

April 30, 2013

VIA EMAIL

Mr. Brock Applegate
Washington Dept. of Fish and Wildlife
16018 Mill Creek Blvd
Mill Creek, WA 98012-1541

Mr. Sonny Paz
Snoqualmie Ranger District
North Bend Office
902 SE North Bend Way, Bldg 1
North Bend, WA 98045-9545

Mr. Tim Romanski
U.S. Fish and Wildlife Service
510 Desmond Dr. S.E.
Suite 102
Lacey, WA 98503

Mr. Allen McGuire
Department of Natural Resources
919 N. Township Street
Sedro Woolley, WA 98282

Mr. Michael Sevigny
Tulalip Tribes
7515 Totem Beach Rd.
Marysville, WA 98271

Mr. Sonny Gohrman
Snohomish County Noxious
Weed Control Board
26718B 115th Ave. NE
Arlington, WA 98223

Ms. Julie Sklare
City of Everett
3200 Cedar Street
Everett, WA 98201

Sarah Prince
Mt. Baker-Snoqualmie Natl. Forest
2930 Wetmore Ave. Suite 3A
Everett, WA 98201

**Re: Jackson Hydroelectric Project – FERC No. P-2157
Terrestrial Resources 2012 Annual Report**

Dear Colleagues:

The final Terrestrial Resources Annual Report for the Jackson Hydroelectric Project summarizing activities implemented during 2012 under the Terrestrial Resources Management Plan, Noxious Weed Management Plan, and the Marbled Murrelet Habitat Protection Plan is attached for your files. This is the second annual report under the Jackson Project license issued in September 2011. The Federal Energy Regulatory Commission will receive a five-year summary report for work accomplished from 2011-2015 in 2016.

A meeting was held at the Jackson Project Powerhouse on March 26, 2013, to discuss the report and answer questions. Brock Applegate (WDFW), Travis Miranda (DNR), Sonny Gohrman (SCNWCB) and Mark Hitchcock (City of Everett) attended the meeting. Those present

participated in an on-site field visit to the Lost Lake Tract and penstock Right-of-Way on the Project Facility Lands Tract. Notes from the meeting are included in the report in Attachment B. Agency correspondence is included in Appendix A of the report.

If you have questions or comments regarding the report or the on-going implementation activities, please contact Karen Bedrossian at (425) 783-1774 or klbedrossian@snopud.com, or Mike Schutt at (425) 783-1712 or msschutt@snopud.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kim D. Moore', written over a horizontal line.

Kim D. Moore, P.E.

Assistant General Manager of Generation, Water, and Corporate Services

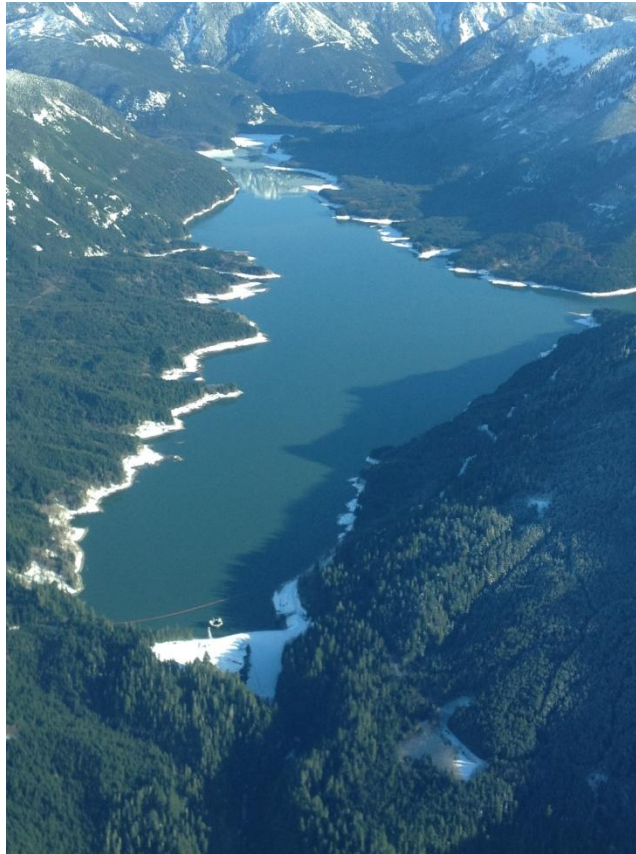
KDMoore@snopud.com

(425) 783-8606

Enclosure: 2012 Terrestrial Resources Annual Report

Henry M. Jackson Hydroelectric Project
FERC No. 2157

**TERRESTRIAL RESOURCES
2012 ANNUAL REPORT**



April 2013

Submitted by:
Public Utility District No.1 of Snohomish County



Everett, WA

TABLE OF CONTENTS

EXECUTIVE SUMMARY	III
1. INTRODUCTION	1
2. TERRESTRIAL RESOURCES MANAGEMENT PLAN.....	5
2.1. TRMP PRIOR YEAR SUMMARY - 2011	5
2.1.1. <i>Snags, Decaying Live Trees and Coarse Woody Debris</i>	5
2.1.2. <i>Right-Of-Way Management</i>	6
2.1.3. <i>Waterfowl Nest Boxes</i>	6
2.1.4. <i>Good Stewardship Activities or Observations of Note</i>	7
2.2. TRMP WORK COMPLETED IN 2012	7
2.2.1. <i>Snags, Decaying Live Trees and Coarse Woody Debris</i>	7
2.2.2. <i>Right-Of-Way Management</i>	11
2.2.3. <i>Waterfowl Nest Boxes</i>	12
2.2.4. <i>Lake, Wetland and Stream Buffers</i>	13
2.2.5. <i>Good Stewardship Activities or Observations of Note</i>	13
2.3. TRMP WORK PLANNED FOR 2013.....	16
2.3.1. <i>Snags, Decaying Live Trees and Coarse Woody Debris</i>	16
2.3.2. <i>Right-Of-Way Management</i>	16
2.3.3. <i>Waterfowl Nest Boxes</i>	16
2.3.4. <i>Lake, Wetland and Stream Buffers</i>	16
2.4. TRMP ISSUES OR PROPOSED CHANGES	16
3. NOXIOUS WEED MANAGEMENT PLAN	17
3.1. NWMP PRIOR YEAR SUMMARY - 2011	17
3.2. NWMP WORK COMPLETED IN 2012	17
3.2.1. <i>Lost Lake Tract Treatment and Monitoring</i>	18
3.2.2. <i>Spada Lake Tract Treatment and Monitoring</i>	18
3.2.3. <i>Williamson Creek Tract Treatment and Monitoring</i>	18
3.2.4. <i>Project Facility Lands Treatment and Monitoring</i>	18
3.2.5. <i>Annual Review of Noxious Weed List</i>	18
3.2.6. <i>Update of Species-Specific Management Methods</i>	19
3.3. NWMP WORK PLANNED FOR 2013.....	19
3.4. NWMP ISSUES OR PROPOSED CHANGES.....	19
4. MARBLED MURRELET HABITAT PROTECTION PLAN	20
4.1. MMHPP PRIOR YEAR SUMMARY - 2011	20
4.2. MMHPP WORK COMPLETED IN 2012	20
4.3. MMHPP WORK PLANNED IN 2013.....	21
4.4. MMHPP ISSUES OR PROPOSED CHANGES.....	21

APPENDICES

APPENDIX A	AGENCY CORRESPONDENCE
APPENDIX B	2012 ANNUAL MEETING NOTES

LIST OF TABLES

Table 2-1.	Woody habitat structure management in 2011.....	6
Table 2-2.	Waterfowl nest box use on the Lost Lake Tract in 2011.....	6
Table 2-3.	Incidental wildlife observations in 2011.....	7
Table 2-4.	Snag, DLT, and CWD creation completed in 2012.....	9
Table 2-5.	Waterfowl nest box use on the Lost Lake Tract in 2012.	13
Table 2-6.	Incidental wildlife observations in 2012.	15

LIST OF FIGURES

Figure 1-1.	Location of Jackson Project and Terrestrial Resource Mngmnt Plan Tracts	2
Figure 2-1.	Cumulative Woody Habitat Structure Creation at Spada Lake; 2011-2012.	10
Figure 2-2.	Cumulative Woody Habitat Structure Creation at Lost Lake; 2011-2012.....	11
Figure 2-3.	Potential locations for stream crossings along the pipeline ROW.....	12
Figure 2-4.	Nest Structures at Lost Lake.....	14

Executive Summary

Activities accomplished during 2012 on the Terrestrial Resource Management Plan (TRMP), Noxious Weed Management Plan (NWMP), and Marbled Murrelet Habitat Protection Plan (MMHPP) for the Henry M. Jackson Hydroelectric Project (Project) are summarized in this report. Implementation of these plans was initiated following the Federal Energy Regulatory Commission Order Issuing New License issued on 2 September 2011. Requirements of each plan were met during 2012. Tasks scheduled for 2013 are presented. No problems were encountered and no significant changes are proposed for the NWMP or MMHPP. At the request of Washington Department of Fish and Wildlife, the same number of woody habitat structures (snags, decaying live trees, coarse woody debris) will be created as specified in the TRMP, but standing structures will be created in place of some of the coarse woody debris. Also, the TRMP nest box program will be altered to add an additional monitoring visit during the nesting season.

Tasks Accomplished during 2012

- Created snags, decaying live trees, coarse woody debris logs and gaps on Lost Lake and Spada Lake tracts to promote old growth characteristics in younger aged stands
- Maintained and monitored waterfowl nest boxes at Lost Lake
- Preserved and protected old growth forest, wetlands, and riparian forest on Project lands
- Implemented an intensive effort to manage noxious and invasive weeds on all TRMP tracts of land, with a particular effort to control weed infestations on Culmback Dam
- Followed the restrictions of the MMHPP in all Jackson Project related activities, including work on the Marsh Creek Slide, implementation of the Recreation Resources Management Plan, and repair of the rock netting on Culmback Dam
- District biologists coordinated with Jackson Project staff on work activities related to implementation of the TRMP, NWMP, and MMHPP to ensure that all Jackson Project activities were accomplished in accordance with plans

Tasks Scheduled for 2013

- Create snags, decaying live trees, coarse woody debris logs and gaps on Spada Lake Tract
- Maintain and monitor waterfowl nest boxes at Lost Lake
- Manage noxious and invasive weeds on all TRMP tracts of land
- Preserve and protect old growth forest, wetlands, and riparian forest on Project lands
- Stay informed of Jackson Project activities and ensure that the MMHPP is considered when activities are being planned, and adhered to when activities are conducted
- Coordinate with Project staff regarding implementation of the TRMP, NWMP, and MMHPP

*** Please note that we have changed the format since the draft was routed for review. By rearranging the sections to discuss the past year's activities, then the reporting year, and finally the planned activities for the next year, we hope to improve the readability and flow of the document, and welcome your input.

1. INTRODUCTION

The Terrestrial Resource Management Plan (TRMP), Noxious Weed Management Plan (NWMP), and Marbled Murrelet Habitat Protection Plan (MMHPP) for the Henry M. Jackson Hydroelectric Project (Project) are requirements under the Federal Energy Regulatory Commission (FERC) Order Issuing New License, issued on 2 September 2011 (136 FERC ¶ 62,188), Ordering Paragraph E, License Appendix B, Condition 2; and Article 411 Marbled Murrelet Habitat Protection Plan. The 2012 Annual Progress Report for the TRMP, NWMP, and MMHPP was prepared by Public Utility District No. 1 of Snohomish County (District) as required by each of these plans.

The TRMP describes the actions the District will take to protect, mitigate and enhance terrestrial resources associated with the Project on four management tracts (Figure 1-1). The TRMP was prepared in consultation with the U.S. Fish and Wildlife Service (USFWS), U.S. Forest Service Mt. Baker-Snoqualmie National Forest (USFS), Washington Department of Fish and Wildlife (WDFW), and the Tulalip Tribes (Tribes). The plan guides the management of approximately 4,456 acres of land and water within the Project boundary. The TRMP is available on the District's web site

(<http://www.snopud.com/PowerSupply/hydro/jhp/jhplicense.ashx?p=1978>).

The TRMP incorporates habitat enhancement methods for forest vegetation management, including old growth, young forest and understory management; lake, wetland and stream buffers; snags and decaying live trees; coarse woody debris; right-of-way management; and waterfowl nest boxes on the four tracts. The TRMP describes the existing habitat conditions and values, management constraints, habitat management objectives, habitat management methods, and management prescriptions for each tract. It also describes monitoring and reporting requirements and provides a schedule for implementation.

The TRMP requires that a report be prepared and submitted to the USFWS, WDFW, and the Tribes annually and submitted to FERC every five years. Reports summarize and document implementation of the TRMP during the intervening period and identify activities planned for the next period. Monitoring data is presented in summary form and analyzed. Problems and proposed changes in the TRMP, if any, are discussed. Review meetings are offered to the USFWS, WDFW and Tribes by the District, to discuss information included in the reports.

The NWMP describes the District's strategy for controlling and containing the spread of Class A, Class B Designate, and Snohomish County Selected noxious weeds, as well as other weeds the District manages within the Project boundary. The NWMP was developed in consultation with the Snohomish County Noxious Weed Board (SCNWB), the City of Everett (City), Washington Department of Natural Resources (DNR), USFWS, WDFW and USFS. The NWMP is available on the District's web site

(<http://www.snopud.com/PowerSupply/hydro/jhp/jhplicense.ashx?p=1978>).

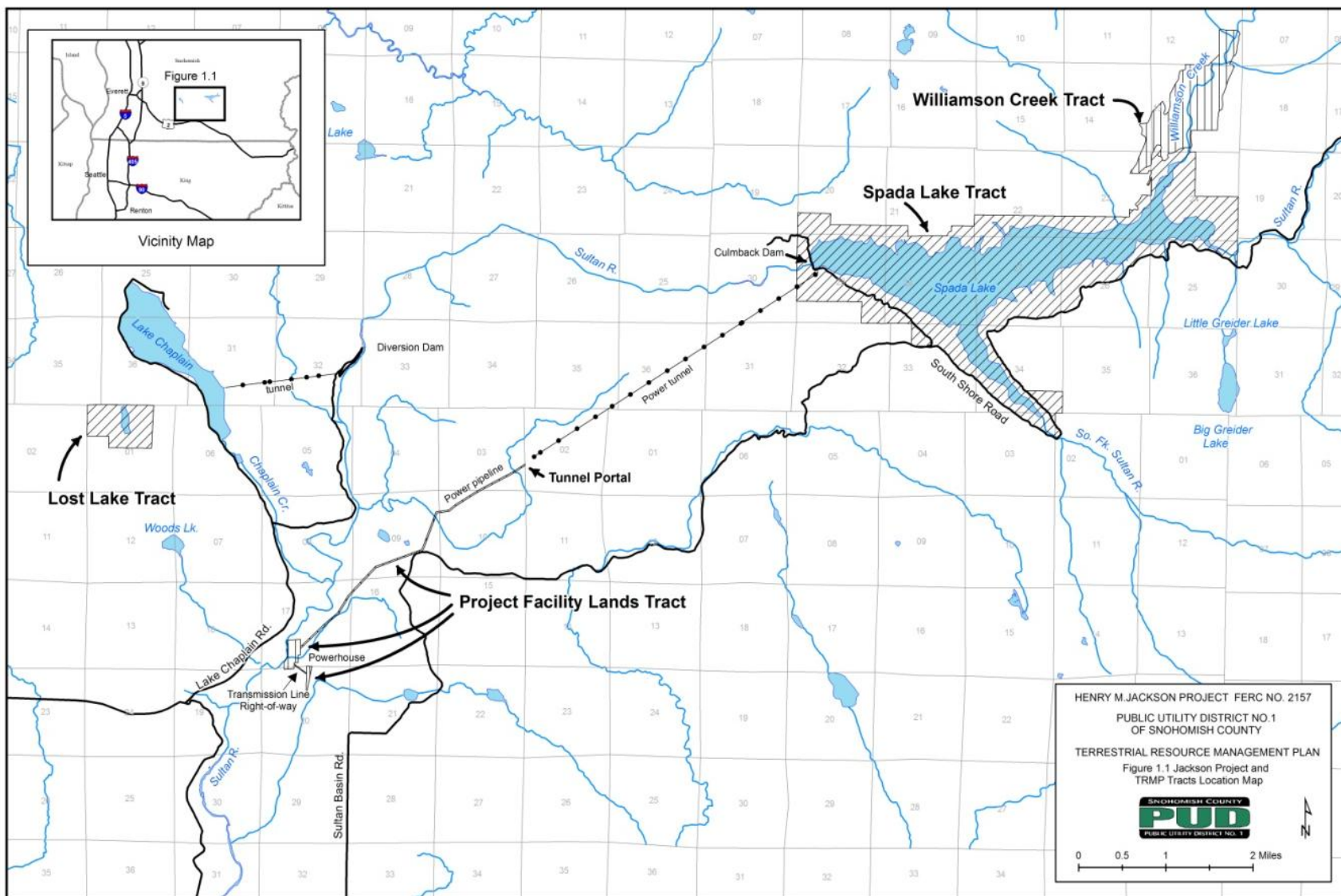


Figure 1-1. Location of Jackson Project and Terrestrial Resource Management Plan Tracts.

The NWMP includes:

- A list of Washington State Class A, Washington State Class B Designate and Snohomish County Selected Noxious Weeds, updated annually to reflect changes in State and County lists
- A summary of Washington State Class A, Washington State Class B Designate, Snohomish County Selected, and other target species of noxious weeds occurring within the Project boundary based on ongoing weed management work and the 2007 Noxious Weed Inventory
- A summary of ongoing weed management activities on Project lands
- Treatment options and recommendations for established and new infestations of target weed species, including management goals, measurable objectives, and priorities for treatment
- Prevention strategies (e.g., weed prevention practices for ground disturbing work, revegetation methods, and education information for Project employees)
- Monitoring and implementation schedules

The NWMP also includes annual consultation with SCNWCB and the other stakeholders. The annual consultation includes: updates to the noxious weed list, a summary of weed management actions taken since the previous report, and periodic (five-year) review of plan accomplishments and updates of lists and appendices, prepared in consultation with the stakeholders. This information will be provided to the FERC as part of the TRMP five-year report (2011-2015).

Surveys by the District and others have documented the presence of marbled murrelets (a federally-listed threatened species) in the Sultan Basin, and have resulted in the designation of portions of the forest in and near the Project boundary as “occupied” by nesting marbled murrelets. The MMHPP describes specific measures that the District will implement to avoid or minimize Project-related impacts to marbled murrelets and their habitat. Three general types of Project-related activities are addressed in the plan: 1) pruning, topping and felling of road-side danger trees; 2) overstory thinning and creation of snags, decaying live trees, coarse woody debris and forest canopy gaps during implementation of the TRMP; and 3) the creation of new recreation trails and associated facilities as required in the Recreation Resource Management Plan (RRMP) under License Article 413.

In February 2011, the District updated the MMHPP to incorporate requirements of the USFWS Biological Opinion, Incidental Take Statement, Reasonable and Prudent Measures and Terms and Conditions for the proposed issuance of the license for the Jackson Project. These measures were reviewed by the Settlement Parties and USFWS concurred with the update. The updated MMHPP was included in the new license for the Project under Article 411. The MMHPP is available on the District’s web site (<http://www.snopud.com/PowerSupply/hydro/jhp/jhplicense.ashx?p=1978>).

License Article 411 approved the MMHPP and specified that survey results and field notes of monitoring efforts for marbled murrelets will be documented and sent to the USFWS in conjunction with the TRMP annual reports for any year that surveys are conducted or maps are updated. The MMHPP states that at least every 10 years, the District will update the Project marbled murrelet habitat maps to reflect current habitat conditions. The District may conduct surveys for nesting marbled murrelets in all suitable habitat that is not known to be occupied and has not been surveyed for 10 years or more. If the District chooses not to survey suitable habitat, such habitat will be considered occupied for purposes of the MMHPP and will be

described in the applicable report and update of the MMHPP. Article 411 requires that at least every 10 years, the District will file for Commission approval, an updated MMHPP developed in consultation with USFWS and WDFW. Activities related to the MMHPP during 2012 are noted in this annual report.

2. TERRESTRIAL RESOURCES MANAGEMENT PLAN

2.1. TRMP PRIOR YEAR SUMMARY - 2011

This section includes background explanations of activities, and results summarized from the previous years' reports, leading up to the five-year report that will be sent to the FERC in 2016. Given that 2011 was the first year of TRMP implementation, only results from 2011 TRMP implementation are presented here. In future years, cumulative management efforts for the previous years within the five-year period will be reported here, with the five year period starting over after each FERC report filing. The next filing of the Terrestrial Resources Report with the FERC will cover implementation activities between 2011 and 2015. This section can be used as a quick reference of previous activities within recent years, and it will allow for an efficient and transparent preparation of the five-year report.

2.1.1. *Snags, Decaying Live Trees and Coarse Woody Debris*

TRMP management measures include the creation of snags, DLTs and CWD from live trees, on the four tracts of land; these components are collectively referred to as "woody habitat structures" in this report. Trees are selected from the largest size class and are typically clustered in groups of about 30 trees, called "canopy gaps." Canopy gaps are usually triangular in shape, with the base of the triangle being on the south or southwest side in an effort to maximize light penetration to the forest floor to encourage understory growth. The apex of the triangle is then on the north or northeast end. The target gap size is 0.10 to 0.25 acres, depending on local limitations. Research has shown this size to help minimize excessive in-seeding by hemlocks, which would reduce light penetration and forage production within the gap.

Forest stands on the Spada Lake Tract were harvested in the 1960s and most are quite dense, with stem densities in many cases greater than 450 trees per acre. Consequently, the diameter of trees is restricted and the number of trees comprising a canopy gap can be large. Gap size on the Spada Lake Tract is often limited by the presence of numerous drainages. The base of a typical gap within the tract measures about 120 feet, with the height of the triangle also being about 120 feet (7,200 square feet; 0.16 acres). A gap of this size contains an average of 15 snags, 15 DLT and 20 CWD trees.

Stand age on the Lost Lake Tract is typically around 75 years, with a selective harvest having been performed in the 1980s. The result, compared to the Spada Lake Tract, is stands of lower density that are much more heterogeneous including individual and pockets of deciduous trees. Due to lower stand density, average tree diameter and canopy coverage per tree is significantly greater than at Spada Lake. Consequently, fewer trees are required to be topped or felled in one area on the Lost Lake Tract to achieve a canopy gap similar in size to those at Spada Lake. A typical gap here contains one or two snags, two DLT and four CWD logs.

Woody habitat structures may also be created individually or in small groups, as needed to maintain appropriate distribution, but only rarely; most often these structures are created in canopy gaps, as described above.

Table 2-1 shows woody habitat structure management on TRMP lands in 2011.

Table 2-1. Woody habitat structure management in 2011.

UNIT	ACRES	SNAGS				DLT				CWD		
		# Created	#/acre	Avg Ht (ft)	Avg DBH (in)	# Created	#/acre	Avg Ht (ft)	Avg DBH (in)	# Created	#/acre	Avg DBH (in)
Lost Lake 7-1	81.0	21.0	0.3	87.1	23.5	48.0	0.1	92.3	24.6	83.0	1.0	20.0
Spada 9-42	41.2	unit evaluated, but none created in 2011										
Spada 9-38	39.3	94.0	2.4	59.2	13.8	111.0	2.8	61.1	16.3	149.0	3.8	14.5
Spada 9-36/37/59/89	56.3	166.0	3.0	46.4	13.2	154.0	2.7	49.0	14.5	193.0	3.4	14.7
Total To Date	217.8	260				313				425		

2.1.2. Right-Of-Way Management

Since TRMP implementation began in late 2011, work on the pipeline right-of-way (ROW) has consisted largely of weed control, but also included planning for placement of potential stream crossings to span three creeks between manholes P1 and P4. If conducted, this project will allow continuous access to the ROW without the use of adjacent roads that are not under the District's control. Measures, including the use of gates, are being considered to ensure that motor vehicle access and traffic does not increase as a result of stream crossing placement.

A portion of the ROW near the tunnel portal received heavy off-road vehicle damage during the winter of 2011 as a result of gates being left open to permit firewood cutting on adjacent DNR lands. Gates were closed by the DNR at the end of 2011.

2.1.3. Waterfowl Nest Boxes

A total of six nest boxes are monitored annually, with pre-and post-nesting season visits conducted to allow accurate determination of productivity and species use. Maintenance occurs as needed to ensure six boxes are provided at the beginning of each nesting season.

Table 2-2. Waterfowl nest box use on the Lost Lake Tract in 2011.

BOX #	YEAR	RESULTS
BOX 3	2011	No Use
BOX 5	2011	Douglas Squirrel nesting in box
BOX 13	2011	6 of 7 Wood Ducks Fledged
BOX 15	2011	No Use
BOX 16	2011	No Use
BOX 17	2011	8 of 8 Wood Ducks Fledged

2.1.4. *Good Stewardship Activities or Observations of Note*

District biologists met with Jackson Project staff to inform and educate them regarding the TRMP and worked with them to ensure that the TRMP was being followed during 2011.

Table 2-3 provides a summary of incidental wildlife observations on Jackson Project mitigation lands, beginning in 2011. This table will be updated each year to consolidate observations by species and location.

Table 2-3. Incidental wildlife observations in 2011.

DESCRIPTION	LOCATION	DATE
Common loon	On Spada Lake Reservoir, heard from Bear Creek Recreation Site and seen out from Nighthawk Site	August 26
2 adult Canada Geese, 4 goslings	Spada Lake Reservoir near log boom; frequently seen foraging on dam as well	June 18
Osprey	Powerhouse site – one on nest near microwave tower and one on perch at nest	April 27
Osprey	Powerhouse site – on nest near microwave tower	May 2
Osprey	Powerhouse site – on perch at nest near microwave tower	June 2
4 Osprey	Powerhouse site (Pipeline ROW) – 4 osprey alternately flying and perching on nest platform near microwave tower	June 21
Osprey	In nest west of Spada Lake Tract on NFS lands	May 10
Osprey	One osprey on branch below nest flapping its wings and calling. Second osprey heard. This is same nest seen on 10 May 2011.	August 18
Osprey	On shorter snag in Spada Lake Reservoir out from Bear Creek Recreation Site	August 26
Northern Goshawk	Attacking 2 Douglas squirrels that had been chasing each other around large Hemlock tree; NW corner of Lost Lake Tract. Unknown result.	December 8
Deer – 1 doe, 1 fawn, 1 four pt buck	Powerhouse site – near microwave tower	June 29
Pika	Heard just west of Bear Creek Recreation Site	August 26
Western toad	On road just past Bear Creek Recreation Site	July 8

2.2. TRMP WORK COMPLETED IN 2012

2.2.1. *Snags, Decaying Live Trees and Coarse Woody Debris*

TRMP management measures include the creation of woody habitat structures (snags, decaying live trees (DLT), and coarse woody debris (CWD)) from live trees, on the four tracts of Jackson Project mitigation land. A brief history of land management as it relates to their creation is presented in Section 2.4

The TRMP was written as an adaptive document to allow changes in management techniques to be employed under the single constraint that they continue to meet the objectives of the TRMP (TRMP section 1.5). The TRMP specifies that 3 standing structures (snags and DLT) and 4 CWD be created per acre (sections 2.3.2 and 2.4.2, respectively, of the TRMP) during each 10 year management cycle. At the 2011 annual TRMP meeting, conducted in April 2012 with the wildlife agencies, WDFW requested that a deviation from the TRMP be made with regard to the composition of woody habitat structures created. The request from WDFW was to favor standing structures over trees felled as CWD. The rationale was that standing snags and DLTs could serve their ecological function in this initial role and then, upon falling over, serve a subsequent role by becoming part of the CWD component. Conversely, once felled, a CWD log will not benefit those species that primarily use standing structures. Most dead wood foraging and cavity nesting on the west side of the Cascades occurs on standing woody structures, as opposed to logs on the ground, so this logical shift in management objectives will allow the most benefit to be derived from the same number of created structures.

In 2012, woody habitat structures were created on three Spada Lake Tract stands/complexes totaling 167 acres and one 81-acre stand on the Lost Lake Tract, where creation began in 2011 (Table 2-4, Figures 2-1 and 2-2). A complex is one larger stand and multiple small (typically 1 acre or less) stands consolidated to allow easier management. A total of 1,367 woody habitat structures were created in 2012, with approximately 75% of them being live-topped to become DLT. These typically have at least 5 whorls of live limbs left to allow the tree to remain alive for at least several years following topping, in the hopes that infection by heart rotting fungi occurs. Typically, the largest trees are selected to be live-topped, with Hemlock, Silver-fir and Douglas-fir being the predominant species selected. As in the past, these woody habitat structures are typically created in groups to create an opening in the forest canopy. At the Spada Lake Tract, these groups can be 30 or more trees, due to the high density of stems. At the Lost Lake Tract, where trees are larger and less dense, groupings are typically 5-7 trees. In both cases, the objective is to create canopy gaps of approximately 0.25 acres in size.

Table 2-4. Snag, DLT, and CWD creation completed in 2012.

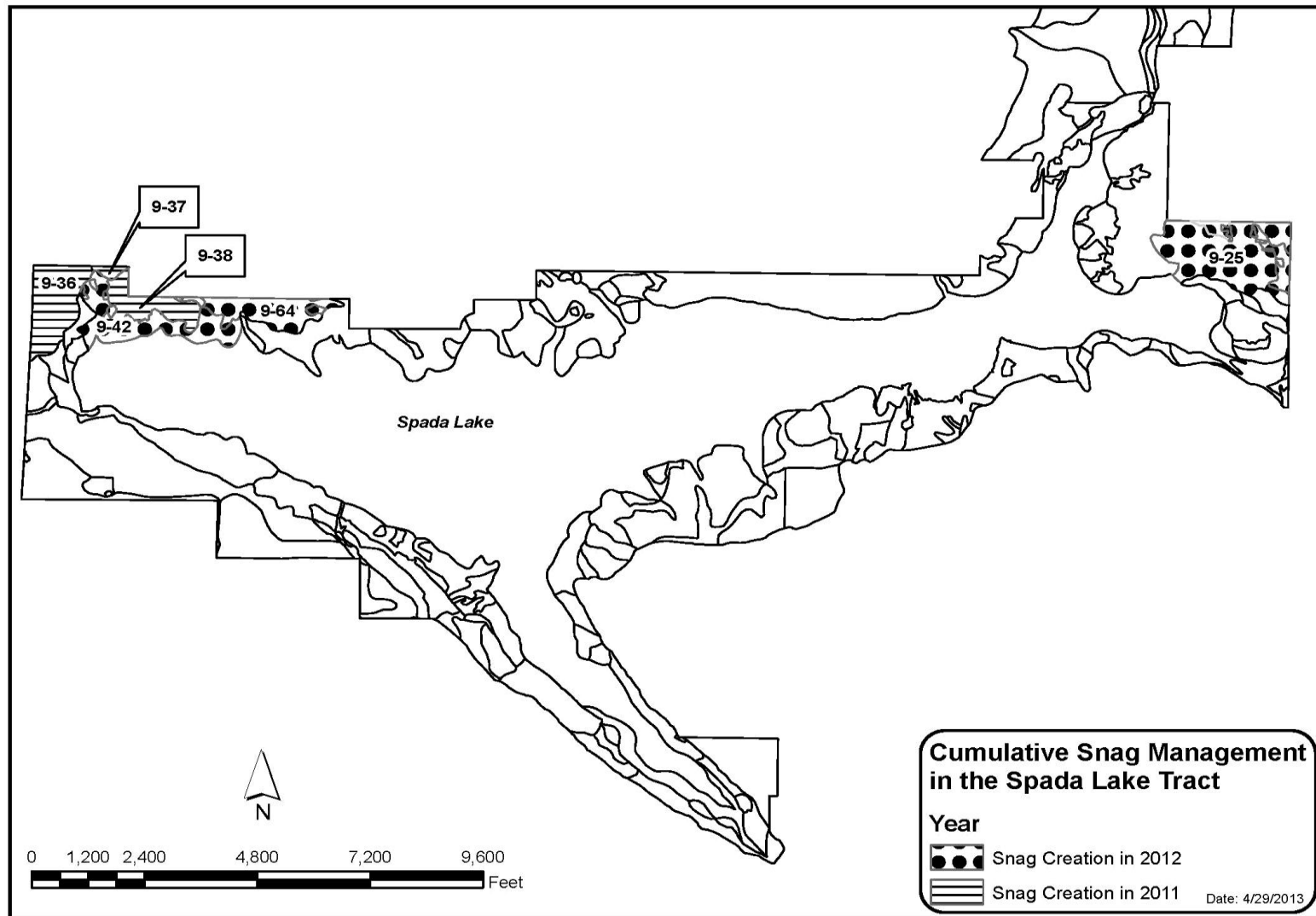
UNIT		Spada 9-25 complex^a	Spada 9-42 complex	Spada 9-64 complex	Lost Lake^b 7-1
ACRES (248.2^c)		90.4	45.9	35.0	81.0
SNAGS (229 created^d)					
	# CREATED	70	9	104	67 (46)
	AVG DBH (in)	14.3	12.3	12.7	20.6
	AVG HT (ft)	70.1	59.4	61.9	87.3
	#/acre	0.8	0.2	3.0	0.8
DECAYING LIVE TREES (988 created^d)					
	# CREATED	164	80	530	261 (214)
	AVG DBH (in)	15.9	13.7	14.7	21.0
	AVG HT (ft)	75.0	65.8	64.6	87.5
	#/acre	1.8	1.7	15.1	3.2
COARSE WOODY DEBRIS (150 created^d)					
	# CREATED	99	2	38	94 (11)
	AVG DBH (in)	13.9	11.5	12.4	19.8
	#/acre	1.1	0.04	1.1	1.2

^a Woody structure creation in Spada 9-25 complex will be completed in 2013.

^b Numbers for Lost Lake 7-1 include woody structures created in 2011. The number of woody structures created in 2012 are in (), beside the total number created over two years.

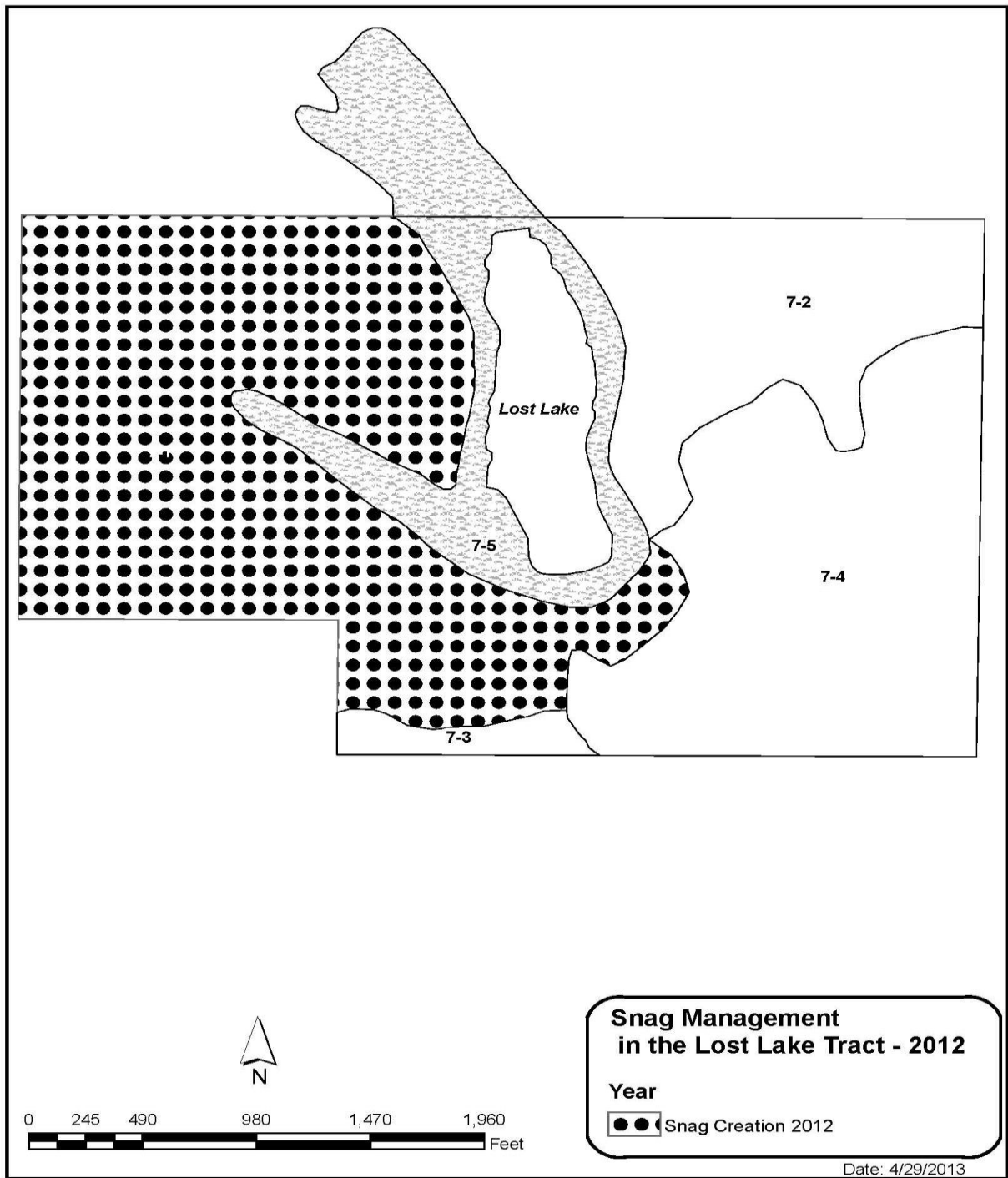
^c Includes acres at Lost Lake 7-1 on which woody structures were also created in 2011.

^d Total number created in 2012 only.



Document Name: Snag Management Annual Report - Spada Lake Tract 2012

Figure 2-1 Cumulative Woody Habitat Structure Creation at Spada Lake; 2011-2012



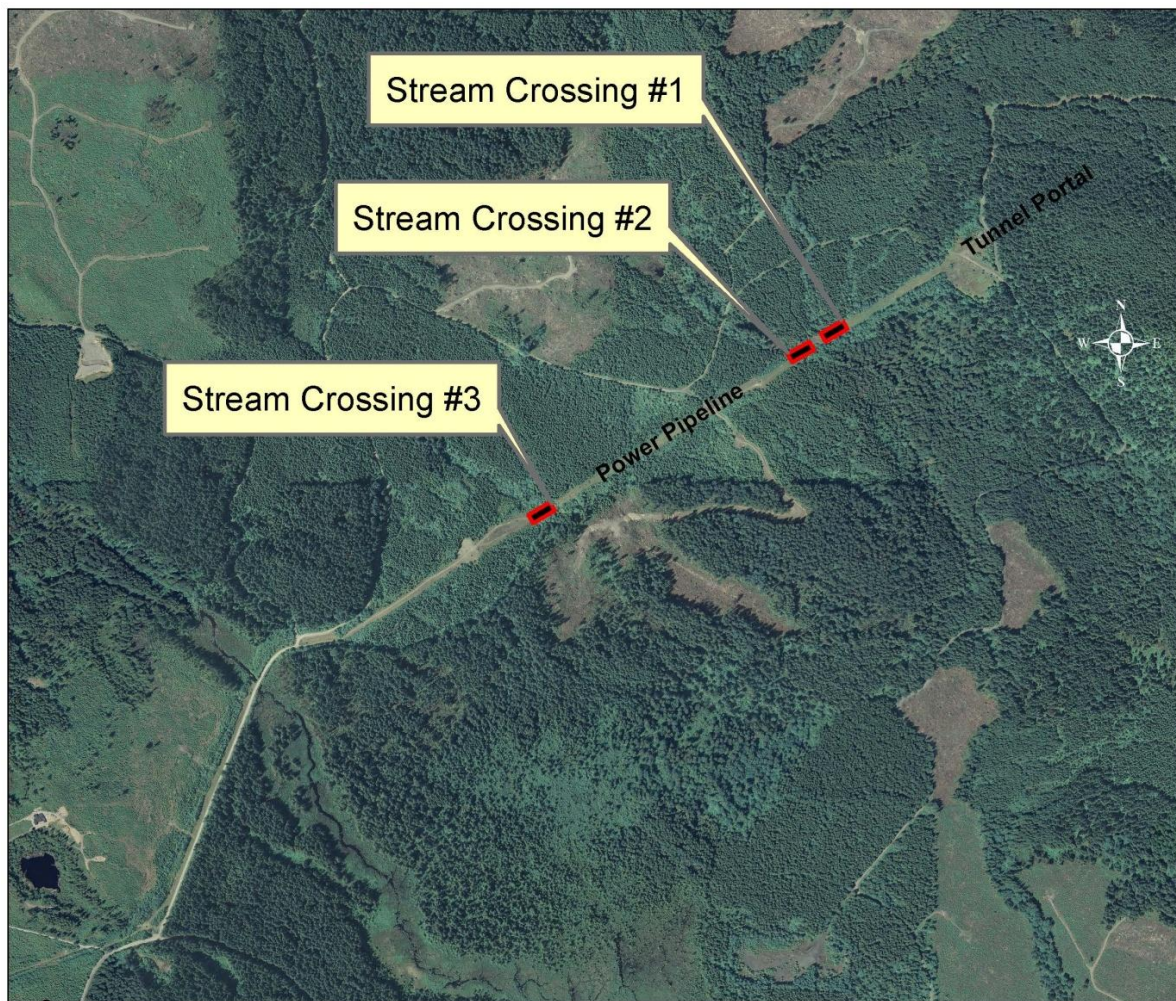
Document Name: Snag Management Annual Report - Lost Lake Tract 2012

Figure 2-2 Cumulative Woody Habitat Structure Creation at Lost Lake; 2011-2012

2.2.2. Right-Of-Way Management

Control of noxious weeds continued along the pipeline right-of-way (ROW), with Canada thistle, hawkweed and Scotch broom being the primary species targeted. Planning also continued for placement of stream crossings (bridges or culverts) across three small streams between manholes P1 and P4 (Figure 2-3). This work has become more urgent with the DNR's closure of one of the roads used to access the tunnel portal. Currently, pipeline inspections require back-tracking to the Sultan Basin Road and re-entering the pipeline ROW from a second access point, requiring a significant amount of additional time and mileage versus travelling continually along the ROW. This work is expected to be permitted and constructed in 2013.

In the spring of 2012, the District re-graded and over-seeded the portion of the ROW near the tunnel portal that had been damaged by un-authorized off-road vehicle use during the winter of 2011. DNR gates were kept locked in 2012 to prevent similar damage. Section 2.4.2 of the 2011 annual report provides more information regarding this issue.



Path: B:\Generation\Geodatabase1_HYDRO_PROJECTS_MXD\JACKSON\BIOLOGIST\MXD\power_pipeline_bridges
Date: 4/9/2013

Figure 2-3. Potential locations for stream crossings along the pipeline ROW.

2.2.3. *Waterfowl Nest Boxes*

On the Lost Lake Tract, a total of six nest boxes were available during 2012, with three being used by cavity nesting waterfowl (Table 2-5). Boxes were checked, cleaned, repaired as needed, and provided with fresh nesting material on February 17. All boxes were visited on May 3 and June 8 to determine use, check for damage, and remove unwanted species. Bear damage, which has been common in past years, did not occur to any boxes during 2012. As requested by WDFW and USFWS during the 2011 Annual Meeting, nest box maintenance includes eviction of all non-waterfowl residents, including native squirrels. The locations of six existing nest structures on the Lost Lake Tract are depicted in Figure 2-4.

Table 2-5. Waterfowl nest box use on the Lost Lake Tract in 2012.

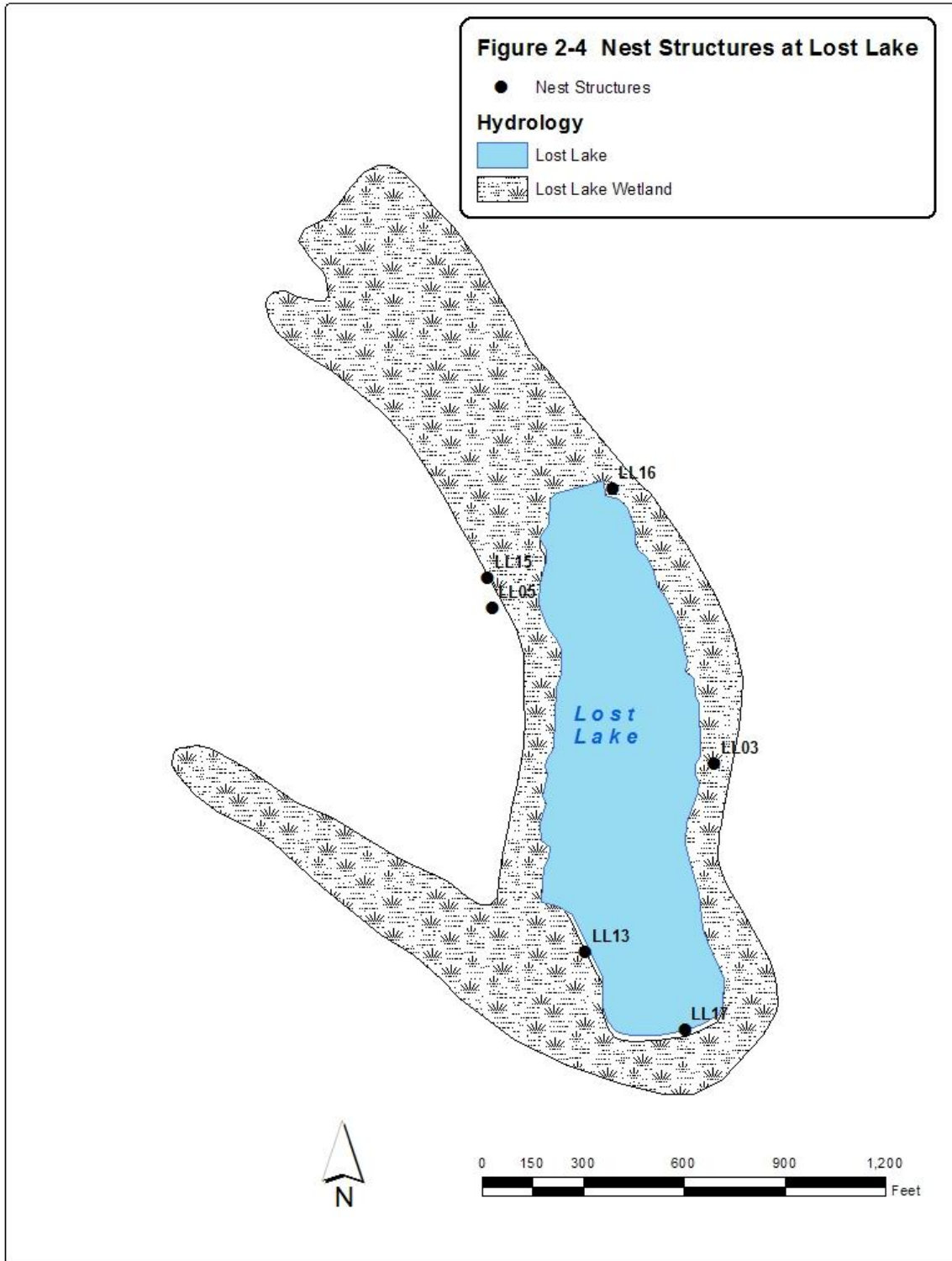
Boxes Available	Boxes Used by Waterfowl	Box Success (# boxes that fledged ≥ 1 egg)	Box #	Results
6	2 (33%)	2 (33%)	Box 3	Squirrel nest removed
			Box 5	Deer mouse and nest removed
			Box 13	8 of 8 Wood Ducks fledged
			Box 15	No use
			Box 16	No use
			Box 17	7 of 7 Buffleheads fledged

2.2.4. Lake, Wetland and Stream Buffers

Activities occurring within buffers included nest box maintenance and woody habitat structure creation, as described in the previous sections of this document. The buffer restrictions for snags, DLT and CWD described in Table 2.2 of the TRMP were followed, which allow only individual or small groupings of woody habitat structures to be made within 100 feet of a lake, wetland or stream. Within the remainder of the buffer, which may be up to 500 feet wide, gap sizes are restricted to 0.25 acres.

2.2.5. Good Stewardship Activities or Observations of Note

Though potentially overshadowed in the annual report by proactive management, one of the key elements of the TRMP is the protection of old growth forests, wetlands and riparian forest on the four tracts of land. The TRMP requires the preservation of 502 acres of existing old growth forest and promotion of old growth characteristics on 1,119 acres of second growth conifer forest. Approximately 57 acres of riparian forest and 40 acres of wetlands are protected from human disturbance and maintained as high-quality habitat under the TRMP. All management activities in 2012 considered these objectives. These habitat types were protected and received minimal management activity in 2012, primarily woody habitat structure creation within buffer zones. No overstory thinning, gap creation, snag creation or coarse woody debris creation occurred in old growth forest during 2012.



Document Path: B:\Generation\Jackson\NATURAL RESOURCES\TERRESTRIAL\Wildlife\Annual Report 2012 Annual Report Draft 2012\AnnualReport\Figures\Fig2-Nest Structures at Lost Lake 2012.mxd

District wildlife biologists worked with Jackson Project staff throughout the year to ensure compliance with the TRMP.

Some incidental observations of wildlife species by District wildlife biologists and knowledgeable City of Everett personnel on TRMP lands are listed in Table 2-6. This partial list of observations is not the result of systematic surveys for wildlife, but is included in this report to document the presence of these species on management lands.

Table 2-6. Incidental wildlife observations in 2012.

DESCRIPTION	LOCATION	DATE
Mallard	N End Lost Lake; 4 pair	2/20/12
Black bear	Lake Chaplain; on road to Lost Lake	4/9/12
Harlequin duck	South Fork Sultan River just upstream of bridge	5/18/12
Deer	ROW; 4 does bedded down inside Lake Bronson gate	5/24/12
Pileated WP	Lost Lk; drumming on large hollow cedar snag	5/30/12
Kingfisher	Lost Lk; south end, calling and flying over lake	7/16/12
Common merganser	Spada; site 3 area; female and 4 immature swimming	8/21/12
Following are from City of Everett Watershed Patrol, all at Spada Lake Tract:		
Blue grouse	Spada; drumming on stump along Culmback Dam Rd	
Yellow warbler	Spada; nesting at Site 3	
Varied thrush	Dates and location information were not recorded for the following sightings	
Loon		
Western grebe		
Great blue heron		
Kinglets		
Rufus hummingbird		
Western tanager		
Barred owl		
Kingfisher		
Northern shrike		
Yellow-rumped warbler		
Wood duck		
American goldfinch		
Spotted sandpiper		
Black bear		
Coyote		
Bobcat		
River otter		
Beaver		
Western toad		
Garter snake		

2.3. TRMP WORK PLANNED FOR 2013

2.3.1. *Snags, Decaying Live Trees and Coarse Woody Debris*

Creation of snags/DLT/CWD will continue on the Spada Lake Tract during 2013. The focus will be on stands where snag creation has not yet occurred, as well as stands where snags were created more than 10 years ago. Approximately 200 acres per year will be evaluated and have woody habitat structures created, as needed, to meet the 10-year cycle articulated in the TRMP.

2.3.2. *Right-Of-Way Management*

As mentioned in Section 2.1.2, permitting and placement of three stream crossings (bridges or culverts) is planned for the ROW access road. Noxious and invasive weed control will continue. Soil amendment will continue if biosolids from the City of Everett waste water treatment facility are available. All disturbed or amended soils will be promptly seeded with a mixture of non-invasive, weed-free grasses and forbs as listed in Table 2.5 of the TRMP. For erosion control, only certified weed-free straw is used on all District lands.

2.3.3. *Waterfowl Nest Boxes*

Nest boxes on the Lost Lake Tract will be repaired as needed and readied for the 2013 nesting season by the end of February. An intermediate nesting season check will be added and all non-waterfowl, including native squirrels, will be evicted, as requested by WDFW at the 2011 Annual TRMP meeting in April 2012. A final nest box productivity check will be conducted in late June to ensure accurate determination of use, as specified in the TRMP.

2.3.4. *Lake, Wetland and Stream Buffers*

Aside from woody habitat structure creation and nest box maintenance, as summarized in this report and detailed in the TRMP, no other activities are planned in buffer zones. The District and its contractor will adhere to the buffer restrictions described in Table 2.2 of the TRMP.

2.4. TRMP ISSUES OR PROPOSED CHANGES

Based on comments from WDFW during the 2011 Annual Terrestrial Resources meeting, and as noted in Section 2.1.1, woody habitat structure creation will favor standing structures. The same number of woody habitat structures will be created as specified in the TRMP, but standing structures will be created in place of some of the CWD. Additionally, Section 2.1.3 discusses changes to the nest box program, including an additional visit during the nesting season and eviction of all non-waterfowl species, including native squirrels.

3. NOXIOUS WEED MANAGEMENT PLAN

3.1. NWMP PRIOR YEAR SUMMARY - 2011

This section includes background explanations of activities, and results summarized from the previous years' reports, leading up to the five-year report that will be sent to the FERC in 2016. Given that 2011 was the first year of NWMP implementation; only results from 2011 NWMP implementation are presented here. In future years, cumulative management efforts for the previous years within the five-year period will be reported here, with the five year period starting over after each FERC report filing. The next filing of the Terrestrial Resources Report with the FERC will cover implementation activities between 2011 and 2015. This section can be used as a quick reference of previous NWMP activities within recent years, and it will allow for an efficient and transparent preparation of the five-year report.

Due to water quality concerns, noxious weeds and invasive species found within the Spada Lake and City of Sultan (along the Pipeline ROW) watersheds were treated with a non-synthetically derived herbicide (20% acetic acid) by licensed contract herbicide applicators. This was a non-selective herbicide (it will damage or kill any plant that it contacts), and is non-systemic (it only effects the portion of the plant that it touches, and is not translocated through the plant's vascular system). Using this type of herbicide required repeat applications, as it was not as effective as systemic herbicides, but is considered safer for water quality by the City of Everett (primary purveyor of drinking water in Snohomish County, 80% of which comes from Spada Lake Reservoir).

Areas outside of the above mentioned watersheds have been treated with synthetic herbicides that are systemic and selective, and are expected to require fewer re-treatments. All applications were performed by licensed contract herbicide applicators.

Areas of the Jackson Project that were disturbed and weed-prone, where noxious weeds have been observed (particularly during the 2007 noxious weed surveys), and sites that have been previously treated were visited to treat noxious weeds. Treatment locations were captured and recorded using a GPS device, with that data then incorporated into the District's GIS database, to allow tracking of historical occurrences and treatment efforts to guide the following year's management.

District biologists met with Jackson Project staff to inform and educate regarding the NWMP and worked with them to ensure that the NWMP was being followed. District biologists and Project staff reviewed the poster and booklet (developed in 2009 in anticipation of NWMP implementation) containing photos and descriptions of the noxious weeds known to occur at the Project.

3.2. NWMP WORK COMPLETED IN 2012

Areas of the Jackson Project that were disturbed and weed-prone, areas where noxious weeds had been observed in the past, and sites that had been previously treated were visited to control noxious weeds. Most sites were re-treated several times during the growing season.

3.2.1. *Lost Lake Tract Treatment and Monitoring*

Roads and the boat launch area at Lost Lake were visually inspected for noxious and invasive species several times during the growing season. Particular attention was paid to areas identified in the 2007 Noxious Weed Survey. Species of weeds treated included herb Robert, Canada thistle and Himalayan and evergreen blackberry.

3.2.2. *Spada Lake Tract Treatment and Monitoring*

Weeds most commonly found along roads on the Spada Lake Tract were Canada thistle and oxeye daisy. Culmback Dam had large infestations of hawkweed and smaller patches of Scotch broom. Within the Spada Lake Watershed, which supplies most of Snohomish County with drinking water, the City of Everett has requested that herbicides derived from inorganic compounds not be used. Organic, high-strength acetic acid has proven to be successful in treating weeds, albeit not as effectively as synthetically derived herbicides, and has been approved by the City for use within the watershed. Multiple applications of acetic acid were required on weed infestations, with many of the treated plants displaying top-kill for some time after treatment. Plants were treated as early in the growing season as practicable, given spring weather conditions. Seed production was prevented in nearly all cases. In addition, on Culmback Dam, several large areas were mechanically scraped to a depth of six inches in an intensive effort to remove all vegetative portions of hawkweed within extremely dense patches. New gravel was placed at the site and mechanically harvested materials were transported off site to a location where conventional herbicides can be used to treat any re-growth.

3.2.3. *Williamson Creek Tract Treatment and Monitoring*

Hawkweed, reed canary grass and Canada thistle have been found on the Williamson Creek Tract during previous field visits. The abandoned road has become largely overgrown with alders, and as a result, these infestations are not expected to extend their range significantly. Based on this and the difficulty of accessing this now road-less area, other sites have received higher priority for treatment.

3.2.4. *Project Facility Lands Treatment and Monitoring*

The pipeline ROW was visited multiple times during the growing season to locate and treat invasive species. Typical weeds found here included Canada thistle, hawkweed, Scotch broom, Himalayan blackberry and tansy ragwort. Off-road vehicle use of portions of the ROW continues to be an occasional problem, creating areas of open soil prone to weed seed germination. These areas are over-seeded with a grass/clover mix when discovered and monitored to ensure that weeds do not become established.

Noxious weeds on the transmission line ROW within the Project Facility Lands Tract were also sprayed several times during the growing season, with the primary species found here being English holly, thistle and blackberry species. Adjacent to this ROW was a small patch of locust trees, which were cut and stump treated with herbicide in 2011.

3.2.5. *Annual Review of Noxious Weed List*

The District reviewed the State and County's annual updated weed list for 2012. No changes were made that impacted weed control on Project lands.

3.2.6. *Update of Species-Specific Management Methods*

No updates to specific management methods have been proposed. Cultural methods to prevent new infestations or reduce existing infestations continued to be employed including keeping ground disturbance to a minimum while mowing vegetation and seeding/placing weed-free straw on open or disturbed soils as soon as possible. Where infestations exist, herbicides remained the most effective treatment due to the size and variety of locations.

3.3. NWMP WORK PLANNED FOR 2013

Areas of the Jackson Project that are disturbed and weed-prone, where noxious weeds have been observed, and sites that have been previously treated will be visited to record occurrences of noxious weeds. Licensed contract herbicide applicators will again be used to apply herbicides. To reduce the likelihood of increasing infestation size or spreading weed propagules to new areas, weeds will be treated to the extent possible prior to ground-disturbing activities.

District biologists will continue to work with Jackson Project staff to facilitate implementation of the NWMP.

3.4. NWMP ISSUES OR PROPOSED CHANGES

No issues have come up and no changes are proposed at this time. Any changes to the list of weeds requiring control, based on changes to the State and County weed lists, may necessitate changes to the NWMP.

4. MARBLED MURRELET HABITAT PROTECTION PLAN

4.1. MMHPP PRIOR YEAR SUMMARY - 2011

This section includes background explanations of activities, and results summarized from the previous years' reports, leading up to the five-year report that will be sent to the FERC in 2016. Given that 2011 was the first year of MMHPP implementation, only results from 2011 MMHPP implementation are presented here. In future years, cumulative management efforts for the previous years within the five-year period will be reported here, with the five year period starting over after each FERC report filing. The next filing of the Terrestrial Resources Report with the FERC will cover implementation activities between 2011 and 2015. This section can be used as a quick reference of previous MMHPP activities within recent years, and it will allow for an efficient and transparent preparation of the five-year report.

Project-related activities conducted in the Spada Lake Basin and on other Project lands during 2011 were conducted according to the MMHPP. Plans and activities were prepared or modified as needed to comply with the MMHPP. These activities included:

- Planning for the Marsh Creek Slide Modifications under License Article 402
- Planning for Side Channel Enhancement under License Article 404
- Preparation for implementing the Whitewater Recreation Plan under License Article 412
- Replacing the valve on the auxiliary line at Culmback Dam to support water temperature conditioning under License Article 415
- Replacing culverts on the South Shore Road to support the Recreation Resource Management Plan (RRMP)
- Flying toilets out of the Bear Creek and Nighthawk Recreation Sites to support the RRMP
- Conducting snow surveys to support operation and water supply planning
- Planning of the Sultan River Canyon Trail under the RRMP
- Planning of the New Recreation Site at Spada Lake Reservoir under the RRMP
- Hazard tree maintenance activities to support operation and maintenance
- Implementation of the TRMP
- Implementation of the NWMP

District biologists met and had numerous conversations with Jackson Project staff to inform them of, and ensure compliance with the MMHPP. Jackson Project staff have been very cooperative and frequently call the biologists to ask about specific activities and restrictions.

4.2. MMHPP WORK COMPLETED IN 2012

Project-related activities conducted in the Spada Lake Basin and on other Project lands during 2012 were conducted according to the MMHPP. Plans and activities were prepared or modified as needed to comply with the MMHPP. These activities included:

- Marsh Creek Slide Modifications under License Article 402
- Side Channel Enhancement under License Article 404
- Replacement of the rock netting on the downstream right abutment of Culmback Dam
- Flying toilets out of the Bear Creek and Nighthawk Recreation Sites to support the RRMP

- Conducting snow surveys to support operation and water supply planning
- Planning of the Sultan River Canyon Trail (SRCT) and modifications to the 6122 road, under the RRMP
- Planning of the New Recreation Sites at Spada Lake Reservoir under the RRMP
- Hazard tree maintenance activities to support operation and maintenance
- Maintenance in support of the RRMP
- Implementation of the TRMP
- Implementation of the NWMP

District biologists met and had numerous conversations with Jackson Project staff to coordinate Project related work and ensure compliance with the MMHPP.

A sign was developed that will be posted at Spada Lake recreation sites to alert users of the need to contain all refuse to protect nesting marbled murrelets.

4.3. MMHPP WORK PLANNED IN 2013

The District biologists will continue to stay informed of Project-related activities that might affect marbled murrelets and their habitat, and advise and educate those working on the Project of the MMHPP requirements. Planning and permitting of the SRCT and upgrades and modification to the 6122 road will continue in 2013, and will incorporate the restrictions of the MMHPP. Construction of the SRCT is scheduled to begin September 23, after the marbled murrelet nesting season. Planning and construction of the Culmback Dam trail (as described in the RRMP) will include measures to ensure that protection described in the MMHPP is carried out. A map will be prepared showing the boundary and buffers for the occupied marbled murrelet habitat on District land so that all activities can be appropriately, and more easily planned around them.

4.4. MMHPP ISSUES OR PROPOSED CHANGES

No issues have come up and no changes are proposed for the MMHPP.

APPENDIX A

Agency Correspondence

- 1. Annual Meeting Notice from District to Agencies**
- 2. Agency Review Notice of Draft 2012 Annual Report**
- 3. Agency Comments on the Annual Report**

1. Annual Meeting Notice from District to Agencies

From: Bedrossian, Karen

Sent: Friday, February 22, 2013 3:28 PM

To: 'Tim Romanski (Tim_Romanski@fws.gov)'; 'Applegate, Brock A (DFW)'; 'Michael Seigny (mseigny@tulaliptribes-nsn.gov)'; 'Julie Sklare'; 'Mark Hitchcock'; 'Sonny Paz'; 'Sonny Gohrman (sonny.gohrman@co.snohomish.wa.us)'; 'MCGUIRE, AL (al.mcquire@dnr.wa.gov)'; 'Prince, Sarah A'

Cc: 'Travis.Miranda@dnr.wa.gov'; 'Daryl Williams (dwilliams@tulaliptribes-nsn.gov)'; 'Eric Ozog (eozog@fs.fed.us)'; 'Laurie Bergvall (laurie.bergvall@dnr.wa.gov)'; Schutt, Mike; Binkley, Keith

Subject: Jackson Project Terrestrial Resources 2012 Annual Report Meeting Date

Greetings,

Based on the response that I received to the email below, we will be holding the Jackson Project Terrestrial Meeting on Tuesday, March 26, 2013 at 10:00 am at the Jackson Powerhouse. Please mark your calendar for that date. If you have not already contacted me, please let me know if you are planning on attending so I can make sure we have enough room, chairs and snacks.

The purpose of the meeting is to discuss and answer any questions regarding the draft annual report which you will receive by March 18. I expect the meeting will last about an hour. We can take those of you who are interested, to the Lost Lake Tract and/or Project Facility Lands Tract following the meeting. It is likely that the snow will keep us from going to the Spada Lake or Williamson Creek tracts.

If you plan on participating in the tour, please be sure to bring a lunch and dress for the weather. I have attached a Jackson Project map with the Powerhouse address and location.

Let me know if you have any questions. Please pass this information on to anyone in your organization that I might have missed.

Karen

Karen Bedrossian
Senior Environmental Coordinator
Snohomish County PUD
425 783-1774

From: Bedrossian, Karen

Sent: Friday, February 08, 2013 2:27 PM

To: Tim Romanski (Tim_Romanski@fws.gov); Applegate, Brock A (DFW); Michael Seigny (mseigny@tulaliptribes-nsn.gov); Julie Sklare; Mark Hitchcock; Sonny Paz; Sonny Gohrman (sonny.gohrman@co.snohomish.wa.us); MCGUIRE, AL (al.mcquire@dnr.wa.gov); Prince, Sarah A

Cc: Travis.Miranda@dnr.wa.gov; Daryl Williams (dwilliams@tulaliptribes-nsn.gov); Eric Ozog (eozog@fs.fed.us); Laurie Bergvall (laurie.bergvall@dnr.wa.gov); Schutt, Mike; Binkley, Keith

Subject: Jackson Project Terrestrial Resources 2012 Annual Report Meeting

Hello,

Snohomish County PUD is in the process of preparing the 2012 Annual Report for Jackson Hydroelectric Project Terrestrial Resources. This report includes a summary of

the activities accomplished during 2012 and those proposed for 2013, for the Terrestrial Resource Management Plan (TRMP), Noxious Weed Management Plan (NWMP), and the Marbled Murrelet Habitat Protection Plan (MMHPP). These plans can be found on the PUD's web site at

<http://www.snopud.com/PowerSupply/hydro/jhprelicense/jhprdocol/mgmtplans.ashx?p=1891> .

This is the second annual report under our 2011 Jackson Project license. The summary report will not go to FERC until 2015 (every five years). The report includes the implementation conducted on the Lost Lake Tract, Project Facility Lands Tract, Spada Lake Tract, and Williamson Creek Tract.

We are offering a meeting to discuss the contents of the annual report, after we send it out for you to review. You should be receiving the draft report before or on March 18. The due date for comments will be April 15 (four weeks after you receive it). I am looking at March 26 or 28, or April 1 to hold the meeting. That should give you plenty of time to look over the report and see if you have any questions or want to discuss anything regarding the report or implementation of the plans. We did not identify any problems or issues, and your attendance at this meeting is certainly optional.

We will hold the meeting at the Jackson Powerhouse, or the PUD's Everett office, depending on if anyone wants to tour any of the Project tracts.

Please respond to me as soon as possible, but no later than March 1, and let me know if:

1. you would like to attend a meeting
2. you want a tour of Project lands
3. your availability on March 26, 28, April 1.

Please let me know, even if you are not planning to attend the meeting.

Please forward this on to any representative of your organization that you think should attend.

Thank you,
Karen

Karen Bedrossian
Senior Environmental Coordinator
Snohomish County PUD
425 783-1774

2. Agency Review Notice of Draft 2012 Annual Report

From: Bedrossian, Karen

Sent: Friday, February 08, 2013 2:27 PM

To: Tim Romanski (Tim_Romanski@fws.gov); Applegate, Brock A (DFW); Michael Seigny (mseigny@tulaliptribes-nsn.gov); Julie Sklare; Mark Hitchcock; Sonny Paz; Sonny Gohrman (sonny.gohrman@co.snohomish.wa.us); MCGUIRE, AL (al.mcquire@dnr.wa.gov); Prince, Sarah A

Cc: Travis.Miranda@dnr.wa.gov; Daryl Williams (dwilliams@tulaliptribes-nsn.gov); Eric Ozog (eozog@fs.fed.us); Laurie Bergvall (laurie.bergvall@dnr.wa.gov); Schutt, Mike; Binkley, Keith

Subject: Jackson Project Terrestrial Resources 2012 Annual Report Meeting

Hello,

Snohomish County PUD is in the process of preparing the 2012 Annual Report for Jackson Hydroelectric Project Terrestrial Resources. This report includes a summary of the activities accomplished during 2012 and those proposed for 2013, for the Terrestrial Resource Management Plan (TRMP), Noxious Weed Management Plan (NWMP), and the Marbled Murrelet Habitat Protection Plan (MMHPP). These plans can be found on the PUD's web site at

<http://www.snopud.com/PowerSupply/hydro/jhprelicense/jhprdocol/mgmtplans.ashx?p=1891> .

This is the second annual report under our 2011 Jackson Project license. The summary report will not go to FERC until 2015 (every five years). The report includes the implementation conducted on the Lost Lake Tract, Project Facility Lands Tract, Spada Lake Tract, and Williamson Creek Tract.

We are offering a meeting to discuss the contents of the annual report, after we send it out for you to review. You should be receiving the draft report before or on March 18. The due date for comments will be April 15 (four weeks after you receive it). I am looking at March 26 or 28, or April 1 to hold the meeting. That should give you plenty of time to look over the report and see if you have any questions or want to discuss anything regarding the report or implementation of the plans. We did not identify any problems or issues, and your attendance at this meeting is certainly optional.

We will hold the meeting at the Jackson Powerhouse, or the PUD's Everett office, depending on if anyone wants to tour any of the Project tracts.

Please respond to me as soon as possible, but no later than March 1, and let me know if:

1. you would like to attend a meeting
2. you want a tour of Project lands
3. your availability on March 26, 28, April 1.

Please let me know, even if you are not planning to attend the meeting.

Please forward this on to any representative of your organization that you think should attend.

Thank you,
Karen

Karen Bedrossian
Senior Environmental Coordinator
Snohomish County PUD
425 783-1774

3. Agency Comments on the Annual Report

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE:

From: Applegate, Brock A (DFW) [<mailto:Brock.Applegate@dfw.wa.gov>]

Sent: Friday, April 12, 2013 6:03 PM

To: Bedrossian, Karen; MIRANDA, TRAVIS (DNR); Gohrman, Sonny (Sonny.Gohrman@snoco.org); Mark Hitchcock (MHitchcock@everettwa.gov)

Cc: Schutt, Mike; Binkley, Keith; Carlson, Margen L (DFW); Milner, Ruth L (DFW); Bails, Jamie L (DFW)

Subject: RE: Draft Meeting Notes from 26 March 2013, Jackson Project Terrestrial Resources 2012 Report Annual Meeting

Hi Karen, I have made a few comments in track changes on the meeting notes. Thanks for the site visit and tour. See you on the Hancock/Calligan project soon.

Sincerely, Brock

Brock Applegate
Major Projects Mitigation Biologist
Washington Department of Fish and Wildlife
16018 Mill Creek Boulevard
Mill Creek, WA 98012-1541

(425) 775-1311 x310
(360) 789-0578 (cell)
(425) 338-1066 (fax)

From: Bedrossian, Karen [<mailto:KLBedrossian@snopud.com>]

Sent: Monday, April 08, 2013 9:42 AM

To: Applegate, Brock A (DFW); MIRANDA, TRAVIS (DNR); Gohrman, Sonny (Sonny.Gohrman@snoco.org); Mark Hitchcock (MHitchcock@everettwa.gov)

Cc: Schutt, Mike; Binkley, Keith

Subject: Draft Meeting Notes from 26 March 2013, Jackson Project Terrestrial Resources 2012 Report Annual Meeting

Hi,

Please review the attached meeting notes and send any comments or questions you might have back to me. The notes will be included as an appendix to the final 2012 Annual Report. I will need your comments on these meeting notes and on the draft 2012 Annual Report no later than April 15, 2013 so that I can complete the final report. If I do not hear from you by April 15, I will assume that you concur with the notes and the Annual Report.

Thank you for participating in our Jackson Project Annual Terrestrial Resources meeting! Both Mike and I appreciate your input and agree that it was a very productive meeting!

Karen

Karen Bedrossian
Senior Environmental Coordinator
Snohomish County PUD
425 783-1774

SNOHOMISH COUNTY DEPARTMENT OF PUBLIC WORKS:

From: Gohrman, Sonny [mailto:Sonny.Gohrman@snoco.org]


Sent: Monday, April 08, 2013 4:21 PM

To: Bedrossian, Karen

Subject: RE: Draft Meeting Notes from 26 March 2013, Jackson Project Terrestrial Resources 2012 Report Annual Meeting

No, I really think that the weed control is going well considering the constraints.
Sonny

H. F. "Sonny" Gohrman, Noxious Weed Coordinator
Road Maintenance – Noxious Weed Control Board

 **Snohomish County**
Department of Public Works
3000 Rockefeller Ave M/S 607
Everett, WA 98201

Phone (425) 388-7548
FAX (425) 388-7538
Cell (425) 760-0992
email sonny.gohrman@snoco.org
WEB www.Snoco.org

NOTICE

All emails, and attachments, sent to and from Snohomish County, are public records and may be subject to disclosure pursuant to the Public Records Act ([RCW 42.56](#))

From: Bedrossian, Karen [mailto:KL.Bedrossian@snopud.com]

Sent: Monday, April 08, 2013 12:47 PM

To: Gohrman, Sonny

Subject: RE: Draft Meeting Notes from 26 March 2013, Jackson Project Terrestrial Resources 2012 Report Annual Meeting

Will do Sonny – thanks! And thanks for the quick turn-around. Do you think you will have any additional comments on the annual report?

Karen Bedrossian
Senior Environmental Coordinator
Snohomish County PUD
425 783-1774

From: Gohrman, Sonny [mailto:Sonny.Gohrman@snoco.org]

Sent: Monday, April 08, 2013 11:40 AM

To: Bedrossian, Karen


Subject: RE: Draft Meeting Notes from 26 March 2013, Jackson Project Terrestrial Resources 2012 Report Annual Meeting

Karen,

They look fine. You might want to note that reed canarygrass is a noxious weed that comes in with bio-solids. Someone who didn't know might think it's a good thing the way its worded.

Thanks,
Sonny

H. F. "Sonny" Gohrman, Noxious Weed Coordinator
Road Maintenance – Noxious Weed Control Board

 **Snohomish County**
Department of Public Works
3000 Rockefeller Ave M/S 607
Everett, WA 98201

Phone (425) 388-7548
FAX (425) 388-7538
Cell (425) 760-0992
email sonny.gohrman@snoco.org
WEB www.Snoco.org

NOTICE

All emails, and attachments, sent to and from Snohomish County, are public records and may be subject to disclosure pursuant to the Public Records Act ([RCW 42.56](#))

From: Bedrossian, Karen [<mailto:KLBedrossian@snopud.com>]

Sent: Monday, April 08, 2013 9:42 AM

To: Applegate, Brock A (DFW); Travis.Miranda@dnr.wa.gov; Gohrman, Sonny; Mark Hitchcock (MHitchcock@everettwa.gov)

Cc: Schutt, Mike; Binkley, Keith

Subject: Draft Meeting Notes from 26 March 2013, Jackson Project Terrestrial Resources 2012 Report Annual Meeting

Hi,

Please review the attached meeting notes and send any comments or questions you might have back to me. The notes will be included as an appendix to the final 2012 Annual Report. I will need your comments on these meeting notes and on the draft 2012 Annual Report no later than April 15, 2013 so that I can complete the final report. If I do not hear from you by April 15, I will assume that you concur with the notes and the Annual Report.

Thank you for participating in our Jackson Project Annual Terrestrial Resources meeting! Both Mike and I appreciate your input and agree that it was a very productive meeting!

Karen

Karen Bedrossian
Senior Environmental Coordinator
Snohomish County PUD
425 783-1774

DEPARTMENT OF NATURAL RESOURCES:

From: MIRANDA, TRAVIS (DNR) [<mailto:Travis.Miranda@dnr.wa.gov>]

Sent: Tuesday, April 09, 2013 2:47 PM

To: Bedrossian, Karen

Subject: RE: Draft Meeting Notes from 26 March 2013, Jackson Project Terrestrial Resources 2012 Report Annual Meeting

Karen,

I do not have any further comments regarding the report.

I really enjoyed the meeting and learned a great deal about the work you do. Thanks for the opportunity to attend.

If you have any questions related to state lands, let me know. I will forward them to the appropriate personnel until I get back in July.

Thanks,

Travis Miranda
360-391-9963

From: Bedrossian, Karen [<mailto:KLBedrossian@snopud.com>]

Sent: Tuesday, April 09, 2013 10:51 AM

To: MIRANDA, TRAVIS (DNR)

Subject: RE: Draft Meeting Notes from 26 March 2013, Jackson Project Terrestrial Resources 2012 Report Annual Meeting

Thanks very much Travis. I will change the notes accordingly.
Will you have any other comments on the annual report?

Karen Bedrossian
Senior Environmental Coordinator
Snohomish County PUD
425 783-1774

From: MIRANDA, TRAVIS (DNR) [<mailto:Travis.Miranda@dnr.wa.gov>]

Sent: Tuesday, April 09, 2013 8:18 AM

To: Bedrossian, Karen

Subject: RE: Draft Meeting Notes from 26 March 2013, Jackson Project Terrestrial Resources 2012 Report Annual Meeting

Hello Karen,

I just have a couple name corrections/additions

1. Stephanie Maryfield is now Stephanie "Falcon". She recently got married.
2. We just hired a new Biologist replacing Peter McBride. I now know his last name. Thomas "Bloxtan".
3. The Compliance Unit Forester spells his last name Mark "Arneson"

Thanks

Travis Miranda

From: Bedrossian, Karen [<mailto:KLBedrossian@snopud.com>]

Sent: Monday, April 08, 2013 9:42 AM

To: Applegate, Brock A (DFW); MIRANDA, TRAVIS (DNR); Gohrman, Sonny (Sonny.Gohrman@snoco.org); Mark Hitchcock (MHitchcock@everettwa.gov)

Cc: Schutt, Mike; Binkley, Keith

Subject: Draft Meeting Notes from 26 March 2013, Jackson Project Terrestrial Resources 2012 Report Annual Meeting

Hi,

Please review the attached meeting notes and send any comments or questions you might have back to me. The notes will be included as an appendix to the final 2012 Annual Report. I will need your comments on these meeting notes and on the draft 2012 Annual Report no later than April 15, 2013 so that I can complete the final report. If I do not hear from you by April 15, I will assume that you concur with the notes and the Annual Report.

Thank you for participating in our Jackson Project Annual Terrestrial Resources meeting! Both Mike and I appreciate your input and agree that it was a very productive meeting!

Karen

Karen Bedrossian
Senior Environmental Coordinator
Snohomish County PUD
425 783-1774

CITY OF EVERETT:

From: Mark Hitchcock [<mailto:MHitchcock@everettwa.gov>]

Sent: Tuesday, April 09, 2013 12:46 PM

To: Bedrossian, Karen

Subject: RE: Draft Meeting Notes from 26 March 2013, Jackson Project Terrestrial Resources 2012 Report Annual Meeting

Nothing more to add.

From: Bedrossian, Karen [KLBedrossian@snopud.com]

Sent: Tuesday, April 09, 2013 10:50 AM

To: Mark Hitchcock

Subject: RE: Draft Meeting Notes from 26 March 2013, Jackson Project Terrestrial Resources 2012 Report Annual Meeting

Thanks Mark. Will you have any additional comments to the annual report?

Karen Bedrossian
Senior Environmental Coordinator
Snohomish County PUD
425 783-1774

From: Mark Hitchcock [<mailto:MHitchcock@everettwa.gov>]

Sent: Tuesday, April 09, 2013 7:16 AM

To: Bedrossian, Karen

Subject: RE: Draft Meeting Notes from 26 March 2013, Jackson Project Terrestrial Resources 2012 Report Annual Meeting

Thanks Karen,

I have nothing to add to the notes.

Mark

From: Bedrossian, Karen [KLBedrossian@snopud.com]

Sent: Monday, April 08, 2013 9:41 AM

To: Applegate, Brock A (DFW); Travis.Miranda@dnr.wa.gov; Gohrman, Sonny (Sonny.Gohrman@snoco.org); Mark Hitchcock

Cc: Schutt, Mike; Binkley, Keith

Subject: Draft Meeting Notes from 26 March 2013, Jackson Project Terrestrial Resources 2012 Report Annual Meeting

Hi,

Please review the attached meeting notes and send any comments or questions you might have back to me. The notes will be included as an appendix to the final 2012 Annual Report. I will need your comments on these meeting notes and on the draft 2012 Annual Report no later than April 15, 2013 so that I can complete the final report. If I do not hear from you by April 15, I will assume that you concur with the notes and the Annual Report.

Thank you for participating in our Jackson Project Annual Terrestrial Resources meeting! Both Mike and I appreciate your input and agree that it was a very productive meeting!

Karen

Karen Bedrossian
Senior Environmental Coordinator
Snohomish County PUD
425 783-1774

APPENDIX B

Terrestrial Resources 2012 Annual Report Meeting Notes

TERRESTRIAL RESOURCES 2012 ANNUAL REPORT MEETING
26 March 2013

**Snohomish County PUD Jackson Hydroelectric Powerhouse,
Project Facility Lands Tract and Lost Lake Tract**

MEETING NOTES

PURPOSE OF MEETING: To discuss the Terrestrial Resources 2012 Annual Report, ask questions regarding implementation, address concerns if needed, and visit Terrestrial Resource Management Plan (TRMP) tracts as requested and as accessible.

ATTENDEES:

Washington Department of Fish and Wildlife (WDFW): Brock Applegate

Washington Department of Natural Resources (DNR): Travis Miranda

Snohomish County Noxious Weed Control Board (SCNWCB): Sonny Gohrman

City of Everett (City): Mark Hitchcock

Public Utility District No. 1 of Snohomish County (District): Karen Bedrossian, Mike Schutt

1. INTRODUCTION AND MEETING PLAN

This is the second annual report and meeting regarding terrestrial resources, under the new Federal Energy Regulatory Commission (FERC) Jackson Project license issued in 2011. The new annual report format includes a summary of the activities conducted under the TRMP, Noxious Weed Management Plan (NWMP) and Marbled Murrelet Habitat Protection Plan (MMHPP). The final 2012 Annual Report will be submitted to the resource agencies in April 2012. A five- year summary report will be submitted to the FERC in 2016, covering activities conducted from 2011 through 2015. The proposed agenda for this meeting included a PowerPoint presentation of activities conducted during 2012; discussion of questions or comments regarding implementation activities, and the Annual Report draft (which was sent to the agencies for review on March 18, 2013); and a site visit to the Penstock Right-of-way (ROW) where installation of three creek crossings is planned, and to the Lost Lake Tract to look at waterfowl nest boxes, installed as part of the TRMP.

2. DISTRICT PRESENTATION AND QUESTIONS REGARDING TERRESTRIAL RESOURCES 2012 ANNUAL REPORT AND IMPLEMENTATION

- a. The District presentation consisted of photos and discussion of TRMP activities including: snag, decaying live tree (DLT), coarse woody debris (CWD), and gap creation; soils amendment, seeding and plantings. Photos were specifically included of the Spada Lake Tract since snow levels prevented access for a site visit as part of the meeting. Photos of activities conducted as part of the NWMP were presented and protocols and herbicide use were discussed. Implementation of the MMHPP related to various activities conducted as part of the Jackson Project was discussed. The following questions were asked and discussed during and after the presentation.
- b. WDFW: Are new roads created to create gaps? District: no.

- c. City: Is the District done with creating snags on stand 9-42? District: Yes. City also had corrections to Table 2-4, which were given to Schutt and will be included in the final report.
- d. WDFW: Why does snag use decline after a few years? District: the structure gets wet and water-logged so it does not provide much use for foraging. Decaying live trees last longer, but don't get as much use to begin with. WDFW: A good variety of both is best.
- e. WDFW: Concerned with increased ORV use when bridges or culverts are put in as planned. District: The pipeline ROW is gated at both ends and gates will be installed at the crossings if they are used by the public to the degree that they cause habitat damage. DNR opens the various gates they have, depending on timbers sales and what wood remains for wood cutters. DNR is willing to work closer with District on managing gates. They can be locked at night and on weekends. Mark Arnison will be the best contact for that since he is the compliance unit forester. It is ok for the District to send woodcutters out if they are not following the rules.

WDFW: Suggested when changing out waterfowl nest boxes that District consider using poles and placing the boxes closer to the ground. It is more difficult for predators to get to boxes on poles. District concerned that boxes lower to the ground will increase bear damage. Pole-mounted boxes work particularly well in areas where you have noticed the presence of smaller nest predators. The PUD could easily fit cone-shaped predator guards on the poles, which could help in areas with more documented squirrel use.

Lowering the box may help deter squirrel use, but could make them more susceptible to bear predation. Our staff has recommended placing the nest boxes between six to nine feet off the ground. If you do receive squirrel use in the nesting box, squirrel urine often makes the box too wet for use by ducks. WDFW recommends removing the wood shavings, letting the box dry a couple of days, and then replacing the nesting material until the PUD has four inches of material in the bottom of the box. If squirrel problems continue, we recommend moving the box to another location.

- f. INTENTIONALLY LEFT BLANK
- g. WDFW: Appreciates the increase in nest box visits for monitoring.
- h. WDFW: Noted northern goshawk sighting at Lost Lake in 2011 and reminded that it is on Washington's PHS list and that there are timing restrictions for activities around a territory (home range).
- i. WDFW: Why are plants on the ROW not growing more vigorously? Schutt: Because of nutrient poor soil and compacted soils. We have found that encouraging natives that come in is better than planting more plants.
- j. SCNWCB: Does PUD till the soil at all? That would help with compacted soils when adding soil amendments. Over seeding helps also. The introduction of reed canarygrass with biosolids was discussed.

- k. DNR: DNR has hired Stephanie Maryfield to manage the noxious weed control program. She has been a forester in the area for a while and has a background in weed management.
- l. City: Requested that Maryfield be informed of herbicide restriction in the City of Everett watershed. Sultan's Lake 16 Dam has been fixed and the District does not apply herbicides in that watershed except for vinegar.
- m. Group agreed it would be useful to have a cooperative weed management agreement between SCNWCB, DNR, the District and City for the area.
- n. SCNWCB: Does the District use biocontrol? District: No we do not have large enough concentrations of weeds to make it worthwhile.
- o. SCNWCB: The District is doing a good job of weed control.
- p. District: showed a map indicating the various buffer distances described in the District's Marbled Murrelet Habitat Protection Plan, surrounding delineated occupied marbled murrelet habitat on District property in the area of Culmback Dam. This map is used to assist planning of various Project related activities. DNR asked if the District has a similar map for the South Fork area. District: The occupied habitat on District land was delineated. A map would need to show adjacent DNR lands with occupied habitat as well. DNR has hired a crew to delineate marbled murrelet habitat. District requested information showing occupied habitat on DNR lands along the South Shore road. DNR suggested contacting Thomas ? or Lisa Egtvedt to get the boundaries. DNR explained that there are differences in definitions of habitat between Forest Practices and the State Lands HCP. There is no minimum dbh in the HCP. Both required 7 inch platforms.

3. FIELD VISIT TO TRMP LANDS

a. Lost Lake

Drove to Lost Lake and looked at bog and fishing platform on the west side of the lake and drove around south end of lake to look at a duck box and timber management at southwest area of lake. Looked at and discussed a thick hemlock stand that was thinned in the 1990's. Group discussed the relative lack of weeds on the Lost Lake tract and the treatment of weeds when they occur.

b. Penstock ROW

WDFW, DNR, and PUD representatives drove to the Penstock ROW and looked at the woody debris piles distributed near Marsh Creek. The size and distribution of the piles was discussed, and the amount of woody debris put on the ROW in the future. WDFW recommended that SnoPUD pass the wood down the Sultan River, below the City of Everett's diversion dam if necessary. The group then drove to the location near bridge/culvert #3. Group discussed the current plan for arch culverts and the advantage of being able to drive on the ROW to check on the pipeline.

ORVs on the ROW were discussed. DNR will tighten things up regarding gate closures to prevent damage. One solution might be to provide the District with DNR locks.

4. SUMMARY AND ASSIGNMENTS

Karen:

Prepare meeting notes

All Attendees:

Review meeting minutes and reply to Karen by 15 April. Also provide Karen with your comments to the draft Annual Report by 15 April. (No response on either document by 15 April will be considered concurrence.)