conduct follow-up invasive plant survey in conjunction with public access survey; continue to treat Scotch broom inside WMA boundary; coordinate with adjacent landowner regarding Scotch broom treatment as forest management plans are	Survey conducted on June 30, 2013. On December 10, 2014, the TCC agreed to defer forest management actions until sufficient WHMP funds have accrued.

	finalized.	
2015	Monitor and manage public access.	
2015	Monitor invasive plants in conjunction with public access surveys.	

Site Management Plan: DBMU-3		
Cover type	Mid-successional conifer forest	
Acres	17.2	
SGD Management Goals	Old-growth: Promote the development, maintenance, and connectivity of old-growth coniferous forest and/or associated habitat components for wildlife species that use old-growth habitat. Forestlands: Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
SGD Management Objectives	Old growth-c: Protect and manage forested buffers to promote development of large trees where appropriate. Old-growth-e: Within areas to be thinned to develop old-growth characteristics, leave LWD. Forestland-a: At the MU level, provide a range of alternatives for developing and maintaining a mix of forage and hiding cover for elk. Forestland-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. Forestland-c: 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	Old-growth: Northern flying squirrel, marten, Larch Mountain salamander, northern spotted owl, bald eagle Forestland: Northern flying squirrel, northern spotted owl	
Site Description	Flat site dominated by Douglas-fir and western hemlock from 8 to 18 in. dbh.	
Site Constraints	None	
Access	Good: FR 90 to 7902 Rd. (gated near FR 90), which crosses through stand. Cowlitz PUD has easement on 7902 Rd.	
Management Strategies	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.	
Implementation		
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.

Site Management Plan: DBMU-3, cont.		
2013	Monitor and manage public access.	Survey conducted on June 28, 2013. No evidence of non-motorized access or other access concerns noted.
2013	Complete planning for patch cuts, as described in Appendix B (Patch Cut Implementation Plan)	No patch cuts were sited in DBMU-3 (see above, DBMU-2).
2014	Monitor and manage public access.	Survey conducted on June 30, 2014. No evidence of non-motorized access or other access concerns noted.
2015	Monitor and manage public access.	

Site Management Plan: DBMU-4		
Cover type	Upland mixed forest	
Acres	4.3	
SGD Management Goal	Forestlands: Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
SGD Management Objectives	Forestland-a: At the MU level, provide a range of alternatives for developing and maintaining a mix of forage and hiding cover for elk. Forestland-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. Forestland-c: 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: 0.71 Pileated woodpecker: 0.19 Elk: 0.43 in Unit S-1	
Analysis Species	Northern flying squirrel, northern spotted owl	
Site Description	Primarily Douglas-fir and hemlock, 8 to 18" dbh, with some big-leaf maple and alder growing on western edge.	
Site Constraints	Narrow, linear configuration between project road and steep slope down to the Conservation Easement boundary. One intermittent stream/stream buffer.	
Access	Good: adjacent to 7902 Rd. (gated near FR 90). Cowlitz PUD has easement on 7902 Rd.	
Management Strategies	Maintain as buffer between road and Conservation Easement. Manage for species and habitat diversity. Monitor and manage invasive plants and public access.	
Implementation		
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 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.	Survey conducted on June 28, 2013. No evidence of motorized access or other access concerns noted.

Site Management Plan: DBMU-4		
2013	Monitor Scotch broom in conjunction with public access surveys.	Survey conducted on June 28, 2013. No re-growth of Scotch broom noted on property adjacent to DBMU-4.
2014	Monitor and manage public access.	Survey conducted on June 30, 2014. One tree was cut and bucked but there is no evidence of motorized access.
2014	Monitor invasive plants in conjunction with public access surveys.	Survey conducted on June 30, 2014. No re-growth of Scotch broom noted on property adjacent to DBMU-4.
2015	Monitor and manage public access.	
2015	Monitor invasive plants in conjunction with public access surveys.	

Site Management Plan: DBMU-5		
Cover type	Pole conifer forest	
Acres	8.8	
SGD Management Goal	Forestlands: Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
SGD Management Objectives	Forestland-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. Forestland-c: 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	Forestland: 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. 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.	
Implementation		
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.	No survey conducted.
2014	Monitor and manage public access.	No survey conducted; 7901 Rd. does not pass through site. Barrier in 7901 Rd intact and working well. Access from FR 90 is difficult. Low priority for additional survey.
2015	No survey planned.	

Site Management Plan: DBMU-6		
Cover type	Pole conifer forest	
Acres	8.2	
SGD Management Goal	Forestlands: Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
SGD Management Objectives	Forestland-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. Forestland-c: At the MU level, promote habitat diversity by increasing or maintaining minor native tree species composition.	
HEP Evaluation Species and Baseline HSI	Black-capped chickadee: 0.43 Pileated woodpecker: 0.18 Elk: 0.43 in Unit S-1	
Analysis Species	Forestland: 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.	
Implementation		
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.	No survey conducted.
2014	Monitor and manage public access.	No survey conducted; 7901 Rd. does not pass through site. Barrier in 7901 Rd intact and working well. Access from FR 90 is difficult. Low priority for additional survey.
2015	No survey planned.	

Site Management Plan: DBMU-7		
Cover type	Pole conifer forest	
Acres	4.3	
SGD Management Goal	Forestlands: Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
SGD Management Objectives	Forestland-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. Forestland-c: 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	Forestland: 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.	
Implementation		
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 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.	Survey conducted on June 8. Scattered Scotch broom along both road margins near Kelly hump repair site.
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 public access, including evaluation of barricade effectiveness.	Survey conducted on June 28, 2013. Barricade and road closure signs in good repair; no evidence of attempts to bypass the barricade.
2013	Monitor and manage invasive plant species in conjunction with public access surveys.	Survey conducted on June 28, 2013. A few Scotch broom plants both north and south of the barricade.
2014	Monitor and manage public access, including evaluation of barricade effectiveness.	Survey conducted on June 30, 2014, Barrier in 7901 Rd intact and working well. No evidence of attempts to drive over or around it.

Site Management Plan: DBMU-7		
2014	Monitor and manage invasive plant species in conjunction with public access surveys.	Survey conducted on June 30, 2014, No Scotch broom observed, but a few bull thistles at the barrier and a few tansy ragwort, oxeye daisy, St. Johnswort individuals and scattered common cats'-ear above the barrier.
2015	Monitor and manage public access, including evaluation of barricade effectiveness.	
2015	Monitor and manage invasive plant species in conjunction with public access surveys.	

Site Management Plan: DBMU-8		
Cover type	Mid-successional conifer forest	
Acres	8.6	
SGD Management Goal	Forestlands: Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
SGD Management Objectives	Forestland-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. Forestland-c: 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	Forestland: Northern flying squirrel, northern spotted owl	
Site Description	Primarily Douglas-fir and western hemlock, 8 to 18" dbh.	
Site Constraints	Possible wet soils.	
Access	FR 90 to 7901 Rd. 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.	
Implementation		
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	No survey planned	No survey conducted.
2012	No survey planned.	No survey conducted.
2013	No survey planned.	No survey conducted.
2014	Monitor and manage public access.	No survey conducted; 7901 Rd. does not pass through site. Barrier in 7901 Rd intact and working well. Access from FR 90 is difficult. Low priority for additional survey.
2015	No survey planned.	

Site Management Plan: DBMU-9		
Cover type	Mid-successional conifer forest	
Acres	13.2	
Site Review Type	Vegetation cover typing, aerial photo review	
SGD Management Goal	Forestlands: Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.	
SGD Management Objectives	Forestland-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. Forestland-c: 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	Forestland: 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.	
Implementation		
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 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.

Site Management Plan: DBMU-9		
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 public access, including evaluation of barricade effectiveness.	Survey conducted on June 28, 2013. Barricade and road closure signs in good repair; no evidence of attempts to bypass the barricade.
2013	Monitor and manage invasive plant species in conjunction with public access surveys.	Survey conducted on June 28, 2013. A few Scotch broom plants both north and south of the barricade.
2014	Monitor and manage public access, including evaluation of barricade effectiveness.	Survey conducted on June 30, 2014, Barrier in 7901 Rd intact and working well, no evidence of attempts to drive over or around it. No evidence of human activity on 01M Rd.
2014	Monitor and manage invasive plant species.	Survey conducted on June 30, 2014; no invasives noted in DBMU-9.
2015		
2015		

Site Management Plan: DBMU-10		
Cover type	Riparian Deciduous Forest	
Acres	3.1	
Site Review Type	Vegetation cover typing, aerial photo review, visual walk-through 9/1/05 and 6/14/06	
SGD Management Goal	Riparian: 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.	
SGD Management Objectives	Riparian-a: Identify and establish buffers. Riparian d: Protect existing large snags. Riparian-e: As part of implementation of WHMP, identify riparian sites damaged by anthropogenic processes and prepare restoration plans within 5 yrs., if feasible.	
HEP Evaluation Species and Baseline HSIs	Black-capped chickadee: 0.19 Pileated woodpecker: 0.32 Yellow warbler: 0.65 Elk: 0.43 in Unit S-1	
Analysis Species	Cascade torrent salamander, papillose tail-dropper	
Site Description	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.	
Site Constraints	Seasonal flooding, wet soils, stream buffer.	
Access	Bordered by FR 90 on the south; 7901 on the east.	
Management Strategies	Manage for species and habitat diversity. Monitor and manage invasive plants, public access and erosion along 7901/01M Rd.	
Implementation		
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 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.

Site Management Plan: DBMU-10		
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 public access, including evaluation of barricade effectiveness.	Survey conducted on June 28, 2013. Barricade and road closure signs in good repair; no evidence of attempts to bypass the barricade.
2013	Monitor and manage invasive plant species.	Survey conducted on June 28, 2013. A few Scotch broom plants both north and south of the barricade.
2014	Monitor and manage public access.	Survey conducted on June 30, 2014, Barrier in 7901 Rd intact and working well, no evidence of attempts to drive over or around it.
2014	Monitor and manage invasive plant species.	Survey conducted on June 30, 2014; no invasives noted
2014	Evaluate habitat conditions, including riparian habitat and conifer regeneration within alder-dominated stand, and wildlife use.	Signs of elk use; no evidence of other disturbance. Conifer regeneration scattered, with numerous saplings but few seedlings observed.
2015	Monitor and manage public access.	
2015	Monitor and manage invasive plant species.	

Site Management Plan: DBMU-11		
Cover type	Palustrine Emergent Marsh/Meadow/Riparian Mixed Forest	
Acres	PEM 1.8 ac.; MD 1.0 ac.; RM 3.4 ac.	
Review Type	Vegetation cover typing, aerial photo review, walk-throughs 9/1/05, 6/14/06, 9/9/08, and 4/16/09	
SGD Management Goals	<p>Wetland: Protect, maintain, and/or enhance wetlands to provide a diversity of habitat types for native amphibians, waterfowl, and other wildlife species. Meadow: Perpetuate and enhance to benefit elk and other species that use open habitats. Forestland: Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.</p>	
SGD Management Objectives	<p>Wetland-e: Identify and establish buffers to maintain and protect wetland habitat and functions. Meadow-c: 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. Forestland-c: 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.</p>	
HEP Evaluation Species and Baseline HSIs	<p>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)</p>	
Analysis Species	<p>Wetland: No suitable habitat for wetland associated analysis species (beaver, great blue heron (rookeries), wood duck). Meadow: elk (no suitable habitat for Savannah sparrow). Forestland: Northern flying squirrel, northern spotted owl.</p>	
Site Description	<p>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.</p>	
Site Constraints	Wetland buffer.	
Access	Good. FR 90 to 7902 (gated) to 7902A. Cowlitz PUD has easement on 7902 Rd.	
Management Strategies	<p>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.</p>	
Implementation		
Year	Planned Management Activity	Implemented Management Activity/Documentation
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.

Site Management Plan: DBMU-11		
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.	Survey conducted on June 28, 2013. No evidence of unauthorized access.
2013	Conduct follow-up invasive plant survey in June; consider re-treatment in both summer and fall as budget allows.	Survey conducted on June 28, 2013 indicated increasing cover of Canada thistle and tansy ragwort. Herbicide applications completed in July and September, 2013.
2014	Monitor and manage public access.	Survey conducted on June 30, 2014, No evidence of motorized access.
2014	Conduct follow-up invasive plant survey in June; evaluate success of 2013 treatments and continue to treat invasive plant species.	Survey conducted on June 30, 2014, Overall cover of Canada thistle and tansy ragwort was significantly less than observed in 2013. Site treated with Transline in June 2014.
2015	Monitor and manage public access.	
2015	Conduct follow-up invasive plant survey in June; evaluate success of 2014 treatments and continue to treat invasive plant species.	

Site Management Plan: DBMU-12		
Cover type	Riparian deciduous forest	
Acres	6.1	
Review Type	Vegetation cover typing, aerial photo review	
SGD Management Goals	Riparian: 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.	
SGD Management Objectives	Riparian-a: Identify and establish buffers. Riparian d: Protect existing large snags. Riparian-e: As part of implementation of WHMP, identify riparian sites damaged by anthropogenic processes and prepare restoration plans within 5 yrs., if feasible.	
HEP Evaluation Species and Baseline HSIs	Black-capped chickadee: 0.19 Pileated woodpecker: 0.32 Yellow warbler: 0.65 Elk: 0.43 in Unit S-1	
Analysis Species	Cascade torrent salamander, papillose tail-dropper	
Site Description	Red alder overstory. Permanent stream/stream buffer in steep canyon.	
Site Constraints	Steep slopes, stream/stream buffer.	
Access	Bordered by FR 90 on the south; 7901 Rd. crosses north edge.	
Management Strategies	Maintain cover on steep slopes. Manage for species and habitat diversity. Monitor and manage public access, invasive plants, and erosion.	
Implementation		
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.	Survey conducted on May 28. No access concerns identified.
2011	Monitor and manage public access.	Survey conducted on June 8. Kelly humps 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.
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 barrier effectiveness.	Survey conducted on June 28, 2013. Barricade and road closure signs in good repair; no evidence of unauthorized access. A few Scotch broom plants both north and south of the barricade.
2014	Monitor and manage invasive plant species in conjunction with public access surveys, including evaluation of barrier effectiveness	Survey conducted on June 30, 2014, Barrier in 7901 Rd intact and working well, no evidence of attempts to drive over or around it. A few bull thistle plants observed at barrier.

Site Management Plan: DBMU-12		
2015	Monitor and manage invasive plant species in conjunction with public access surveys, including evaluation of barrier 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).

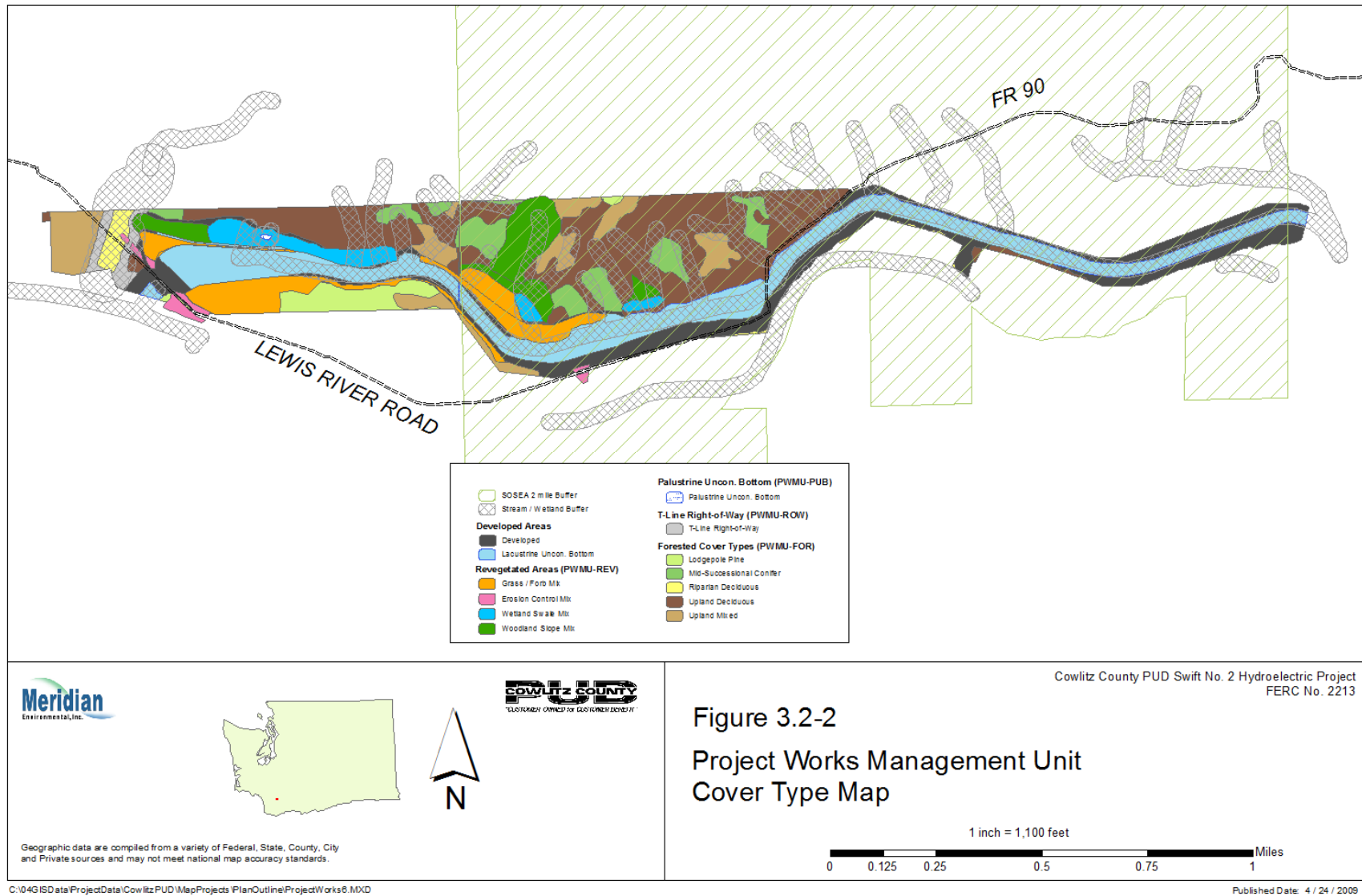


Figure 3.2-2. Project Works Management Unit cover type map.

Site Management Plan: PWMU-REV		
Cover type	Revegetated: wetland swale, woodland, forage, roadside areas	
Acres	61.82 (seeded with following mixes: 14.65 wetland; 10.54 woodland; 33.34 forage; 3.29 roadside)	
SGD Management Goals	NA	
SGD Management Objectives	NA	
HEP Evaluation Species and Baseline HSIs	NA	
Analysis Species	NA	
Site Description	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.	
Site Constraints	Some accessible flat areas, some very steep inaccessible areas with unstable slopes.	
Access	Good: Gated project maintenance roads.	
Management Strategies	Manage for species and habitat diversity. Monitor and manage invasive plants. <i>Note: public access is not allowed.</i>	
Implementation		
Year	Management Activity Planned	Management Activity Implemented/Documentation
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.

Site Management Plan: PWMU-REV		
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.	Herbicides were applied to weeds in PW-A, PW-B, PW-C, PW-D, and the lower section of PW-E on June 11 and 12, 2013. Weed survey conducted on June 27, 2013. Mix of natives and non-natives, including tansy ragwort and Canada thistle, growing in PW-C where Himalayan blackberry cover has been reduced, and no change observed in broom cover in PW-D.
2014	Conduct follow-up invasive plant surveys of all treated areas in June. In late fall, plant Douglas fir seedlings where Himalayan blackberry cover has been reduced in PW-C. Re-treat Scotch broom in PW-A, PW-B, and PW-D. Use hand tools or spot-spray to control weeds (primarily Canada thistle and tansy ragwort) in PW-E and PW-F.	Survey conducted on June 30, 2014. Re-growth of Scotch broom in northwest portion of PW-B, along with new observations of tansy ragwort. Occurrences of Himalayan blackberry and a few bull thistle, Canada thistle, and tansy ragwort individuals present in PW-C. Survey area of PW-C expanded, and infestation of Robert's geranium documented. A few Scotch broom in PW-D remain after fairly successful treatment in 2011. No Douglas fir seedlings planted, TCC agreed to discontinue this project. Some areas treated with herbicides in 2014 but daily pesticide application reports did not distinguish between Areas A through F and herbicide spraying for project maintenance.
2014	Install four bluebird boxes.	No bluebird boxes installed. TCC agreed to discontinue this project
2015	Conduct follow-up invasive plant surveys of all treated areas in June. Apply herbicides as appropriate.	



Progress of revegetation on PW-F borrow slope, June 2014

Site Management Plan: PWMU-PUB		
Cover type	Palustrine unconsolidated bottom (may develop PEM and/or PSS characteristics)	
Acres	0.1 (may be expanding)	
SGD Management Goals	NA	
SGD Management Objectives	NA	
HEP Evaluation Species and Baseline HSIs	NA. In the future, pond-breeding amphibians, yellow warbler, and black-capped chickadee may apply.	
Analysis Species	NA	
Site Description	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.	
Site Constraints	None	
Access	Good: Lewis River Rd., gated project maintenance roads.	
Management Strategies	Manage for species and habitat diversity. Monitor and manage and invasive plants. <i>Note: Public access is not allowed.</i>	
Implementation		
Year	Management Activity Planned	Management Activity Implemented/Documentation
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.	Survey conducted on June 8. Results are described in the Annual Report. Overall survival was about 56 percent, but surviving shrubs appeared healthy, with little browse damage.

Site Management Plan: PWMU-PUB		
2012	Evaluate shrub status in conjunction with invasive plant survey.	No survey conducted.
2013	Evaluate shrub status in conjunction with invasive plant survey.	Survey conducted on June 27, 2013. Several live willows observed. Scattered occurrences of invasive plants and one small pocket of Scotch broom remaining.
2014	Conduct invasive plant survey in June and treat weed occurrences in July and September.	Survey conducted on June 30, 2014. No live Scotch broom observed. Some areas treated with herbicides in 2014 but daily pesticide application reports did not distinguish between Areas A through F and herbicide spraying for project maintenance.
2014	Plant shrubs in wetland/upland transition areas in late October/November (See Appendix C).	No shrubs planted. TCC agreed to discontinue this project.
2015	Conduct invasive plant survey in June and treat weed occurrences in July and September.	



Softstem bulrush along the DBMU-PUB pond margin, June 2014.

Site Management Plan: PWMU-FOR																									
Cover types	Mid-successional conifer (MS), lodgepole pine (LP), riparian deciduous (RD), upland deciduous (UD) , upland mixed (UM)																								
Acres	177.7 (MS 24.5; LP 11.9; RD 4.0; UD105.0; UM 32.3)																								
SGD Management Goals	Forestlands: Promote forestland species composition and structures that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage. Unique Habitats/Areas: Protect unique habitats, including, lava flow, and areas of culturally sensitive plant species identified as important to the Tribes.																								
SGD Management Objectives	Forestland-a: At the MU level, provide a range of alternatives for developing and maintaining a mix of forage and hiding cover for elk. Forestland-c: 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. Unique Habitat-d: 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.																								
HEP Evaluation Species and Baseline HSIs	<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.				
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Pileated woodpecker:	0.62	0.00	0.29	0.27	0.71																				
Elk:	0.43 in Unit S-1.																								
Analysis Species	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																								
Site Description	Very steep with potentially unstable slopes north of the canal; flat between canal and Lewis River Rd.																								
Site Constraints	Proximity to project facilities																								
Access	Good: Lewis River Rd.; gated project roads. <i>No public access allowed.</i>																								
Management Strategies	Manage for species and habitat diversity. Monitor and manage invasive plants.																								
Implementation																									
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.	No survey conducted.																							
2014	Monitor and manage invasive plants as budget allows.	No survey conducted.																							
2015	Monitor and manage invasive plants as budget allows.																								

Site Management Plan: PWMU-ROW		
Cover type	Transmission line right-of-way	
Acres	3.6	
SGD Management Goals	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.	
SGD Management Objectives	ROW-c: Identify and provide screening cover for deer and elk, where needed, where public roads cross ROW.	
HEP Evaluation Species and Baseline HSIs	Elk: 0.43 in Unit S-1. No suitable habitat for Savannah sparrow.	
Analysis Species	None identified.	
Site Description	Tall, dense shrub cover.	
Site Constraints	Proximity to traffic on Lewis River Rd. and project facilities	
Access	Good: Lewis River Rd. <i>Note: Public access not allowed.</i>	
Management Strategies	Monitor and manage invasive plants; evaluate need for visual screening. <i>Public access not allowed</i>	
Implementation		
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.	No survey conducted.
2014	Monitor and manage invasive plants as budget allows.	No survey conducted.
2015	Monitor and manage invasive plants as budget allows.	

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Appendix A

2015 Washington State and County Weed Lists

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

Appendix B

Annual Plan Consultation Record

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

2015 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 6, 2015 and discussed at the February 11, 2015 and March 11, 2015 TCC meetings. Comments were due on March 8, 2015 and _____ written comments were received. The table below summarizes the comments the TCC provided at the February 11, 2015 and March 11, 2015 meeting, and provides Cowlitz PUD’s response.

Cowlitz PUD’s Response to TCC Comments on the Draft 2015 WHMP Annual Plan

Comment	Cowlitz PUD Response

Lewis River License Implementation
Lewis River WHMP Fund (Conservation Easement Lands)
Section 10.8.2

Funding Start Date: 12/26/08

Release Date	Funds Received	Funds Expended	Balance	Notes
Contributions in 2003 dollars, Adjusted for Inflation				
12/26/08			\$ -	10.8.2 WHMP Fund established: 10,085 acres funded at \$13.50 / acre, adjusted for inflation
1/1/10	\$ 254.03		\$ 254.03	10.8.2 WHMP Fund: 16 acres owned in conservation easement, adjusted for inflation
12/31/10		\$ 254.03	\$ -	Expenditure for 2010
1/1/11	\$ 255.18		\$ 255.18	10.8.2 WHMP Fund: 16 acres owned in conservation easement, adjusted for inflation
12/31/11		\$ 255.18	\$ -	Expenditure for 2011
1/1/12	\$ 259.78		\$ 259.78	10.8.2 WHMP Fund: 16 acres owned in conservation easement, adjusted for inflation
12/31/12		\$ 259.78	\$ -	Expenditure for 2012
1/1/13	\$ 265.44		\$ 265.44	10.8.2 WHMP Fund: 16 acres owned in conservation easement, adjusted for inflation
12/31/13		\$ 265.44		Expenditure for 2013
1/1/14	\$ 269.93		\$ 269.93	10.8.2 WHMP Fund: 16 acres owned in conservation easement, adjusted for inflation
12/31/14		\$ 269.93	\$ -	Expenditure for 2013
1/1/15	\$ 270.08		\$ 270.08	10.8.2 WHMP Fund: 16 acres owned in conservation easement, adjusted for inflation
Total Spent to Date:		\$	1,304.36	
Balance Remaining:		\$	270.08	

Note: In August 2009, the Bureau of Economic Analysis (BEA) restated the index numbers in Table 1.1.9 (Implicit Price Deflators for Gross Domestic Product). The index numbers are now based on 2005 = 100. This changes the beginning adjustment number for year 2000, quarter 3.

Lewis River License Implementation

Lewis River WHMP Fund (Fee Simple Lands)

Section 10.8.2

Release Date	Funds Received	Expense	Interest	Balance	Notes
Contributions in 2003 dollars, Adjusted for Inflation					
12/26/08	\$317,725.16			\$ 317,725.16	10.8.2 WHMP Fund established: 10,085 acres funded at \$27.00 / acre, adjusted for inflation
3/31/09			\$ 4,386.48	\$ 322,111.64	Annual interest added
12/14/09		\$ 320,315.17		\$ 1,796.47	2009 expenses
12/26/09	\$321,888.52			\$ 323,684.99	10,137 acres, including additional 52 acres for the Jackman Parcel
3/31/10			\$ 10,139.86	\$ 333,824.85	Annual interest added
12/31/10		\$ 325,852.59		\$ 7,972.26	2010 expenses
12/31/10	\$354,219.00			\$ 362,191.26	11,105 acres, included purchase of 968 acres ; Saddle Dam & Swift Creek properties
3/31/11			\$ 11,079.15	\$ 373,270.41	Annual interest added
12/31/11		\$ 340,176.89		\$ 33,093.52	2011 expenses
12/31/11	\$360,610.79			\$ 393,704.31	
3/31/12			\$ 12,323.19	\$ 406,027.50	Annual interest added
12/31/12		\$ 391,979.71		\$ 14,047.79	2012 expenses
12/31/12	\$435,792.62			\$ 449,840.41	13,134 acres, included purchase of 2,111 acres ; Marble Mtn II property
3/31/13			\$ 13,523.70	\$ 463,364.11	Annual interest added
12/31/13		\$ 441,799.04		\$ 21,565.07	2013 expenses
1/1/14	\$443,163.70			\$ 464,728.77	13,134 acres
3/31/14			\$ 15,070.38	\$ 479,799.15	2014 expenses
1/1/15	\$443,395.64			\$ 923,194.79	13,134 acres
Total Spent to Date: \$				1,820,123.40	
Balance Remaining: \$				923,194.79	

Funding Start Date: 12/26/08

Note: In August 2009, the Bureau of Economic Analysis (BEA) restated the index numbers in Table 1.1.9 (Implicit Price Deflators for Gross Domestic Product). The index numbers are now based on 2005 = 100. This changes the beginning adjustment number for year 2000, quarter 3.

Lewis River License Implementation

Lewis River Yale Land Fund

Section 10.1 - 10.1.1

Funding Start Date: 4/1/05

Release Date	Funds Received	Expense		Balance	Notes
12/31/05				\$ 1,573,922.62	Contributions in 2003 dollars, adjusted for inflation
4/30/06	\$ 1,081,853.45				Fixed prime rate nearest April 1 of each year
12/31/06				\$ 2,746,276.63	
12/31/07				\$ 2,959,113.09	
12/31/08				\$ 3,203,742.47	
12/14/09		\$ 486,142.13			Jackman parcel
12/31/09				\$ 2,885,450.59	
4/30/10				\$ 2,990,352.39	
12/1/10	\$ 5,256.44			\$ 2,995,608.83	Interest accrued
12/21/10		\$ 2,995,608.83		\$ -	Purchased Saddle Dam Property & exhausted fund.
Total Spent to Date: \$ 3,481,750.96					
Running Total: \$ -					

Note: In August 2009, the Bureau of Economic Analysis (BEA) restated the index numbers in Table 1.1.9 (Implicit Price Deflators for Gross Domestic Product). The index numbers are now based on 2005 = 100. This changes the beginning adjustment number for year 2000, quarter 3.

Lewis River License Implementation Lewis River LWD Fund Section 7.1.1	Funding Start Date: 12/26/08
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Release Date	Funds Received	Funds Dispersed	Balance	Notes
				Unspent balance in any year shall be carried forward
11/25/08	\$ 2,000.00		\$ 2,000.00	7.1.1 Large Woody Debris Program, ILR-LWD
12/25/08	\$ 10,000.00		\$ 12,000.00	7.1.1 LWD projects in the mainstem below Merwin Dam
12/3/08		\$ 2,000.00	\$ 10,000.00	Chilton Logging - move LWD from Swift boat launch to muddy river access road
4/1/09	\$ 2,000.00		\$ 12,000.00	7.1.1 Large Woody Debris Program, ILR-LWD
4/10/09		\$ 2,000.00	\$ 10,000.00	Chilton Logging - move LWD for delivery to LCFEG
12/25/09	\$ 10,000.00		\$ 20,000.00	7.1.1 LWD projects in the mainstem below Merwin Dam
4/1/10	\$ 2,000.00		\$ 22,000.00	7.1.1 Large Woody Debris Program, ILR-LWD
7/1/10		\$ 2,000.00	\$ 20,000.00	Chilton Logging - move LWD for delivery to USFS
12/21/10	\$ 10,000.00		\$ 30,000.00	7.1.1 Large Woody Debris Program, ILR-LWD
4/1/11	\$ 2,000.00		\$ 32,000.00	7.1.1 Large Woody Debris Program, ILR-LWD
12/25/11	\$ 10,000.00		\$ 42,000.00	7.1.1 Large Woody Debris Program, ILR-LWD
4/1/12	\$ 2,000.00	\$ 4,000.00	\$ 40,000.00	7.1.1 LWD projects in the Yale Reservoir
4/1/12		\$ 8,500.00	\$ 31,500.00	Chilton Logging - move LWD for delivery to Cowlitz Tribe
12/25/12	\$ 10,000.00		\$ 41,500.00	7.1.1 Large Woody Debris Program, ILR-LWD
6/2/13		\$ 2,000.00	\$ 39,500.00	Chilton Logging - move LWD for delivery to USFS
10/10/13		\$ 10,000.00	\$ 29,500.00	2013 Cedar Creek Reach 1A - LCFEG
12/26/13	\$ 10,000.00		\$ 39,500.00	7.1.1 Large Woody Debris Program, ILR-LWD
12/26/13	\$ 2,000.00		\$ 41,500.00	7.1.1 Large Woody Debris Program, ILR-LWD
9/16/14		\$ 1,000.00	\$ 40,500.00	7.1.1 Large Woody Debris Program, ILR-LWD
12/26/14	\$ 10,000.00		\$ 50,500.00	7.1.1 Large Woody Debris Program, ILR-LWD
12/26/14	\$ 2,000.00		\$ 52,500.00	7.1.1 Large Woody Debris Program, ILR-LWD
Total Spent to Date:		\$ 31,500.00		
Balance Remaining:		\$ 52,500.00		

Within 180 days after Issuance of the New License for the Merwin Project and annually thereafter, PacifiCorp shall make available in a Tracking Account up to \$2,000, which may be disbursed to qualified entities to defray the costs of LWD transportation and placement in the Lewis River Basin (the "LWD Fund").

In addition, within 180 days after Issuance of the New License for the Merwin Project and annually thereafter, PacifiCorp shall contribute \$10,000 to the Aquatics Fund (Section 7.5) that will be earmarked for LWD projects in the mainstem of the Lewis River below Merwin Dam that benefit anadromous fish.

Lewis River License Implementation

Swift No. 1 & Swift No. 2 Land and Habitat Protection Fund

Section 10.2, 10.2.1

Release Date	Funds Received	Expense	Interest	Balance	Notes
3/26/09				\$ 3,781,881.67	Contributions in 2003 dollars, adjusted for inflation
3/31/09			\$ 3,263.82	\$ 3,785,145.49	Annual interest accrued
12/26/09	\$ 917,332.70			\$ 4,702,478.19	Settlement Agreement contribution, adjusted for inflation
12/31/09		\$ 88,505.88		\$ 4,613,972.31	Columbia Land Trust 2009 contract (total \$110,000)
3/31/10			\$ 130,141.43	\$ 4,744,113.74	Annual interest accrued
5/11/10		\$ 21,494.12		\$ 4,722,619.62	Columbia Land Trust 2009 contract
7/13/10		\$ 20,609.63		\$ 4,702,009.99	Columbia Land Trust 2010 contract (total \$75,000)
11/22/10		\$ 15,313.22		\$ 4,686,696.77	Columbia Land Trust 2010 contract
12/21/10		\$ 625,755.72		\$ 4,060,941.05	Swift Creek property purchase
1/4/11		\$ 19,200.00		\$ 4,041,741.05	Rocky Mountain Elk Foundation - Swift land purchase surveys & appraisals
3/31/11			\$ 147,127.39	\$ 4,188,868.44	Annual interest accrued
4/11/11		\$ 25,040.00		\$ 4,163,828.44	Columbia Land Trust 2010 contract
12/13/11		\$ 51,545.50		\$ 4,112,282.94	Timber Appraisal Forest Resource Management (\$5663) + Rocky Mountain Elk Foundation land acquisition (\$45882.50) for property appraisal, survey, & Phase I environmental report
12/26/11	\$ 601,348.73			\$ 4,713,631.67	Settlement Agreement contribution, adjusted for inflation
3/31/12			\$ 140,302.13	\$ 4,853,933.80	Annual interest accrued
6/4/12		\$ 4,820,190.06		\$ 33,743.74	Rocky Mountain Elk Foundation - Marble Mtn II purchase (2,111 acres)
12/15/12		\$ 5,009.76		\$ 28,733.98	Columbia Land Trust 2010 contract (March/April 2011 expenses)
12/26/12	\$ 614,453.61			\$ 643,187.59	Settlement Agreement contribution, adjusted for inflation
3/31/13			\$ 33,678.20	\$ 676,865.79	Annual interest accrued
12/26/13	\$ 624,846.60			\$ 1,301,712.39	Settlement Agreement contribution, adjusted for inflation
3/31/14			\$ 27,339.33	\$ 1,329,051.72	Annual interest accrued
9/5/14		\$ 570.00		\$ 1,328,481.72	Timber appraisal on Fruit Growers properties as directed by TCC
12/20/14		\$ 3,200.00		\$ 1,325,281.72	Timber appraisal on Fruit Growers properties as directed by TCC
12/26/14	\$ 625,173.63			\$ 1,950,455.35	Settlement Agreement contribution, adjusted for inflation
Total Spent to Date:				\$ 5,696,433.89	
Running Total:				\$ 1,950,455.35	

Note: In August 2009, the Bureau of Economic Analysis (BEA) restated the index numbers in Table 1.1.9 (Implicit Price Deflators for Gross 100. This changes the beginning adjustment number for year 2000, quarter 3.

Lewis River License Implementation
Lewis River Land Acquisition and Habitat Funds
Section 10.3, 10.3.1, 10.3.3

Funding Start Date: 12/26/12

Release Date	Funds Received	Expense	Interest	Balance	Notes
					Contributions in 2003 dollars, adjusted for inflation
12/21/10	\$ 1,299,516.31			\$ 1,299,516.31	Purchased Saddle Dam Property.*
12/12/10	\$ 345,881.81	\$ 1,645,398.12		\$ -	Taken from 2014 fund allocation
12/26/14	\$ 1,009,307.61		\$ 72,154.18	\$ 1,081,461.79	
Total Spent to Date: \$ 1,645,398.12					
Running Total: \$ 1,081,461.79					

* Per TCC agreement, funds were expended early for purchase of Yale Saddle Mountain Parcel. Per SA, PacifiCorp was to fund Lewis River Land fund at \$1.1 million by six months after the fourth anniversary of the license; and another \$1.1 million six months after the sixth anniversary of the license.

The remaining funds will be available six months after the sixth anniversary (2014).

Reconciliation of Funding:

Year	Funding in 2003 Dollars	Inflation Factor	Inflation Adjusted Funding	Notes
2010	\$ 1,100,000.00	1.18137846	\$ 1,299,516.31	
2010	\$ 292,778.16	1.18137846	\$ 345,881.81	Taken from 2014 Funding
Subtotal	<u>\$ 1,392,778.16</u>		<u>\$ 1,645,398.12</u>	Plus Yale Fund of \$2,995,608.83 equals purchase price of \$4,641,006.95.
2014	\$ 807,221.84	1.25034725	\$ 1,009,307.61	Remaining 2014 Funding
Total	<u>\$ 2,200,000.00</u>		<u>\$ 2,654,705.73</u>	